The Northern Forest Forum
Working for Sustainable Natural and Human Communities

The Working Forest?

A NEW PUBLICATION
IN THIS ISSUE ARTICLES BY

Wendell Berry
Deb Brighton
Bill Butler
Mike DiNunzio
Mitch Lansky
Reed Nass
Steve Trombulak
Wolf Song
Buck Young

AN INTERVIEW WITH
David Brower

Printed on Chlorine-Free Paper
The Search For Sustainable Natural & Human Communities

"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect." - Aldo Leopold, Sand County Almanac

Working to help restore sustainable natural and human communities in the Northern Forests is a labor of love. We invite you to join us, whether you are a Tree Czar, a Tree Hugger, a Resident or a Non-Resident, a Native or non-Native American.

The Northern Forests are more than a place of beauty, a source of instruction, and an evolving, dynamic community of unimaginable potential, intricacy and fragility. They are our life support system.

And they are a region in crisis. But with change comes a once-in-a-lifetime opportunity for our species to rediscover a relationship with the natural world that is respectful, sustainable and spiritually fulfilling. The Northern Forest Forum is an expression of faith that we can work together to protect the natural and human communities of the Northern Forests.

The Northern Forests are not a homogenous region. Each state is quite different, and there are different regions within each of the four states. And each community in the region has its own concerns. These differences must never be overlooked, but they must not blind us to the realization that the communities of the four states have much in common and face many of the same threats.

Although much has been made of the differences that divide our communities, something very powerful has been overlooked. Despite all our real or perceived differences, residents and non-residents alike share a common bond that transcends any differences—our deep and abiding love for these forests.

Different regions face different threats. The Adirondack Park, where 42 per cent of the Park is publicly-owned as "forever wild" state forests, is most seriously threatened by land speculation, subdivision and second home development on private lands. Development also threatens shorelines and other critical tracts of land in northern New England, but the gravest threat to the health of the privately-owned forests of northern New England comes from unsustainable forestry practiced by largely absentee corporations.

Cover Photo

The Amazon? Pacific Northwest? No, it's approximately 25 square miles in Township 4R14 in Maine, west of Chesuncook Lake. The West Branch of the Penobscot is in lower right.

A century ago much of the Adirondacks resembled this scene. Today, 42% of the Adirondack Park is protected as "Forever Wild."

How will Northern New England look a century hence?

This aerial shot was taken by the National Aerial Photography Program. It will appear in Beyond the Beauty Strip: Saving What's Left of Our Forests, by Mitch Lansky, published by Tilbury House in October.

Today, the forests of northern New England are, by and large, in the worst condition they have been in since the treat of the ice more than ten millennia ago.

And now the region's economy, dominated by transnational paper companies and uncontrolled speuculation and second home development, is in crisis.

Our communities, too, are in crisis. There is a sense of powerlessness, a loss of hope, a feeling that we are divided against ourselves.

A Vision of the Future

Proposing a vision of the desired future the Northern Forests is a daunting task because, as Wendell Berry has written, "We have never known what we were doing because we have never known what we were undoing. We cannot know what we are doing until we know what nature would be doing if we were doing nothing." Fortunately, we do have a model: the Adirondack Park, which despite many problems, is eloquent testimony to the healing powers of nature and the value of public ownership.

To live sustainably, we need to recognize that protecting the forest means protecting the human communities that the forest sustains. Sound economics means protecting your capital. Our "capital" is the soil, air, water, forests, wildlife and residents of these Northern Forests.

How can we assure sustainable natural and human communities?

1) The habitat needs of all species native to this region (including species that have been extirpated) must be assured.

2) Human populations and consumption patterns must not exceed the ability of the region to meet our needs and desires. Human settlement must complement, not conflict with, the habitat needs of non-human species.

3) Human economies must be ecologically benign and sustainable, provide for basic human needs in a socially responsible manner, and rely on renewable resources that are managed on a sustainable basis.

A Transition Strategy

A vision is essential, but without a realistic transition strategy to get us from here to there, it is meaningless. How do we get from here to there?

Some of the most important elements of this strategy include:

*Community Empowerment* of those who have been disenfranchised in the past. People and communities must recover power over their future that today is in the hands of largely absentee corporations, speculators and others who represent them.

*Developing Alternative Economic Strategies* that promote local control, economic diversity and are based on ecologically benign, value-added manufacturing, and sustainable community agriculture.

*The Ecological Restoration of the Northern Forests* to assure the ecological and evolutionary integrity of the region (the Northern Forests are resilient due to abundant precipitation and adequate soils, but, we should not be fooled; these forests are under siege, and we cannot count indefinitely upon their resiliency).

An important mechanism for achieving these goals is land acquisition from willing sellers. A hundred years ago, the privately-owned Adirondacks resembled today's industrial forest of Maine. Public acquisition of over two million acres in the Adirondack Park has helped protect the region's ecological integrity and water quality, as well as assure public access to these wildlands.

With millions of acres of industry-owned land for sale today, northern New England has a unique opportunity to protect these critical public values and begin healing our natural and human communities.

Today, people in the northern forest mill towns have a sense of hopelessness. As long as the region's destiny is controlled by outsiders, community despair is likely to continue. If defenders of ecological integrity work with their neighbors to develop a locally controlled economy that is ecologically sustainable, our communities will recover control over their destiny. Giving fair share in these communities will demand a healthy, vibrant environment to live in.

We are ever-so-briefly visitors in this unimaginably beautiful pageant of rocks and ice and fire and water and dawning sunlight. We have been blessed beyond fathoming. We have a once-in-a-lifetime opportunity to begin healing the natural and human communities of the Northern Forests. Please join the search.

-Carl Snyder

Editorial Staff This Issue

Jamie Sayen - Preserve Appalachian Wilderness
Tom Butler - Wild Earth
Andi Coltes - Appalachian Mountain Club
Michael DiNunzio - Adirondack Council
Lowell Krasner - Sierra Club
Jym St. Pierre - The Wilderness Society

Contributing Editors
Deborah Bright - Economics
Mitch Lansky - Forestry
Gary Larsen - Agriculture
John McCarthy - Dioxin
Steve Trombulak - Biology

Artists
Michael Carey
Katherine
Kit Kuntz
Rachel O'Mear

Editorial Policy

The Northern Forest Forum is an independent journal covering issues of importance to the Northern Appalachians (including the Adirondacks and Tug Hill regions of New York). Its editorial policy reflects the views of the Editorial Staff, and not necessarily those of any other individuals and groups associated with the Forum. Signed articles reflect the views only of the writer, and do not necessarily reflect the views of the editors or any other groups or individuals associated with the Forum. The Forum will publish articles that stimulate the search for sustainable natural and human communities in the region.
What are the Northern Forests?

In 1988 Congress authorized a US Forest Service study of a 26 million acre region that encompasses the Adirondacks, Tug Hill, and the Northern Forest lands in New York, Northern Vermont, and New Hampshire, and the Northern two-thirds of Maine. It named the study the "Northern Forest Lands Study" (NFLS). Although this name is a misnomer, as residents of Canada, the Midwestern and Pacific Northwestern states will attest, we will refer to the 26 million acre area as the "Northern Forests" because of the NFLS and the Northern Forest Lands Council, which is an outgrowth of the study.

The Northern Forest Lands Council has convened many politicians from the four states in the study region and a representative of the US Forest Service. It meets bi-monthly.

The Editorial Staff of the Forum believes that Congress wisely excised important sections of what constitutes the Northern Forests in an ecological sense. Specifically, we believe that the White Mountain National Forest and the Green Mountain National Forest should have been included in the study region. We also believe that the Taconics and Berkshires in southern Vermont, western Massachusetts and eastern New York should be included. The Northern Forests extend into the Maritimes of Canada. If we are to find ecologically sustainable solutions to one region's problems, we must not be circumscribed by artificial lines (boundaries) drawn for political reasons. Accordingly, the Forum will include articles on the Maritimes, the region's National Forests, the Berkshires and the Taconics.

However, due to the nature of international and national politics, we recognize that some parts of the region's problems will reflect exclusively to the Congressionally-designated 26 million acre Northern Forest Lands Study area.

The Northern Forests are very diverse, ecologically, culturally and politically. The industrial forest of Maine is unlike any other part of the region, including the rest of Maine. Vermont is different from New Hampshire. The Adirondacks and Tug Hill, although in the same state, face very different problems. Therefore, when addressing problems of the region, we must be very careful to make sure that a proposed solution is relevant to the region's problem.

For instance, an area that is relatively unthreatened by second home development will not be protected by strategies that primarily are designed to thwart second home development.

Some proposals will be useful for the entire region. Others will not.

But, if there are differences, there are important similarities. The region is dominated by relatively unbroken forested lands. It is generally mountainous. Rural communities throughout the region face similar economic and social problems.

What is most important is that this region has a unique opportunity to work together to solve regional and local problems.

Letters to the Forum

To the Northern Forest Forum: As I read through the outline of your new publication, I think of the words of a Micmac man from Mattawamkeag, Maine, unamed when quoted in The Wabanakis of Maine and the Maritimes: "You need the time to go back to the real things, to know in your own mind that even though you have to have this education or this job to survive in the world today, there are other things that you have to have, too, and you can't let it get out of balance. You have to be able to understand that there's a living, breathing world out there that you have to have a relationship with too, because if you don't, then you're only half a person, you're not going to survive. You're not going to survive in that world, the real world. There's an unreal world out here that's a lot of concrete and computers and set rules and things that you have to do, but there's a real world over here of animals and rural landscapes, things that you can't control, you can only live with and participate in, but you have to give a lot to that world in order to be able to participate in it. You have to gain a lot of knowledge from it. You have to give a lot of yourself to it in serious study and understanding." I hope that the Forum will reflect this serious study and understanding, but in a way which will speak with the voices of the living, breathing world. I hope that it will be a forum of voices for the bioregions through which the northern forests move. I hope that we can try to speak for the great diversity of life within these regions. A deep sense of place, a connectedness, according to the ship, moves through us and gives voice to place through local cultures, through personal expression, through daily work and conversation.

I hope that the Forum will be a forum of these voices, that we will hear the local cultures, the local wisdom, the deep sense of place and connectedness expressed through many forms of language, from the scientific article to poetry, from interviews to artwork, all of it being part of the deep song of place. I look forward to listening to the voices of this forum.

-Gary Lawless

Gary Lawless is a poet of the Gulf of Maine Bioregion. He is co-proprietor of a Maine shop. He also writes for Books in Brunswick, Maine. He is the author of numerous books of poetry, including First Sight of Land, published by Blackberry Press.


Financial Supporters

We wish to thank the following organizations whose generous support enabled us to produce this inaugural issue of the Forum:

- Adirondack Council
- Anonymous
- Earth Island Press
- National Audubon Society
- REI
- Sierra Club
- The Wilderness Society

Publication Schedule

The Northern Forest Forum is published six times a year. 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. If possible, please submit articles on Macintosh compatible disk. Send articles to: Forum, POB 6, Lancaster, NH 03584.
Amphibians of the Northern Forests

by Steve Trombulak
Department of Biology
Middlebury College

Abstract: Amphibians are common throughout the Northern Forest, although they are less commonly seen than other animals. They are fascinating to observe, however, in part because of the incredible range of life styles shown by individual species in this group. They are also extremely important for the ecological integrity and evolutionary potential of the forests and wetlands. As insect predators and aquatic grazers, they play central roles in nutrient and energy cycling in forested ecosystems. They also demonstrate adaptations for living on land that are parallel to those independently evolved in reptiles, birds, and mammals. The amphibians in this region, as in many other regions, are threatened with extinction in a number of ways, including acid precipitation, drying of soil due to changing land use patterns, and reduced water quality. The consequences to ecosystem integrity of disruption of amphibian communities are unknown, but may be severe due to their importance in forest food webs.

Wherever you go in the Northern Forest, they are there. Spend some time walking through the woods, turning over rocks and old logs, and you're likely to see one. Walk along the edge of a pond or marsh and one will leap into the water away from your step. Hike along a trail on a rainy night in spring and hundreds will cross your path. But despite their abundance, many people never see them. They are the amphibians of the north woods. They have been here since the glaciers receded from this region thousands of years ago, working the soil, shaping the communities of wetlands, and giving voice to spring nights, an intimate part of the land. Amphibians are fascinating animals. Vertebrates, like us, they are the least appreciated and understood member of this group. Not as colorful and obvious as birds, not as economically important as fish, not as familiar as mammals, not as frightening as reptiles, they generally go unnoticed except for a brief period when the courtship calls of some species signal the arrival of spring.

Living amphibians, as a group, have several characteristics that separate them from all other vertebrates. They generally need a wet environment for reproduction because, unlike reptiles and birds, their eggs do not have protective shells to help keep the embryos from drying out. However, unlike fish, the adults are usually more at home on land than in water. Unlike mammals, they are considered "cold-blooded," a misnomer meant to indicate that their body temperature is strongly influenced by the environment, whether warm or cold.

There are about 4,000 different species of living amphibians, two of which are common in northern New England and New York. The first is the salamander. These four-legged crawlers are secretive, silent, and rarely seen unless you happen to observe a spring migration to a breeding pond or are turning over rocks or logs. The second group is the frogs and toads, strong leapers and swimmers, whose male courtship calls signal that warm weather and longer days are on the way. A third group, the ciacians, are found only in the polar regions of Central and South America. Resembling large earthworms with jaws, these creatures spend most of their time burrowing underground and are rarely seen even by people who live in these areas.

Amphibians of the Northern Forests

Twenty-two different species of salamanders, frogs, and toads are found in the Northern Forest in almost every possible habitat. The redback salamander (Plethodon cinereus), for example, is more common in the forests of this region than any other terrestrial vertebrate species, including white-tailed deer and robins. Generally dark with a red stripe running down the middle of its back, this secretive animal gets to be only 8 to 10 cm long. It lives under logs, rocks, brush, and leaf litter wherever the temperature of the forest soil is cool. Like many other salamanders, it has no lungs and gets all of its oxygen by diffusion across its moist skin. It lays its eggs in clusters under rotten logs rather than directly in standing water, and the young hatch out as miniature adults, ready to begin their life as forest predators. It feeds almost exclusively on insects and other invertebrates that live in the soil, and spends the winter in a hibernation like sleep deep underground.

Not all salamanders are like the redback, however. The red-spotted newt (Notophthalmus viridescens) has a three-stage life history that involves a switch from water to land and back to water again. The eggs are laid individually on plants in ponds, where the free-swimming larval hatch and eventually metamorphose into an "eft," the newt's terrestrial juvenile phase. These efts are bright red and are commonly seen wandering around on the forest floor in broad daylight. They avoid being eaten because their bright color signals to potential predators, like birds and snakes, that they are toxic. Their skin contains an extremely effective poison. After living on the land for 2 to 7 years, an eft returns to water, turns olive green, and lives out the rest of its life as an aquatic adult. The spring peeper (Pseudacris crucifer) is also fond of the water, coming to ponds to breed as soon as the ice melts from them. Theirs is the simple note "peep" call, in which the males advertise to the females their presence and their possession of a piece of real estate for laying eggs. An entire pond of calling males can transform the night into a deafening roar of high-pitched shrieks. Despite their obvious calls, however, peepers are rarely seen. After the breeding season, they leave their ponds and live a secretive life in the nearby woods.

The American toad (Bufo americanus), on the other hand, much prefers land to water. Only occasionally seen in the water itself, its skin is dicker and better able to withstand drying by the sun and air. Perhaps the most remarkable of all the frogs in this region, however, is the wood frog (Rana sylvatica). It is among the first of all the frogs to breed in the spring, indeed sometimes calling from atop ice that has yet to melt off of the ponds. Characterized by a brown body and a dark "robber's-mask" across its eyes, the wood frog has a remarkable ability to withstand cold. If cooled gradually, such as what it naturally experiences as autumn becomes winter, a wood frog's body can actually freeze solid like an ice cube. They spend the winter in this frozen state buried close to the surface in the forest, to thaw out and become active again as soon as the first warming comes in the spring.

Role of Amphibians in Northern Forests

Beyond their obvious diversity and fascinating ecology, however, what should we do about amphibians as we focus on the future of the Northern Forests? Are amphibians anything more than pleasant voices for warm summer nights? The truth is that amphibians are important to the forests and our use of them for several reasons. The first is that amphibians, because of their abundance in both aquatic and terrestrial habitats, are important to the structure and function of natural ecosystems. Remember that the redback salamander is the most abundant terrestrial vertebrate in the Northern Forest, and they share their habitat with many other invertebrates that live in the soil.

At the other end of the ecological spectrum is the mudpuppy (Necturus maculosus), which spends its entire life in the water. The aquatic larvae never metamorphose into terrestrial adults but instead develop functional reproductive organs while retaining their larval gills. Among the largest of all salamanders, this species reaches 30 cm or more in length. Although native to rivers and streams in the Chapman Basin of New York and Vermont, it was introduced to northern Maine earlier in this century.

Each of the other 8 salamanders that live in this region shows unique natural histories, including the mole salamanders (Ambystoma spp.), which may spend 50 weeks each year deep underground, and the two-lined salamander (Eurycea bislineata), which may never travel more than 10 meters from a stream.

The frogs and toads of this region show an equally broad range of natural histories. The most common species is the green frog (Rana clamitans). The pattern of green and brown on its body are quite variable, but it is regularly seen along the sides of ponds, streams, drainage ditches, and vernal pools. It lays its eggs in clusters under rotten logs and hatches into fully equipped tadpoles, which may not metamorphose into the semi-terrestrial adult for up to 2 years.

The spring peeper (Pseudacris crucifer) is also fond of the water, coming to ponds to breed as soon as the ice melts from them. Theirs is the simple note "peep" call, in which the males advertise to the females their presence and their possession of a piece of real estate for laying eggs. An entire pond of calling males can transform the night into a deafening roar of high-pitched shrieks. Despite their obvious calls, however, peepers are rarely seen. After the breeding season, they leave their ponds and live a secretive life in the nearby forests.

The American toad (Bufo americanus), on the other hand, much prefers land to water. Only occasionally seen in the water itself, its skin is dicker and better able to withstand drying by the sun and air. Perhaps the most remarkable of all the frogs in this region, however, is the wood frog (Rana sylvatica). It is among the first of all the frogs to breed in the spring, indeed sometimes calling from atop ice that has yet to melt off of the ponds. Characterized by a brown body and a dark "robber's-mask" across its eyes, the wood frog has a remarkable ability to withstand cold. If cooled gradually, such as what it naturally experiences as autumn becomes winter, a wood frog's body can actually freeze solid like an ice cube. They spend the winter in this frozen state buried close to the surface in the forest, to thaw out and become active again as soon as the first warming comes in the spring.

Role of Amphibians in Northern Forests

Beyond their obvious diversity and fascinating ecology, however, what should we do about amphibians as we focus on the future of the Northern Forests? Are amphibians anything more than pleasant voices for warm summer nights? The truth is that amphibians are important to the forests and our use of them for several reasons. The first is that amphibians, because of their abundance in both aquatic and terrestrial habitats, are important to the structure and function of natural ecosystems. Remember that the redback salamander is the most abundant terrestrial vertebrate in the Northern Forest, and they share their habitat with many other invertebrates that live in the soil.

Calendar

*October 10-12: Harvard School of Public Health presents Human Health and the Environment: a symposium on The Medical Consequences of Environmental Degradation at Kresge Auditorium, Massachusetts Institute for Technology, Cambridge, MA. For information call: (617) 452-1171. Registration fee is $200 for non-students and $50 for students.
*Northern Forest Lands Council, October 21, Burke Mountain Ski Area, East Burke, VT. For more information call (603) 224-6590. Meeting begins at 8:30 AM.
*November 4-6 Northeast Nongame Technical Committee and the Northeast Neotropical Migrant Bird Committee in Northampton, MA. For information call (203) 584-9380. On Nov. 4 there will be reports on Invertebrate issues. Single day registration is $20, but must be made before October 25.

*November 5-6: Diane Rehm Show on National Public Radio, Wednesday, 9-11 AM. See page 20 in this issue of the Forum for further information.

The Northern Forest Forum Autumn Equinox 1992
amount of forest energy and nutrients pass through the digestive tracts of these salamanders, aiding in the cycling of nutrients, shaping the invertebrate communities associated with forest plants, and influencing the dynamics of soil production.

Similarly, tadpoles are among the chief grazers of aquatic plants. Their presence influences the balance between different species of algae, which in turn affects levels of oxygen and nutrients, and species composition in the ponds. The aquatic larvae of some salamanders are also the major predators in many ponds, determining species composition and other aspects of a pond's ecology.

Without a focus on the amphibians of these ecosystems, we have only an incomplete picture of what keeps them in a healthy balance: how energy and nutrients cycle through the system, how they regenerate themselves in the face of disturbance, and how other species in the ecosystem persist. Amphibians are an important part of the whole.

**Amphibians & Ecosystem Health**

A second, more applied, value of a focus on amphibians is their use as biological indicators of the health of an ecosystem. Because of their unique characteristics, amphibians are extremely sensitive to changes in environmental conditions and respond to changes quickly. Their need for water, either in standing pools or moving environments, makes them sensitive to changes in water availability. Drought, changing land use patterns, and water diversions or impoundments all effect amphibian populations, and easy to observe long before the trees and other plants in the forest show any response. Similarly, the moist skin of amphibians, used by some species even for respiration, makes them sensitive to changes in water quality. Changes in water and soil pH can severely reduce the populations of some species. For example, redback salamanders are almost never found in soil with a pH less than 3.7. Careful monitoring of redback salamander populations can provide straightforward and rapid assessment of soil conditions, long before they affect the growth of trees or related soil fungi.

Interestingly, the different ecologies of different amphibians makes their use as biostations of forest health even better. For example, redback salamanders appear to be more sensitive to soil pH and less sensitive to forest clearings than are other salamander species. Similarly, green frogs are more sensitive to pesticides than are other frogs. Comparisons of year-to-year distributions and abundances among species may help identify not only whether environmental change is occurring, but what factor is responsible.

But a special interest in amphibians is not restricted to just the Northern Forest. In the last few years, ecologists around the world have documented serious decreases in amphibians in virtually all habitats and from all continents. The golden toad (Bufo periglenes) from the montane forests of Costa Rica, the western toad (Bufo boreas) from the sub-alpine meadows of the Sierra Nevada Mountains of California, the gastric brooding frog (Rheobatrachus silus) of the rain forests of southeastern Australia; these and many more species have declined or gone extinct, leading biologists to wonder whether one or more events are selectively wiping out this group of animals on a global scale. Several factors have been suggested to play a role in the decline, including increased acid precipitation, forest destruction, and habitat destruction, and human predation. It is most likely that there is no single cause for these declines, with each species responding separately to agents of change. But the regularity of amphibian declines strongly indicates that this group responds more quickly and severely to environmental change than many other species in the face of increased human impact on the land is at extreme risk of global extinction.

The status of amphibians in the Northern Forest is unfortunately not well known. Until quite recently, information on their distributions and abundances was restricted only to a few places and a few species; therefore, we don't yet know enough to say for sure whether the kind of decline seen elsewhere around the world is happening here as well. We do know that, as yet, no amphibian has gone extinct in the Northern Forest although populations of some species, such as the western chorus frog (Pseudacris regilla) in Vermont and southern Quebec, appear to be less common in recent years.

The concerns about amphibians in this region is a concern for the future. The environmental stresses that have been linked to declines elsewhere, including changes in forest structure, water quality, and soil pH, are occurring in the Northern Forest and have a great potential to become more severe in the future. If this were to happen, then it is highly likely that we will begin to see major losses of amphibian populations and species throughout this area. The impact of this on ecosystem integrity is unknown, but the role that amphibians play in the food webs of forested ecosystems suggests that the consequences would not be trivial.

**Evolutionary Potential**

We cannot afford to be complacent about the potential loss of amphibians from the Earth. Clearly they play an important role in the operation of present-day natural ecosystems and should be protected for that reason alone. But there exists a deeper philosophical argument for the importance of amphibians: their evolutionary potential.

Popular wisdom paints amphibians as our distant ancestors: the first vertebrates to climb up out of the water and begin the colonization of the land. Although advanced for their time, some 350 million years ago, their cold-bloodedness and lack of a shelled egg made them unsuitable for land compared to their more advanced descendants, the reptiles, which in turn gave rise to birds and mammals. Amphibians, therefore, are evolutionary "also-rans," pretty good for their time, but of little importance for the future.

However, popular wisdom is wrong.

This scenario may be true for ancient amphibians, those that actually did crawl up out of the swamps and did eventually go extinct with the rise of the first reptiles, but it is decidedly untrue for those living amphibians, the modern relatives of those ancient forms. The first amphibians actually gave rise to two separate lineages that colonized the land: the reptiles and the living amphibians. Nothing like a redback salamander or a wood frog or a spring peeper crawled up out of a swamp. These species, and all living amphibians, are every bit as modern and evolutionarily successful as their more heavily modified cousins. They represent a completely different approach to living on the land. Although ancient amphibians were probably irrevocably tied to standing water, many modern amphibians have evolved other strategies for making their way in the world. Redbacks and many other salamanders seek out moist soil and completely shy away from water. Some, like the spadefoot toad of southwestern North America, have colonized the deserts. Some frogs and salamanders have evolved the ability to keep their developing eggs inside their bodies and give birth to their young alive, similar to mammals, yet having arrived at this behavior by an independent evolutionary path.

Living amphibians, therefore, like all living organisms, have an intrinsic evolutionary potential. By virtue of the fact that they are alive today, they have demonstrated the ability to survive and reproduce. They have unique strategies for life, and involve themselves in the operation of Earth's ecosystems in ways that may differ from any other organism. We would do well to respect this potential, and conserve it. The future of the forests, and all other ecosystems, may depend on it.

**Additional Reading**


**NIGHT AND DAY**

for Anaxi

The grouse gives me less than a glimpse as it explodes from the tangle of low hemlock branches. Tiny downy whiskers in the silence sifting to the ground.

The drumming is continual, sounding through the bones and bedrock of the woods, seeping through walls and foundations.

Horned owl breaks the winter night with a cry that slips deep into my dreams.

After the sound a vast silence hangs above the woods, floating and listening.

Waking up, I feel my life which has gone out into the night returns and settles back to drum again.

Steve Lewandowski
Canandaigua, New York
Honoring Wabanaki: Land of the Dawn

For a proposed "Walk Honoring Wabanaki: Land of the Dawn" in the summer of 1992, Robin Lloyd, a member of the Burlington, Vermont 1992 Committee interviewed Wolf Song about the territory of the Western Abenaki peoples of Vermont and the Mohawk People. The information was provided to keep Native students interested in their school or group, contact him at: RD #1 Box 375, Huntington, VT 05462.

As an Abenaki person, to honor Wabanaki means to think about how we live on the land and relate to it, to the creatures, the air, the very stones themselves. To honor this land we must learn to be appreciative of every day that we have. I personally see every day as a gift, and I am thankful for the gift of life. I am thankful for my relatives that make my food and my clothing.

Wabanaki means Land of the Dawn, and it is the original land and the home of the People of the Dawn. This is a land which goes from the East Coast of Maine and Nova Scotia—the Canadian Maritimes, all the way to Lake Champlain in the west, and from the southern shore of the St. Lawrence River into North Central Massachusetts. It's a large piece of land.

What is called Vermont, we call Nokomis, our land. But giving land names on some level is kind of arbitrary. The mountain ranges and there are no lines. There are natural things, like the Lake between us and the Haudenosaunee to the west, or the Iroquois, as they are called. There is the St. Lawrence River, mountain ranges—but there are no artificial lines. The boundary lines are in our heads. They are very useful to define and confine you when you say that there was a war or that enemies lived here. It's hard to talk about it in a sense of otherness and a willingness to be open to the enemy. Bringing here. It's hard to talk about it in a sense of otherness and a willingness to be open to the enemy.

One of the things that marks the traditional people is that when they come to an area and they didn't consider just their own profit or gain from it, they would consider what are the long-term implications, if we do that, what will be the effect on future generations?

Honoring Wabanaki: Land of the Dawn

One of the things that marks the traditional people is that when they came to an area and they didn't consider just their own profit or gain from it, they would consider what are the long-term implications, if we do that, what will be the effect on future generations?

For example, today in Vermont there is more than enough water to come from the streams for snow-making. Without that, we'll lose so many jobs, so many millions a year, we'll have to raise taxes; what will we do? Well, what will happen if we deplete those streams? What will be the long-term effect on the habitat surrounding those streams? What will we do with the sewage from the increase in skiers attracted here, and the mountain-owners who want condominiums and ski trails? What is the effect of increased industry, of increased boating on the lake? To our people this was home. When our people came here there weren't all the cleared fields; we lived here for thousands of years and when the first Europeans arrived, most of the land here was covered in old growth forest. The mountains, the woods, the sky—this was, and still is—a very beautiful place.

And it saddens me a lot to know that the lake is not as clean as it could be. There are always conflicting reports of how much pollution there is, but some say the dioxin level at the International Paper mill's discharge pipe is only so many parts per million, only one tenth of the FDA acceptable standard. My question is: why do we have to be an acceptable standard? Dioxin is considered by some to be the most toxic substance created by human beings. Should there be any of it in our lake? Why should there be any of it?

If we have the intelligence to create all this technology to make snowy white paper, super highways, and sleek, fancy cars, and to do brain surgeries, and triple bypass heart surgeries, and to send space probes to other planets, how come we can all do these things—even we have bought smart bombs—how do we have smart enough people to keep the land in which we live clean and healthy?

People say, well, that's the price of development. Well, that's not a price I want to pay or want my children or grandchildren to pay.

The modern culture has a sense of superiority as though it's above the natural laws. I know a little bit about the natural world, I'm no expert. One circle and replenish. Old farmers used to know that, if you had more land than you could use there were too many people here. We have too much land and were basically robbing the land. We now have basic farming techniques for that practice, using chemica monoculture plastic and herbicides. It's been done by scientific measurement and simply by crop yield that the crops go on and on and on and the weeds are lost, because when the soil becomes de-pilled it becomes dead and, dustlike, it blows wind. If you can regenerate a small example again how this culture is not in balance and has forgotten what it means to honor the lands that feed it.
It is important to me that our ances-
tors' bones were in the process of re-
turning to the earth from which they came. The cells in our bodies were once living animals and plants, since humans feed on the plants and animals that are fed by the ground. Humans, having completed their lives in the old days, would be put back into the ground, and their flesh and bones would feed the earth. This is the natural way of things to happen.

So the bones of our ancestors, our parents and grandparents, are, some of them, thousands of years old. It's very disrespectful to take someone who has been put back into the earth, who is in the process of becoming one with the earth again on that cellular level, to go and dig them up and disturb them.

The fact is that they were at rest. They were continuing the process of re-
joining the earth from which they came. Their spirits have been disturbed. These people have been disrespected. It is an example of the dominant culture's atti-
de, and we are aware of the right ways and we can do what we want.

As a native person, the very thought that our ancestors and my ances-
tors have been dug up and been studied and drilled and cut, and had all this tech-
nology done to them, and are sitting in boxes on a shelf somewhere, is an extreme statement of disrespect, of oppression, that our peo-
ple are seen as something to analyze, while to me these are my relatives, and they should never have been disrespected in this way to begin with. When they were put in the ground, it was done with pray-
ceremony, offerings, great reg-
aspread, and now a great disrespect has been done.

There's been a great disruption in

This is Abenaki Land

by Tomas Obomsawin

Diplomatic Ambassador

Sovereign Republic of the Abenaki

Nation of Mississquoi

The Court will use the term "aboriginal" to refer to Native Americans' rights to oc-

The Abenaki Nation is an indige-
nous nation of what is now known as the northeastern U.S. and southeastern Canada. Our tribal headquarters are in

that had occurred by 1791 because of an "intent to extin-
guish by assertion of dominion over the area" (emphasis added) by the occupiers. This is a legal description of the

In a June, 1992 decision involving aboriginal rights, the Vermont Supreme Court ruled that extinguishment of Abenaki aboriginal title had occurred by 1791 because of an "intent to extin-
guish by assertion of dominion over the area" (emphasis added) by the occupiers. This is a legal description of the

U.S. federal and international laws recognize a sovereign Indian Nation to self-govern,

to hunt, fish, and travel on ancestral land without State regulation, licensing or 
taxes. During the last four hundred years the forces of occupation have tried to

Abenaki people hold aboriginal title to it. The

Abenaki Nation, not the State of Vermont or any alleged landowner, should decide what happens on our land.

do not legally exist.

In a June, 1992 decision involving aboriginal rights, the Vermont Supreme Court ruled that extinguishment of Abenaki aboriginal title had occurred by 1791 because of an "intent to extingui-

self-government, to travel on ancestral land without State regulation, licensing or 
taxes. During the last four hundred years the forces of occupation have tried to

Footnotes

1 According to the U.S. Constitution and the Trade and Intercourse Acts of 1790 and 1793 (et al), the Federal government al-

came to own itself to make treaties or otherwise negotiate with a sovereign Indian Nation concerning aboriginal title and rights. The Northwest Ordinance of 1789, the declaration of the principles used to add new states to the federal union, spells out the relationship to be had between the new States and Indian Nations: "the utmost good faith shall always be observed towards the Indians; their land and property shall never be taken from them without their consent." When Vermont entered the Union of the United States in 1791, it agreed to abide by all existing federal laws. Vermont violates the constitution-

ally defined relationship between Indian Nations and the State and federal gov-

rnments by prosecuting members of the Abenaki Nation on our own land.

2 According to Federal Law, extinguishment, the legal word for the termi-
nation of a Native Nation's aboriginal title.
Wilderness: Our Life Support System

An Interview with David Brower

David Brower was born one year after the passage of the Weeks Act. At the age of 80 he remains the famous and respected defender of what he calls our "life support system." He is former Executive Director of the Sierra Club, founder of Friends of the Earth, and founder and current chairman of Earth Island Institute. Recently, he has published two volumes of autobiographical writings that are required reading for anyone interested in the history--or current battles--of the 20th century environmental movement: For Each Mountain, For Each Cause (published by Gibbs Smith). The day after this interview took place, Brower took off for a three-week visit to Lake Baikal.

Forum: This summer you celebrated your 80th birthday. At an age when most of your contemporaries have retired, why do you maintain such a breakneck pace?

Brower: I go along with Wallace Stegner. If you are going to get old, get old as you can get. And I go along with Frank Browne. He always thought it was better to run out than to rust out. Those two things keep me fired up. It's certainly a lot more fun bumbling around with your cronies than just standing around doing nothing.

Forum: You've expressed a profound concern for the long-term health of the forests of the world. Why?

Brower: The most important thing we have in our life support system is the biological diversity of the forest ecosystems of the world--the little ones and the big ones. Interconnected life on the planet. That is the most important thing we've got. The industrial revolution started taking it apart in a way that we've never done before. Non-industrial countries still have some of the examples of what the industrial countries had, but those are just too lost, because of the industrial raids on the ecosystems of everybody else.

We don't hear much about the greatest loss we have going on today in biological diversity. We hear a lot about endangered species, but we don't hear enough about what I consider to be the most endangered species--those that we have not yet discovered. You hear all sorts of estimates on how fast we are losing species, and I think we are losing them faster than most of those experts are saying, because they are not estimating the number of species actually there. We have now discovered and identified 1.5 million species of plants and animals. The estimates are as low as 10 million, as high as 4.5 million, to 80 million, and 20-30 million you hear fairly often.

In any event, we have a great many species on this earth that we have never learned about and we are getting rid of them before we have found out where they are. This is an unmeasured loss. We don't know how many species we have got to come to and to study and to understand, and to leave enough around to that we can look for what's there instead of just wondering what was there in places we've trashed.

Forum: Researchers in the Tropics and the Pacific Northwest are discovering that much of the diversity of these Ancient Forests is contained in the forest canopy. I wonder what biological diversity we've lost from the canopies of the Appalachian forests which were cut down long before we knew what to look for.

Brower: What scientists who are studying the forest canopy of the tropics by direct observation and by using on a rubber mat suspended from a dirigible--are finding is pretty exciting stuff. What we'd find in the canopy of the Appalachians could have been pretty exciting stuff if we had any old growth canopy left.

Forum: In light of the fact that over 99 percent of Appalachian old-growth has been cut, how can we begin to restore wild and healthy places to this region?

Brower: I would seek advice from the restoration biologists to make as few mistakes as possible. What we are trying to do is help nature heal. We must make a good study of what was there in the first place. Then we'd have to have partial knowledge. That will always be true, and we can certainly always improve that knowledge of what was there by looking at some small samples of what may be left, if there are any. It's a lot easier if you've got a lot of the original and merely have to fill in between, rather than to leave nothing of the original and just try to guess what was there.

Forum: If we don't know what we had and what we've lost, it's very hard to do restoration work; that sounds like a strong argument for protecting existing wild places.

Brower: Yes. It's not so hard to plant trees, but it's hard to grow forests. And that's what restorationists have to try to do. You're trying to reconstitute an ecosystem. And that includes what goes into the soil before you've cleared it, and very few people know what was there before it's hard to tell.

Forum: What have you learned about soils over the years?

Brower: What I know about soils is simply what I've learned from people who know about soils. Bernard Frank, who used to be head of the Division of Forest Influcences at the Forest Service Office in Washington told me 35 years ago that we know next to nothing about forest soils. At the first restoration conference, the Restoring the Earth Conference in Berkeley in January 1988, we had some experts on forest soils do a workshop on mycorrhizal fungi. They told how little they knew. During the question period I repeated Frank's remark and said, in view of what you've told us, what would you say now is known by the forest industry, the Forest Service, and the forestry schools about soils? They answered, "We know even less."

With that vast sea of ignorance around us, we've got to be very careful to hang on to what we've got and to look very hard for any evidence that can be found in the fragments of the biota we've scattered. It's not easy, and it's just an argument for hanging on to any samples we have of places where nature's work has been uninterrupted by us and our technology. Those are just incredibly important sources of information.

Forum: We have a lot of logging left in this region, a lot of it is done as clearcuts. What's the impact of large scale clearcutting on soils? And why are soils important?

Brower: You don't have forests without forest soils. And if you don't know very much about forest soils, you aren't going to know very much about forests. Trees and other forest plants are soil's methods of defending itself against erosion. Soil is the all important thing. A line my Creek talk is, "The minute you lose the soil, all life gives up, and life, dying, lying there on the only earth." It is one of the most important resources we have, and we've got to find a way to dramatize this. Paul Sears once devised a poster for the Soil Conservation Service--an arrow point down directly before grow the sign saying: "Desert--Six Inches." Right now, nature is helping subsidize an industry that does not know how to sustain itself.

Forum: Much of this region is dominated by transnationallumber companies that own millions of acres. Don't they have the right to do what they want to do on their land?

Brower: This has been the assumption. This is very rapidly leading Earth to destruction, in spite of the environmental movement. The only acceptable philos­ ophy is that we are brief tenants on this planet. We do not have the right to do whatever we want to the earth. We've got to consider those who are going to follow us. We are grateful that our predecessors—or at least some of them—are still here. We would have anything left. Right now, with the rapid degradation of the world's ecosystems and the world's life support systems, we've got to reverse course.

Forum: These companies justify their practices by citing the need for growth in this global economy. Is it possible to have an economy that takes care of our needs in an ecologically sustainable manner that is not a growth economy?

Brower: It is. And it has to get to. We have not yet tried to analyze the true costs of growth. All our candidates are calling for economic growth to get the economy back in action. They have never yet--because the economists have not tried to analyze the problem of growth. We are finally beginning to see the costs of growth. It takes an enormous amount of capital to grow.

And it takes an enormous amount of ir­replaceable environmental capital to sustain the kind of growth we've had in this country, and indeed, globally. Some of our costs are monetary, some we just can't put a price on. We are drawing upon the resources that should sustain humanity over the time that humanity would last, and we're not doing it. We are not calculating the cost to the future or the cost to the earth. We can blame most of the economists for failing to have done that. Hazel Henderson says that eco­ nomists have not tried to analyze the problem.

Forum: How can we create and provide jobs, yet still protect ecological values?

Brower: We certainly need people working, but we do not need to maintain or create jobs that destroy the life support system. We don't need to create jobs to make weapons and nuclear arms and nuclear power plants. These things are too damaging. There is plenty of work to be done, and I would say that if we want to keep people busy then let's try undoing the damage we've done. We should not be building more. We want jobs in restoration, not jobs in destruction.

Forum: If our society were to divert funding away from military research and production, and put that money into the study of the world's ecosystems, how would you like to spend this so-called "Peace Dividend"?

Brower: Training people for those jobs in restoration, catching up on deferred maintenance of society itself, and helping Nature heal our life support system. This is an investment that could produce revenue and prosperity and end our present habit of creating a few hundred billionaires and millions of unemployed and le­ gions of poor. Think, for example, what would hap­ pen, if, instead of spending billions on new jails, we had restoration teams to work on clean-up, recycling, the restoration of America and themselves!

We should also buy some of that paper company forest land that's for sale.

Forum: Do you feel the American public supports large public acquisition?

Brower: Yes, but right now there's a big threat to that support and that's the wise use movement which is very heavily funded by the abusers. They call it the "wise use" movement, but it's our "wild Abuse" sys­ tem that they're advocating. This threat is pretty scary because they are getting a helluva lot of money from the people who want to continue--or accelerate--the destruction of the Earth. Some of it is coming from abroad from the corporations making ORVs.

Forum: It is currently estimated that 3.5 million acres of public lands are sold every year, even more acres are sold in the 35 million acre Northern Forest Lands Study region. If the public buys some of that land as part of the "Peace Dividend," will we then consider it protected by the US Forest Service? Do you feel the Forest Service today is a responsible steward of the land entrusted to you?

Brower: What reform would you suggest for public land management?
Land Acquisition Quiz

Land Acquisition, like Savings & Loan Bailouts can be expensive. But, how expensive? This quiz tests your grasp of economic reality.

Some observers believe that as much as 10 million or more acres of Northern Forest Land may be offered for sale in the next two decades. The price of 10 million acres of Northern Forest Land is per cent of the current estimate for the Savings & Loan Bailout.

(a) 0.5% (b) 5.0% (c) 50% (d) 500%

Loon Mtn. Surprise:
"Alternative 6"

7 Groups Call for Supplement to Revised Draft EIS

by David Carle

At a June 16, 1992 news conference, the U.S. Forest Service announced that after six years of consideration and a number of draft environmental statements, a new preferred alternative, "Alternative 6," had been developed for the proposed Loon Mountain Ski Area Expansion project final environmental impact statement (FEIS). The FEIS was to be issued in early August 1992. [Ed. Note: It is now mid-September and the FEIS has not yet been released.]


Mr. Cables denied both requests upon which all seven organizations asked Floyd Marita, Region 9 Forester to reconsider Mr. Cables decision. The decision from the Regional Office is pending.

One of the issues raised in the request by the conservation organizations is the lack of public participation and review of the new preferred alternative. According to the June 16 press release issued by the Forest Service, Alternative 6 was "written after lengthy review of public comments, suggested by the Joint Review Committee, and working with Loon Mountain Corporation." Yet, according to an August 11 letter from Richard Pierce, Staff Officer at the WNMF Supervisor's Office, Alternative 6 was "developed through discussions between us [US Forest Service] and LMRC [Loon Mountain Recreation Corporation] personnel." Full public disclosure of the alternative will appear in the FEIS for the project.

Other than the press release dated June 16, 1992, no other information has been released concerning the new preferred alternative.

A broader problem appears to be that as the process winds toward conclusion, weariness and apathy appear to be wearing down some conservation groups that have struggled with this issue for six years. Also, it appears that the Forest Service is taking shortcuts, thus putting the integrity of the whole process in jeopardy.

Although the WNMF does not have actual figures, it estimates that it will have spent about $340,000 of public money to assess Loon Mountain's expansion proposal. Some skeptics suggest this figure is low. To place this in perspective, the WNMF spent $619,000 in FY 1991. "Wildlife. The WNMF has not itemized this, but all expenditures pertaining to staff biologist salaries, endangered species protection, monitoring, and research are presumably included in this figure. Perhaps many clearcuts disguised as "wildlife management" cuts are also included.

David Carle is Associate Executive Director of RESTORE: The North Woods, POB 440, Concord, MA 01742, Tel (508) 287-0320.
Conservation Is Good Work

by Wendell Berry

There are three kinds of conservation currently operating: the kind that preserves places that are promotionally wild or "scenic" or in some other way spectacular. The second is what is called "conservation of natural resources"—that is, the things of nature that we intend to use: soil, water, timber, and minerals. The third, which you might call industrial trouble-shooting: the attempt to limit or stop or remedy the most flagrant abuses of the industrial system. All these kinds of conservation are inadequate, separately and together.

Saving The Spectacles

Right at the heart of American conservation, from the beginning, has been the preservation of spectacular places. The typical American park is in a place that is "breathtaking," beautiful, and of little apparent economic value. Mountains, canyons, spectacular land-forms, geysers, waterfalls—those are the stuff of parks. There is, significantly, no pristine national park. Wilderness preserves, as Dave Foreman points out in his article: "The New Conservation Movement" (Wild Earth, Summer 1991), tend to include much more than "boondocks and little marketable timber". Farmable land, in general, has much "rock and resistance". Wes Jackson, who commented: "across Kansas and eastern Colorado, headed for the mountains west of Denver. These are nature lovers and sight-seers, but they are not all according to the standard doctrines of the industrial system (capitalist or communist or socialist) in itself, and by necessity of all of its assumptions, extremely dangerous, and that it exists to support an extremely damaging way of life. The large abuses exist within, and because of, a pattern of smaller abuses. Much of the Sacramento River is dead now because a corral of agricultural poison was spilled into it. The powers that be would like us to believe that this colonial "accident" was an exception in the general pattern of safe use. Dusted and used according to the instructions on the label, they will tell us, this product is harmless. They neglect to acknowledge any part of the pattern of implications that surrounds the accident: that if this product is to be used in dilution almost everywhere, it will have to be manufactured, stored and transported in concentrations somewhere; that even in "harmless" dilutions such chemicals contaminate the water, the air, the rain, and the bodies of animals and people; that when such a product is distributed to the general public, it will inevitably be spilled in concentrations in the land or small quantities, and that such "accidents" are anticipated, discounted as "acceptable risk," and charged to nature and society by the powers that be; that such chemicals are needed, in the first place, because the scale, the methods, and the economy of American agriculture are all monstrously out of killer; that such chemicals are used to replace the work and intelligence of people forced out of farming by free-market economies; and that such a deformed agriculture is made necessary in the first place, by the public's demand for a diet that is at once cheap and luxurious—too cheap to support adequate agricultural communities or good agricultural methods or good maintenance of agricultural land, and yet so greedy, self-indulgent as to demand, in every season, out-of-season food produced by earth-destruction machines and chemicals. We tend to forget, too, in our understandable and necessary outrage at the government-led attack on the public lands and the last large tracts of wilderness, that for the very same reasons and to the profit of the very same people, thousands of woodlots are being abusively and wastefully logged.

Reviving Small Economies

These dangers are large and public, and they inevitably cause us to think of changing public policy. This is good, so far as it goes. There should be no room for this in our efforts to influence politicians and, in the name of honesty and sanity we must recognize the limits of politics. Think, for example, how much easier it is to improve a policy than it is to improve a community. But some changes required by conservation cannot be politically made, and some necessary changes probably will have to be made by the governed without the help or approval of the government.

Reacting To Outrages

Because we are living in an era of ecological crisis, it is understandable that much of our anxiety and energy is focused on exceptional cases, the outrages and extreme abuses of the industrial economy: global warming, the global assault on the last remnants of wilderness, the extinction of species, oil spills, chemical spills, Love Canal, Bhopal, Chernobyl, the burning oil fields of Kuwait. But a conservation effort that concentrates only on the extremes of industrial abuse tends to suggest to the suggestive that the only abuses are the extreme ones, when, in fact, the earth is probably suffering more from many small abuses than from a few large ones. By treating the spectacular abuses as exceptional, the powers that be would like to keep us from seeing that the industrial system (capitalist or communist or social) is in itself, and by necessity of all of its assumptions, extremely dangerous, and that it exists to support an extremely damaging way of life. The large abuses exist within, and because of, a pattern of smaller abuses. Much of the Sacramento River is dead now because a corral of agricultural poison was spilled into it. The powers that be would like us to believe that this colonial "accident" was an exception in the general pattern of safe use. Dusted and used according to the instructions on the label, they will tell us, this product is harmless. They neglect to acknowledge any part of the pattern of implications that surrounds the accident: that if this product is to be used in dilution almost everywhere, it will have to be manufactured, stored and transported in concentrations somewhere; that even in "harmless" dilutions such chemicals contaminate the water, the air, the rain, and the bodies of animals and people; that when such a product is distributed to the general public, it will inevitably be spilled in concentrations in the land or small quantities, and that such "accidents" are anticipated, discounted as "acceptable risk," and charged to nature and society by the powers that be; that such chemicals are needed, in the first place, because the scale, the methods, and the economy of American agriculture are all monstrously out of killer; that such chemicals are used to replace the work and intelligence of people forced out of farming by free-market economies; and that such a deformed agriculture is made necessary in the first place, by the public's demand for a diet that is at once cheap and luxurious—too cheap to support adequate agricultural communities or good agricultural methods or good maintenance of agricultural land, and yet so greedy, self-indulgent as to demand, in every season, out-of-season food produced by earth-destruction machines and chemicals. We tend to forget, too, in our understandable and necessary outrage at the government-led attack on the public lands and the last large tracts of wilderness, that for the very same reasons and to the profit of the very same people, thousands of woodlots are being abusively and wastefully logged. Nothing new exists anywhere on earth that is not under threat of human destruction. Poisons are everywhere. Junk is everywhere.

Reviving Small Economies

These dangers are large and public, and they inevitably cause us to think of changing public policy. This is good, so far as it goes. There should be no room for this in our efforts to influence politicians and, in the name of honesty and sanity we must recognize the limits of politics. Think, for example, how much easier it is to improve a policy than it is to improve a community. But some changes required by conservation cannot be politically made, and some necessary changes probably will have to be made by the governed without the help or approval of the government.

I must admit here that my experience over more than twenty years as part of an effort to influence agricultural policy has not been encouraging. Our arguments directed at the government and the universities by now remind me of the ant crawling up the buttocks of the elephant with love on his mind. We have not made much impression. My conclusion, I imagine, is the same as the ant’s, for
no doubt greed is not enough. Not enough money to restore the private life. Our conservationists, while continuing their work to two places, are embarrassed in their local landscape, that can re­settle their religious associations, and yet within us. It honors the source of its place; it honors the world that is at the root of the old dualism that is at the root of the world. We are trying to supply to ourselves cheaply or for free, who we are, and it makes certain right­ness, to the world. It honors the religious associations that we also belong to it, and it makes certain right­ness, to the world. It honors the religious associations that are also different and difficultly named earth is "work." We are connected by work even to the places where we don't work, for all places are connected, it is clear by now that we cannot exempt one place from our ruin of another.

The name of our proper connection to the earth is "bad work," for good work involves much giving of honor. It honors the source of its materials; it honors the place where it is done; it honors the art by which it is done; it honors the thing that it makes, and the user of the made thing. Good work is always modestly scaled, for it cannot ignore either the nature of individual places or the differ­ence between places, and it always involves a sort of reli­gious humility, for not everything is known. Good work can be defined only in particularity, for it must be defined a little differently for every one of the places and every one of the workers on the earth.

The name of our present society's connection to the earth is "bad work"—work that is only generally and crudely defined, that enacts a dependence that is ill under­stood, that enacts no affection and gives no honor. Every one of us is in some extent guilty of this bad work. This work does not mean that we hold a lot of bristles, beating and confession; it means only that there is much good work to be done by every one of us, and that we must begin to do it. All of us are responsible for bad work, and not so much because we do it ourselves (though we all do it) as because we have done it for other people. And here we are bound to see our difficulty as almost over­whelming. How, in this global economy, are we to render anything like an accurate geographic account of our per­sonal economies? How do we take our lives from this earth so that we are not pronouncing and restoring to health? What proxies have we issued, and to whom, to use the earth in our behalf?

Most of us get almost all the things we need by buy­ing them; most of us know only vaguely, if at all, where those things come from, and most of us know not at all what damage is involved in their production. We are al­most entirely dependent upon an economy of which we are almost entirely ignorant. The provenance, for example, not only of the food we buy at the store, but of the fertilizers, fuels, and other materials necessary to grow, transport, process, and package it, is almost necessarily a mystery to us. To know the full economic history of a head of supermarket cauliflower is an immense job of research. To be so completely and so ignorantly de­pendent on the present abusive food economy certainly defines us as earth abusers. It also defines us as potential victors.

Living as we now do in almost complete dependence on a global economy, we are put inevitably into a position of ignorance and irresponsibility. No one can know the whole globe. We can connect ourselves to the globe as a whole only by means of a global economy which, without knowing the earth, pions it off. The global economy (like the national economy before it) operates on the su­perstition that the deficiencies or needs or wishes of one place may be safely met by the ruination of another place. To build homes here, we clear-cut forests there. To have heat and air-conditioning here, we strip-mine the moun­tains there. To drive our cars here, we sink our oils wells there. It is an absentee economy. Most people aren't us­ing or destroying what they can see. If we cannot see our garbage, or the grave we have dug with our energy prox­ies, then we assume that all is well. The issues of carrying capacity and population control remain abstract and dis­tant to most people for the same reason. If this nation or region cannot feed its population, then food can be im­ported from other nations or regions. An economy with­out limits is an economy without discipline. All the critical questions affecting our use of the earth are left to be an­swered by "the market" or the law of supply and demand, which proposes no limit upon either supply or demand. Conservationist of all kinds would agree, I think, that no discipline, public or private, is implied by the indus­trial economy, and that none is practiced by it. The im­plicit wish of the industrial economy is that producers might be wasteful, shoddy, and irresponsible, and that con­sumers might be extravagant, gullible, and irresponsible. To fulfill this wish, the industrial economy employs an immense corps of hucksters, politicians, publicists, lobby­ists, and legal advisors. We are bound up in a moral mor­nous, we have been talking it off for generations; it brought conservation into being. And conservationists have learned very well how to address this rub as a public problem. There is now no end of meetings and pub­lications in which the horrifying statistics are recited, usually to the end that pressure should be put on the government to do something. Often, the pressure has been put on and the government has done something. The government, however, has not done enough, and may never do enough. It may be that the government cannot do enough. The government's disillusionment to do more is explained, of course, by the government's bought-and-paid-for servitude to interests that do not want it to do more. But there may also be a limit of another kind: a government that could do enough, assuming it had the will, would almost cer­tainly be a government radically and unpleasantly differ­ent from the one prescribed by our constitution. A government undertaking to protect all of nature that is now abused or threatened would have to take total control of the country. Police and bureaucracies—and opportunities for malfeasance—would be everywhere. To wish only for a public or a political solution to the problem of conserva­tion may be to wish for a solution as bad as the problem and still unable to solve it.

The way out of this dilemma is to understand the rub of nature as a problem that is both public and private. The failure of public disciplines in matters of economy is only the other face of the failure of private discipline. If we have worked at the issues of public policy to long and exclusively as to bring political limits into sight, then let us turn, not instead but also, to issues of private economy
and see how far we can go in that direction. It is a direction that may seem daring, and produce more satisfactory and lasting results, than the direction of policy.

Reviving Good Work

The dilemma of private economic responsibility, as I said, is that we have allowed our suppliers to enlarge our economic boundaries so far that we cannot be responsible for anything more than the product, and see for our economic life; the more we know about our economic life, the more able we will be to take responsibility for it. The way to bring discipline into one’s own neighborhood or community life is limit one’s economic geography. This obviously sets up an agenda almost as daunting as the political agenda. The difference—accompanying one that, in influencing policy, only large-scale work is meaningful, but in reforming private economies, the work is necessarily modest and can be started by anybody anywhere. What is required is the formation of local economic strategies, and eventually of local economies, by which to resist abuses of natural and human communities by the larger economy. And, of course, in talking about the formation of local economies capable of using an earthly place without ruining it, we are talking about the reformulation of politics—about talking about reviving good work as an economic force.

If we think of this task of rebuilding local economies as one that must be done in a hurry, then we will again be overwhelmed and will want the government to do it. If, on the other hand, we define the task as beginning the reformation of private or household economies, then the way is plain. What we must do is use well the considerable power we have as consumers: the power of choice. We can choose to buy or not to buy, and we can choose what to buy. The standard by which we choose must be the health of the community—and by that we must mean the whole community: ourselves, the place where we live, and all the humans and other creatures who live there with us. In a healthy community, people would be richer in their neighbors, in neighborhood, in the health and pleasure of neighborhood, than in their bank accounts. And it is better, if the cost is greater, to buy near than to buy at a distance. It is better to buy from a small, privately owned local store than from a chain store. It is better to buy a good product than a bad one. Do not buy anything you don’t need. Do as much as you can for yourself. If you do not do something for yourself, see if you have a neighbor who can do it for you. Do everything you can to see that your money stays as long as possible in the local community. If you have money to invest, invest it locally, both to help the local community and to keep from helping the industrial economy that is destroying local communities. Ask yourself how your money could be used at minimal interest into the hands of a young person who wants to start a farm, a store, a shop, a small business that the community needs. This agenda can be followed by individuals and single families. If it is followed by people in groups—churches, conservation organizations, neighborhood associations, and the like—the possibilities multiply and the effects will be larger.

The economic system that most affects the health of the world, and that may be most subject to consumer influence, is that of food. And the issue of food provides an excellent example of private change with public implications. You can start to reform your own food economy without anybody’s permission or help. If you have a place to do it, grow some food for yourself. Growing some of your own food gives you pleasure, exercise, knowledge, sales resistance, and standards. Your own food, if you grow it the right way, will taste good, and so will cause you to wish to buy food that tastes good. Buy locally grown food. Tell your grocer that you want locally grown food. If you can’t find locally grown food in stores, then see if you can deal directly with a local farmer. The value of this, for conservationists, is that when consumers are acquainted and friendly with their producers, they can influence production. Through their influence, local agriculture will diversify, become more healthy and more stable, employ more people. As local demand increases and becomes more knowledgeable, value-adding small food processing industries will enter the local economy. Everything that is done by the standard of community health will make new possibilities for good work, the responsible use of the world.

The forest economy is not so obviously subject to consumer influence, but such influence is sorely needed. Both the forests themselves and their human communities suffer for the want of local forest economies—properly scaled wood products industries that would be the basis of stable communities, and would provide local incentives for the good use of the forest. People who see that they must depend on the forest for generations, in a complex local forest economy, will want the forest to last and be healthy, they will not want to see all the marketable timber ripped out of it as fast as possible. Both forest and farm communities would benefit from technologies that could be locally supplied and maintained.

The economy of recreation has hardly been touched as an issue of local economy and conservation, though conservationists and consumers alike have much to gain from making it such an issue. At present, the economic use of privately owned farm and forest land is almost completely disconnected from its use for recreation. Such land is now much used by urban people for hunting and fishing, but mainly without benefit to the landowners, who therefore receive no incentive from this use to preserve wildlife habitat or to take the best care of their woodlands and stream margins. They need to receive such incentives. Public funds might be given to private landowners to preserve and enhance the recreational value—that is, the wilderness value—of their land. Since governments are unlikely to do this soon, the incentives need to be provided by consumer and conservation groups working as cooperation with farm groups. The role of the consumer-group ought to apply to the recreation economy: find your pleasure and your rest as near home as possible. In Kentucky, for example, we have hundreds of miles of woodland stretching continuously along the sides of our creek and river valleys. Why should conservation and outdoor groups not pay an appropriate price to farmers to maintain hiking trails and camp sites and preserve the forests in such places. The money that would carry a family to a vacation in a distant national park could thus be kept at home, and partly used for there would be a saving to help the local economy and protect the local countryside. The point of all this is the use of local buying power, local gumption, and local affection to see that the best care is taken of the local land. This sort of effort would bridge the gap now so destructive, between the conservationists and the small farmers and ranchers, and that would be one of its great political benefits. But the fundamental benefit would be to the world and ourselves. We would begin to protect the world, not just by conserving it, but also by living in it.

Wendell Berry is a farmer and a writer. His literary works include The Unsettling of America, The Gift of Good Land, Home Economics, and What Are People For? His farming works include the successful restoration of an eroded hillside farm near the Kentucky River.

The Gift of Good Land
Timber Industry Shortchanges Rural Communities

Cui Bono? Who Benefits?

by William Butler

The first draft of Northern Forest Lands funding legislation of 1991 proposed: "...to promote forest land conservation and rural economic development..." Later, the Maine representatives to the Northern Forest Council deleted the word "rural" from the very last line and in its place inserted the word "Banger" hearing in July 1991.

To those of us who live and work in the region, it’s a hard pill to swallow, the loss of this one word in the statement of purpose removed any real hope that the Northern Forest Council would begin to address the economic depression of communities across the study area. The 1990 Northern Forest Lands Study is priceless in that it formally recognized the strong correlation between low per capita income and a timber-based economy. Hancock County, where I have lived and worked in the woods for forty years was the lowest of the low.

The NFL Study was prompted by the threat of "development" fragmenting the large holdings in the region. The reaction to this perceived threat was a study of means of preventing such subdivision. A goal emerged of preserving existing ownership patterns and traditional uses which have served the region well. This is an unexamined premise, probably written by people owning, each, a small 80-acre farm.

My neighbors in eastern Maine aren’t as fearful of short-term development as the Council. We see shorefront now owned by Georgia-Pacific, Diamond-Oxy, or Champion as parked under Maine’s tree-growth tax reduction, while a town half or more owned by these landowners has failed to meet fluctuating costs of community. Local assessors actually say they’d like to have some camps in town to spread the tax base. Don’t offer them a rebate for the reduced tax from other taxes that we pay, mostly the sales and income tax. They know it’s not free money.

It is so great about large ownership? Before Georgia-Pacific bought Great Northern, our 17 largest owners had 10.5 million acres; 10,000 acres were held by the least of these.

Did an ownership pattern that Henry Magnussen of the Paper Industry Association of Washington described as "the largest contiguous industrial holding in the United States" guarantee sound forestry? Not in Maine.

We did have a lot of good jobs in the North Woods. No, commuting Quebeckers cut almost half the wood each year. They aren’t paid well, but their skidders and trucks are subsidized by their governments. Big woods employers (the same large landowners) love workers with this kind of subsidy; even if they don’t love the medical protection in lieu of workers’ comp that Canadians bring with them.

Don’t large landowners assure us of good jobs in paper and lumber mills? Paper mill jobs were the best-paying in the state, but are now in decline, both in the mills and in union membership. What in sawmills? Sorry, most of them are in Canada, just outside the Maine border, where they are subsidized in construction, operation, log cost, and cheap power, as long as the workers are Canadian. A typical export sawmill is 500 million board feet of logs a year. Much is cut by the commuters described above. A 1981 Maine Forest Service study quotes a Quebec authority as showing 2000 direct jobs from these logs, with a total of direct and indirect employment of 30,000.

I once goaded Robert Hintze, of International Paper, into admitting publicly that his sawmill was in Quebec because of the subsidies, and would be in Maine when he got as good a deal. Well, they must pay a lot more taxes, right? It’s sad, but they have rigged the system.

On their mills, they pay only local taxes in the town, which may be a large part of the town budget, but is very small in absolute amount, relative to the mill’s earnings. The mill is not taxed to support the state General Fund. People are.

Don’t the lands support the State? No, most of the land is in the unorganized territory (ruled by LURC—the Land Use Regulatory Commission), where only the tax-supported services are plowing snow on few roads, support of two schools, and, until 1993, their fire department—the Maine Forest Service. Nothing goes to the General Fund.

How about corporation tax? Maine’s 13% tax—based on federal tax. Three quarters of our $1.5 billion state budget is paid by sales tax and individual income tax—75%. Corporate income tax contributes 3.5%. People who buy or use alcohol or tobacco pay 10% of state revenues. The twelve million dollars we have from the national forest is only 0.7%, dedicated to the local services.

Don’t they buy a lot of wood from small landowners? The answer is: more and more (neglecting the current Depression), but they do pay a good price? Hardly. When they sell to landowners controlled most of the woodlands in Maine, they had a buyer’s market. The promise of our School of Forestry at Orono, and of the U.S. Forest Service, was that you give away your worthless pulpwood and make some money growing sawlogs. This giveaway is the predicate for what passes for forest management now. It says that most of what grows in Maine is suited only as fiber, and you must sell it cheap. Fortunately for my successor, Dwight Haas, chief economist of the USPSF told us in Orono that “Pulpwood is the highest and best use of a tree. Given any degree of shortage, paper makers can call on all other users—lumber, plywood, toothpicks.” Some of us at the Down East RC&D forestry committee are working on a landowners’ marketing association whose purpose is to get that higher value for pulpwood.

I submit we’d be a lot better off today if the forest ownership were as fragmented as it was before the Southern Pine. We might have more wood left than we do. Certainly we small growers would get a better price for pulpwood, as in the South.

Will we miss them when they’re gone? Would you? Don’t get me wrong—we need paper mills here. We might have more wood left than we do. Certainly we small growers would get a better price for pulpwood, as in the South.

What will we miss them when they’re gone? Would you? Don’t get me wrong—we need paper mills here. We might have more wood left than we do. Certainly we small growers would get a better price for pulpwood, as in the South.

Per Capita Income, 1985.

Table: Tax Breaks

<table>
<thead>
<tr>
<th>Tax Breaks</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate lower than U.S.</td>
<td>17%</td>
</tr>
<tr>
<td>Unemployment rate (3.6-7.6)</td>
<td>9%</td>
</tr>
<tr>
<td>Unemployment rate below U.S.</td>
<td>12%</td>
</tr>
</tbody>
</table>

Analysis of tax breaks

(1) For the years 1982-85, reported profits totaled 472.7 million, yet it received refunds from the U.S. Treasury of 372.7 million for a tax rate of minus 11%.

(2) Reported profits of $481 million during the same period but received refunds totaling nearly 60 million, for a tax rate of minus 10.3%.

(3) Reported profits of $877.8 million for 1982-85 and paid $45 million in taxes for a tax rate of 6.6%.

(4) Reported profits of $365.5 million for the 4-year period and paid $30.5 million in taxes for a rate of 8.7%. It’s more revenue compared to the 8% rate before the cuts.

<table>
<thead>
<tr>
<th>Tax Breaks</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate lower than U.S.</td>
<td>17%</td>
</tr>
<tr>
<td>Unemployment rate (3.6-7.6)</td>
<td>9%</td>
</tr>
<tr>
<td>Unemployment rate below U.S.</td>
<td>12%</td>
</tr>
</tbody>
</table>

Note: Through creative accounting, tax break values were inflated to include far more of corporate profits in vertically integrated companies than just staple-value-type. This effectively minimized wood-based industry from tax.

Finally, look at the proposed deal—we exude them from having to support the community through taxes, and they will keep the woods just as it is. Further, they will keep the local economies just as they are. I suppose some younger people think the Maine forest is still the North Woods. Even when I first got into it, in 1948, it was long past being untouched. If you want to bargain, get something better than the status quo for giving away our money. Get some real salivaculture. You will be asking for a real forest, not a farm, real jobs for local people, and tax support for communities, a productive natural resource that is a pleasure for all to enjoy.

William Butler has worked in the Maine Woods over 40 years. He is a member of the Maine Citizens’ Advisory Committee to the Northern Forest Lands Council, Chairman of the Aurora Planning Board and founder of Friends of the Maine Woods.

Choose your answers from these 5 Paper Companies: Champion International, Great Northern Pulp, International Paper, Scott Paper, St. Regis

(1) For the years 1982-85, reported profits totaling 472.7 million, yet it received refunds from the U.S. Treasury of 372.7 million for a tax rate of minus 11%.

(2) Reported profits of $481 million during the same period but received refunds totaling nearly 60 million, for a tax rate of minus 10.3%.

(3) Reported profits of $877.8 million for 1982-85 and paid $45 million in taxes for a tax rate of 6.6%.

(4) Reported profits of $365.5 million for the 4-year period and paid $30.5 million in taxes for a rate of 8.7%. It’s more revenue compared to the 8% rate before the cuts.

<table>
<thead>
<tr>
<th>Tax Breaks</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rate lower than U.S.</td>
<td>17%</td>
</tr>
<tr>
<td>Unemployment rate (3.6-7.6)</td>
<td>9%</td>
</tr>
<tr>
<td>Unemployment rate below U.S.</td>
<td>12%</td>
</tr>
</tbody>
</table>

Note: Through creative accounting, tax break values were inflated to include far more of corporate profits in vertically integrated companies than just staple-value-type. This effectively minimized wood-based industry from tax.

Finally, look at the proposed deal—we exude them from having to support the community through taxes, and they will keep the woods just as it is. Further, they will keep the local economies just as they are. I suppose some younger people think the Maine forest is still the North Woods. Even when I first got into it, in 1948, it was long past being untouched. If you want to bargain, get something better than the status quo for giving away our money. Get some real salivaculture. You will be asking for a real forest, not a farm, real jobs for local people, and tax support for communities, a productive natural resource that is a pleasure for all to enjoy.

William Butler has worked in the Maine Woods over 40 years. He is a member of the Maine Citizens’ Advisory Committee to the Northern Forest Lands Council, Chairman of the Aurora Planning Board and founder of Friends of the Maine Woods.
Questions for Citizens to Consider
by Deborah Brighten

Across the country, citizens are meeting to discuss the future of their small towns. Although each community is unique, somewhat toward the top of the list of goals and objectives in each town are usually concerns about maintaining rural character, quality of life and sense of community. Other items on many small town wish lists are maintaining affordable housing, a school addition, a summer swimming program, greenways, acquisition of open space and ways to make a good livability.

In many communities, questions concerning economic growth have pertained to the public. Some residents believe any commercial industrial growth is vitally needed in order to broaden the tax base and create jobs. Often, organizations are set up to chase smokestacks—that is, to court new business and bring it to town. Other citizens, envisioning air pollution and traffic jams, react by opposing all growth. Understand it all, most people have a similar motivation—they want their community to continue to be a nice place to live and work.

Just as all towns are not created equal, all types of economic endeavors are not created equal. The list of questions which follows was designed to help citizens think about which types of economic activities are consistent with their town's characteristics and goals.

The general philosophy behind the questions is that the businesses are those which are environmentally sound, those which contribute to the economic security of the community and do not strain community services, those which create a useful product or service, and those committed to the well-being of both the community and company's employees. These are the businesses which help, rather than hinder, a community in achieving its goals.

No business can score a perfect ten on each question, but even if a company is perfect, it's not wise for a community to be one-company town. Diversity is terribly important in a small state such as Vermont," according to Paul Bolme, community development director in Bennington, Vermont. "IBM, while being a tremendous boon to Chittenden County, has an equal potential to devastate the area should it become obsolete or move for other reasons. Small companies can operate on a shoestring with less environmental impact. Small companies can invest in the community for the long run, whereas IBM and similar companies can demand a lot more of the community in the short run."

The questions that follow do not prescribe answers. It is my hope that, instead, they will stimulate discussion and help citizens clarify their ideas so that they can formulate a common vision that will result in a local economy which is sustainable, which contributes to residents' other goals for their community and which helps make their community a nice place to live. Use these questions to help formulate appropriate goals, policies and incentives for attracting appropriate business, stabilize the thoughtful zoning regulations, formulating criteria for granting conditional use permits and for considering the communities town officials may want to include in such permits.

I: The Benefits & Commitment of the Industry to the Community

(1) How will it impact local taxes?

People seem to have a general perception that commercial and industrial growth will lower taxes. The theory goes like this: commercial property pays school taxes yet does not put children in the school—resulting in a boon to the town. Many local officials, therefore, have looked for developments to increase the tax base without filling the classrooms. However, the approach has not found uniform success. Although communities show a great deal of variation, the general pattern in Vermont, and in other states as well, is that tax bills end up higher—rather lower—in towns with the most commercial and industrial development.

Several reasons partially explain the higher tax bills in these towns. First, commercial and industrial developments often put heavy demands on the municipal side of the budget, requiring road maintenance, police and fire protection and sewer and water capacity. Second, in many states the state government reduces local state aid to education, making the town "richer." Third, commercial and industrial growth does not appreciate as rapidly as other types of property; so, in relative terms, the tax benefits accrued from industry decline each year.

Probably the most important reason why towns with the most commercial property have higher tax bills is that these communities have more people. The combination of the demands of the job-generating developments and the needs of the new residents who move in to fill the new jobs drives the tax bills up.

In analyzing the fiscal impacts of a town's various economic developments, it's important to consider the full picture. That picture includes costs, as well as revenues, the secondary impacts, such as employees moving to town and the related costs—as well as the direct impacts.

The businesses most likely to have a positive effect on local taxes are those which employ local people rather than those that bring in a work force from another place whose measure doesn't require the town to expand its police force, sewer, water or road systems, those not generating much traffic—especially truck traffic—and those providing a community service.

(2) Will the jobs be satisfying and pay reasonably well?

Many citizens have expressed concern over the importance of providing "good jobs" so their children will not have to leave the area for employment opportunities. Traditionally, this has meant jobs which pay well. However, more and more people are redefining the term, good job. They have started talking about jobs which, in addition to paying well, are viewed as satisfying, worthwhile, give opportunities for personal advancement, and enable the employee to maintain a reasonable level of comfortability. This is not meant to justify minimum wage, but, instead, to broaden the definition of a good job which includes many more social elements.

Towns should consider the effects of the types of jobs which the business will bring, the business's employee policies and benefits, whether or not employees have a functional stake in the company through profit-sharing or employee ownership plans, the work environment, day care availability, training opportunities and whether or not the company has policies—such as employee benefits and health care—will mean less turnover and an increased corporate commitment to the town.

(3) Will the company invest in the community?

Many companies have policies written explicitly in their corporate bylaws, that commit them to making contributions to the community. These may include sponsoring community groups and activities, allowing their land to be used for community gardens or parks, opening buildings after business hours for community meetings, supporting a day care center, building affordable housing, or providing contributions to local agencies or nonprofit organizations. The possibilities for socially responsible giving are almost endless.

In addition, some companies set up local credit unions for their employees, or participate in the local credit union rather than using a state or interstate bank. This strengthens the economy by recirculating money locally.

(4) Will the service or product benefit the community?

One company may produce Gatling guns, or electric cookie cutters, or gaskets used only in boat engines in Japan. Another may provide recycling services, produce wood stoves, or establish the new jobs of recycling products which will directly benefit the community. Newspaper publishers, colleges, health clinics, agriculture, food processing plants, energy producers and research facilities can be looked on as good community investments. These are businesses which will serve the town, not just employees—they also meet community needs.

(5) Will the company be owned by local people?

In theory, at least, a locally owned company would be more committed to the community. It would also be more likely to hire local people rather than transferring a work force from outside the area. It would be less vulnerable to outside economic forces and less likely to be used as a pawn in a larger deal. Because it is difficult to find the technology, management and financing locally for establishing a significant-sized company, locally owned new companies tend to be small. But, just as previous locally owned companies in a community will create a stable economic base, other local companies create new companies which may share facilities, philosophy, board members or stockholders. A local company is more likely to spin off more local companies than is a national one.

(6) Will the company employ local people and local subcontractors?

A company which brings in its workforce from outside or hires out-of-state subcontractors may not solve a community's problems unless the community is looking for population growth, more traffic or more general activity. Also, any gain in taxes would probably be offset by the costs of educating and providing services to the new company and the new residents.

A company which, instead, makes a commitment to hire local people and local subcontractors would be more likely to help the community meet the goals of providing jobs for its existing residents. It would also, in general, have a more positive impact on the town's tax bills.

(7) Will the company train local people to offer them a step up?

Ideally, new companies would retrain present unemployed residents, providing them with more satisfying jobs close to home rather than bringing in skilled workers from elsewhere. For this to happen, companies and communities should negotiate training plans and not rely on vague promises. Consider the company's willingness to implement programs such as on-the-job training, internships, a commitment to the town's facilities for training programs aimed at special populations, and cooperative training courses offered in

---

[The image contains a table titled "Residential Tax Bills & the Value of Commercial/Industrial Property, Vermont, 1989." The table lists taxable values for different bands of property, ranging from $1,000 to $4,000, with corresponding tax bills.]

---

14 The Northern Forest Forum
Autumn Equinox 1992
conjunction with local colleges and schools. Consider setting up programs in conjunction with the local schools to explain the skills needed for further employment and which exploit ways in which the school and company can work together to educate the future work force.

II: Environmentally Sound Corporate Policy

(1) Is the company’s operation environmentally sustainable? Is it dependent on selling off parts of the town?

Some companies use renewable resources and take advantage of natural systems. Examples in Vermont include a cooperative creamery which markets dairy products made from local milk, a company which produces baby food from local organically grown fruits and vegetables, and several wood manufacturing plants which make furniture from the state’s trees. Because milk, vegetables, fruit and trees are renewable, these companies can, with careful planning and thoughtful management, succeed without depleting the area’s resources.

Several reasons explain why companies may not be environmentally sustainable. Some may heavily depend on non-renewable resources—such as minerals, oil and gas. Some may produce wastes which the environment cannot assimilate. Others may use renewable resources faster than they can be replenished: an example is a manufacturing plant using wood which devours all the region’s trees in ten years. Others, such as ski areas, may require continual expansion to stay competitive. This might involve land clearing, new restaurants, hotels, commercial establishments and water for making snow.

(2) Will any negative or positive environmental impacts occur?

It might be easier to list the negative environmental impacts which might result from commercial or industrial growth. These include air pollution, water pollution, smells, noise, solid waste and toxic materials in the soil. Growth may also, however, positively impact the environment. For example, consider the many new companies which help citizens or businesses reduce energy consumption, or the companies which recycle something once destined for the landfill or river. There are also companies which produce equipment to help farmers reduce their chemical use, or factories which produce electricity and fertilizer from manure—selling a formerly intractable waste management problem, as well as providing useful by-products.

(3) Is the company committed to reducing negative environmental impacts?

Many companies are very conscientious about reducing their environmental impacts. Examples of positive programs include ones for recycling their wastes reducing environmentally unsound packaging, using rail transportation, providing van pooling, conserving energy, and using greenhouses to process sewage.

(4) What effect will the industry have on traffic?

Companies may increase traffic in several ways. Numerous trucks (which cause significantly greater pollution than cars) may bring raw materials and remove waste and finished products. Extra traffic is also added as workers commute to work, out of town and when local customers visit the industry.

Companies can reduce their traffic impacts by staggering employee work hours, locating in areas already well-served to handle increased traffic, paying for road improvements and maintenance, offering incentive for car pooling or ride sharing, supporting the construction of bike or pedestrian paths, or by providing van service or subsidized public transportation. Some localities have established transportation management associations which work with developers and businesses to find concrete solutions for potential transportation problems before they are created. Local governments can require that following these specifications will be a condition for approving a new development.

Some companies may actually reduce traffic problems. A company which employs local people or which meets local needs by providing something closer to home at a community scale could eliminate our need for regional shopping mall, on the other hand, would have the opposite effect by attracting out-of-town customers.

Companies which locate near railroad tracks (or another mass transit route) and ship by rail might even help to revitalize railroads and other shipping industries. The company may also make mass transit profitable in areas which did not previously have enough ridership to make this option financially viable.

III: Determining Economically Eco-friendly Practices

(1) Does the company add value to a local renewable resource or product?

If the community has found its special economic niche, it probably is taking advantage of a local renewable resource and adding value to it. Rather than just selling the resource in its raw form, it could benefit the community to process the resource locally and then sell a product which is more valuable. As examples, consider the difference between selling raw milk and selling cheese or ice cream, or the difference between selling logs and selling fine furniture.

Perhaps the community’s most important resources are less tangible things such as ingenuity, artistic ability, hard work, and intelligence. It is equally important to take advantage of these. Publishing companies, art galleries, recording studios, magazines and companies which market local products all help add value to the work of talented citizens.

(2) Will the company help keep money circulating in the community?

A popular economic theory is that the best way to strengthen a local economy is to pull in outside money, either by bringing in outside companies or outside customers. While that is valid, there is also much to be gained by keeping money in the community longer. This will be done by companies that have a policy to hire local people and by companies which provide a service or product used by local people—especially if it substitutes for something normally imported.

(3) Is the company dependent on discretionary income or a high growth rate?

A company with a trendy or frivolous product may be subject to economic downturns more than a company which provides a time-proven and essential product.

Companies dependent on a growth economy may, in the long run, be particularly devastating to a community. They may fail when economic growth slows for reasons completely unrelated to the local economy or community. Or, they may require continued growth at a time when the community has reached its desired limits.

(4) Will the company and its products or services have a positive effect on the town image and on other companies in town?

Some companies can help establish a town’s image by creating community pride and by benefiting other companies. The actions of the firms of Ben & Jerry’s and the Cabot Cooperative Creamery are far more important than any marketing program in establishing a reputation for quality Vermont foods. This reputation then extends to other products. Often, towns are put on the map and their good reputations established by the success of a unique, local enterprise. Factory outlets, chain stores or franchises often fail to benefit a town’s image in the same way.

(5) Is the company dependent on cheap energy or other scarce resources?

The company’s fuel or resource dependence must be carefully considered. A firm which relies very dependent on cheap oil, gas, water or electricity may look economically viable today, but may be extremely vulnerable to rising energy prices or resource depletion.

(6) Will the company strengthen and preserve the community’s assets, particularly those identified by the town plan as important?

Most town plans, especially in Vermont, call for the protection of agriculture and forestry along with the preservation of a working landscape. But, for preservation of the landscape to succeed, it must remain economically viable. While some economic developments increase the pressure on landowners to sell, other companies may help farmers keep a living with their land. Examples would be companies which purchase and sell high quality food, ensuring farmers a good market for top quality milk and produce, or a local wood product manufacturing plant which provides a local market for logs.

(7) Does the company add diversity to the economic base?

It often seems like the ultimate economic success story occurs when, after years of local effort, a large company finally decides to locate in a small town. However, town planners must keep in mind the chance that the company may later decide to move—devastat­ ing the town because it has become overly dependent on the company for jobs and tax revenue. A safer eco-

Continued on Page 18
Wilderness Recovery: Thinking Big in Restoration Ecology
by Reed F. Noss

1: INTRODUCTION

No big conservation project is adequate in today's world without a major restoration component. There is simply too little land left in near-pristine condition; human influences are everywhere, and some ecosystem types are virtually gone.

Landscape restoration need not be prohibitively expensive. It can rely largely on the natural recovery processes of ecosystems, aided by human labor. Road closures alone can work wonders. The billions of dollars that federal agencies spend annually degrading natural ecosystems through such exorbitant programs as below-cost timber sales, subsidized grazing, dams, and road construction can be diverted to restoration projects. Labor-intensive restoration, in turn, can employ many former timber workers, road engineers, and ranchers, whose prior activities have created the need for restoration in the first place. The net benefit to biodiversity and human society will be tremendous.

In the following essay, I outline a strategy and recipe for wilderness recovery based on a land ethic expo-osed by Aldo Leopold more than four decades ago. The reestablishment of huge, wild, functional ecosystems,I feel, is the pinnacle of restoration ecology and human reharmo-
nization with nature.

II: A WILDERNESS VISION

Ecological Values of Wilderness

Wilderness has ecological values. It is no accident that the only ecosystems that include all native carnivores are very large roadless areas. In the lower 48 states, the only ecosystem that still regularly contains both grizzly bears and wolves is the Northern Continental Divide complex in northern Montana and adjacent Canada. The presence of large carnivore populations indicates a relatively healthy ecosystem. Many species themselves may play a fundamental role in maintaining the diversity of the system through indirect effects on the web.

Roadlessness defines wilderness and is the key to its ecological health. Probably no single feature of human-dominated landscapes is more threatening to biodiversity (aquatic and terrestrial) than roads. Direct effects of roads include fragmentation and isolation of populations, roadkill, pollution and sedimentation of streams and wetlands, and exotic species invasions. Many species of small vertebrates and invertebrates rarely or never cross roads, even two-lane roads closed to public traffic. Roads, therefore, reduce effective population sizes and gene flow, and will be significant dispersal barriers during climate change. A network of roads fragments populations into smaller units, each more vulnerable to extinction. Another set of species—largely weeds and pests—uses roadsides as dispersal corridors and launch pads.

Indirect effects of roads are many, but the most important to consider here are those related to human activities. Roads bring people with guns, snare, and traps. Roadless areas offer refuge to those species, from wild game to muskrats and muskfish to large carnivores and ungulates, sensitive to the impacts of roads. Because large mammals require enormous amounts of habitat to maintain viable populations, roadless areas must be large to offer sufficient security. Hence the need for Big Wilderness.

Postage-stamp nature reserves have protected some important elements of biodiversity, but they are not whole. They fail to maintain populations of area-dependent animals, do not include complete biological communities, do not perpetuate the ecological processes necessary to assure landscape-level diversity, and are influenced heavily by phenomena beyond their borders.

Postage-stamp nature reserves have protected some important elements of biodiversity, but they are not whole. They fail to maintain populations of area-dependent animals, do not include complete biological communities, do not perpetuate the ecological processes necessary to assure landscape-level diversity, and are influenced heavily by phenomena beyond their borders.

Both roadless areas and wilderness have intrinsic value, as do land ethic ecosystems. Wilderness has intrinsic value in wilderness or any other entity. But if we accept that humans have intrinsic value, as do land ethic philosophers through indi-rect or functional programs as below-cost timber sales, subsidized grazing, dams, and road construction can be diverted to restoration projects. Labor-intensive restoration, in turn, can employ many former timber workers, road engineers, and ranchers, whose prior activities have created the need for restoration in the first place. The net benefit to biodiversity and human society will be tremendous.

In the following essay, I outline a strategy and recipe for wilderness recovery based on a land ethic expoused by Aldo Leopold more than four decades ago. The reestablishment of huge, wild, functional ecosystems, I feel, is the pinnacle of restoration ecology and human reharmo-
nization with nature.

By 1920, the northeastern and central states already had lost 96 per cent of their virgin forests. Today, the Pacific Northwest holds most of the old-growth forests in the lower 48 states, yet less than 13 per cent remains of the ancient forest in western Washington, western Oregon, and northwestern California. The longleaf pine forests of the Southeastern Coastal Plain, once the dominant regional ecosystem, have declined by at least 98 per cent. Very little of our land is protected strictly, despite the claims of commodity interests. Designated wilderness represents only 1.8 per cent of the 48 states, or four per cent of the U.S. including Alaska, and many of these areas are open to grazing, mining, and other disruptive uses.

To set aside only three per cent of the 48 states in reserves, and only 1.8 per cent as wilderness, does not seem very balanced. No one can say how much land is "needed" to maintain biodiversity, where we draw the line is a reflection of our values. My values tell me that an order of magnitude increase—to 50 per cent—is a reasonable compromise, and that large-scale wilderness recovery is needed to restore that balance. Many people

...
the first to be settled and converted to intensive produc-
tion. Today, of 261 major terrestrial ecosystems in the
United States (including Puerto Rico), defined by a com-
bination of Bailey's ecoregions and Kuchler's potential
natural vegetation, 104 (40 percent) are not protected
due to human activities. Wilderness boundaries are of
ten coincident with timberline: the "rock and ice" phe-
nomenon.

Many examples of ecosystem types must
be large enough to maintain viable populations of all
native species and to persist in concert with natural
disturbances. Large reserves are easier to defend
against encroachment from outside, suffer less sig-
nificant edge or boundary effects, and require less man-
agement per unit area.

How large must a wilderness area or other res-
erves be to maintain native biodiversity? Estimates by con-
servation biologists of minimum viable populations
and corresponding reserve sizes are alarmingly high. A
recent study concluded that an average population of
1,000 individuals may be adequate for species of nor-
mal population variability, but 10,000 individuals
may be necessary for long-term persistence of highly
variable birds and mammals. How these minimum
population estimates translate into area requirements
depends on factors, such as habitat quality and social
behavior that determine population density and disper-
sion. C. M. Schonewald-Cox estimated that reserves of
25,000 (250,000 ac for larger carnivores) might main-
tain viable populations of small herbivorous and omniv-
orous mammals, but reserves of one to ten million ha
are needed to sustain large carnivores and ungulates.

Natural disturbances also must be taken into con-
sideation, as reserves that are small relative to the
scale of natural disturbance may experience radical
fluctuations in the proportions of different seral stages,
which, in turn will endanger populations dependent on
particular stages. Some researchers have estimated that
landscapes 50-100 times the largest disturbance patch
may approach a steady state in habitat diversity.

Because boreal forests experience natural fires covering
up to one million ha, reserves of 50 to 100 million ha
might be necessary to achieve a steady state in boreal
regional vegetation. For example, determining whether
eastern cougar and wolves, which require larger res-
erves, again on the order of one million ha,
is comparable to asking whether these species
are worth the additional expense compared to experi-
encing smaller disturbances, such as eastern deciduous forests characterized by
mesic gaps and occasional watershed-sized areas, existing national parks and forests (at 100,000 ha or less) are not adequate steady state. The
system of protected areas in this region fails to represen
tive many ecosystem types, however. Furthermore, the two ecosystem reserve systems in these forests can only be
linked by the National Park System (as of 1983) are larger than one million ha. Only six of the 747 units in the National Wilderness
Preservation System (as of 1983) are larger than one

A wilderness recovery program is obviously ideal-
istic. It is not something one takes to the friendly public lands managers and legislators, expecting to be
greeted with enthusiasm. Many will balk at its appar-
ent unreasonableness, but nothing is more unreason-
able than the willful destruction of biodiversity. For
conservationists to put something less than what is
really needed, to compromise nature, is foolhardy.

Putting It On The Ground

On-the-ground implementation of a wilderness re-
cover strategy is contingent on having clarity at
the local scale to each regional landscape. Some general guidelines ap-
ply: (1) close and vegetate roads; (2) remove fences and
other human structures; (3) eradicate exotic species whenever feasible; (4) reintroduce populations of exter-
minated native species, including large predators; (5) re-
store hydrological regimes and soils; and (6) reinstate
or mimic natural disturbance regimes.

Because any major ecosystem type will vary across its geographic range in such attributes as species
composition, vegetation structure, and natural disturbance regime, multiple examples of each major
ecosystem should be protected or restored. Restoration priorities can be established by determining which
ecosystem types in the region have declined most recently from presettlement condition.

Much of the restoration of ecosystems at a land-
scape scale can rely on natural revegetation; the excep-
tions are mostly sites with severe soil destruction or
dominance by exotic species, which must be dealt with
case by case. In most human-modified landscapes be-

A map of the National Wilderness System (as of 1983) is larger than one million ha. Only six of the 747 units in the National Wilderness
Preservation System (as of 1983) are larger than one

A wilderness recovery program is obviously ideal-

Putting It On The Ground

On-the-ground implementation of a wilderness re-
cover strategy is contingent on having clarity at
the local scale to each regional landscape. Some general guidelines ap-
ply: (1) close and vegetate roads; (2) remove fences and
other human structures; (3) eradicate exotic species whenever feasible; (4) reintroduce populations of exter-
minated native species, including large predators; (5) re-
store hydrological regimes and soils; and (6) reinstate
or mimic natural disturbance regimes.

Because any major ecosystem type will vary across its geographic range in such attributes as species
composition, vegetation structure, and natural disturbance regime, multiple examples of each major
ecosystem should be protected or restored. Restoration priorities can be established by determining which
ecosystem types in the region have declined most recently from presettlement condition.

Much of the restoration of ecosystems at a land-
scape scale can rely on natural revegetation; the excep-
tions are mostly sites with severe soil destruction or
dominance by exotic species, which must be dealt with
case by case. In most human-modified landscapes be-

A map of the National Wilderness System (as of 1983) is larger than one million ha. Only six of the 747 units in the National Wilderness
Preservation System (as of 1983) are larger than one

A wilderness recovery program is obviously ideal-
istic. It is not something one takes to the friendly public lands managers and legislators, expecting to be
greeted with enthusiasm. Many will balk at its appar-
ent unreasonableness, but nothing is more unreason-
able than the willful destruction of biodiversity. For
conservationists to put something less than what is
really needed, to compromise nature, is foolhardy.

Putting It On The Ground

On-the-ground implementation of a wilderness re-
cover strategy is contingent on having clarity at
the local scale to each regional landscape. Some general guidelines ap-
ply: (1) close and vegetate roads; (2) remove fences and
other human structures; (3) eradicate exotic species whenever feasible; (4) reintroduce populations of exter-
minated native species, including large predators; (5) re-
store hydrological regimes and soils; and (6) reinstate
or mimic natural disturbance regimes.

Because any major ecosystem type will vary across its geographic range in such attributes as species
composition, vegetation structure, and natural disturbance regime, multiple examples of each major
ecosystem should be protected or restored. Restoration priorities can be established by determining which
ecosystem types in the region have declined most recently from presettlement condition.

Much of the restoration of ecosystems at a land-
scape scale can rely on natural revegetation; the excep-
tions are mostly sites with severe soil destruction or
dominance by exotic species, which must be dealt with
case by case. In most human-modified landscapes be-
Wilderness Recovery

Community Economics

Continued from Page 15

economic development strategy is to have multiple em­ployers in town. If one of the numerous small com­panies folds because the raw materials are no longer available, or for whatever reason, the town may still recover.

Similarly, it is better to have a diversity of kinds of economic activity rather than concentrating on only one. The potato capital of the nation would seriously suffer in a bad potato year, no matter how many different potato processing companies are located in town. And, when looking at additional growth, the town might find that obtaining yet another potato processing plant would actually hurt the town's economy because the new firm would compete with, rather than complement, the existing plants.

Some towns have found it helpful to analyze their distribution of businesses in comparison with other communities of the same size. This gives them an idea of whether the town might be able to support growth in a certain sector. Can towns of 4,000 people, for example, support a community health center?

The most resilient local economy is made up of many small businesses distributed among several economic sectors. Even though the individual economic impact of each might be minimal, the cumulative impact could be substantial. Be advised, however, that this certainly makes the job of smokestack chasers harder.

Other questions to consider when looking for companies that would increase the economic diversity of the community include: Would this company compete with or complement existing companies? Would this company represent an economic sector now underrepresented in the community? Is the size and scale of this company consistent with the community's goal of providing a diversified economy?

(8) What secondary impacts are likely? Development often begets development. Are other companies, housing developments, gas stations, stores or houses likely to spring up in town because of this company? If so, town planners must consider whether these developments fit in with their town's plan.

IV: Conclusion

In a recent issue of the Wall Street Journal, a large help-wanted advertisement announced an available speech writing position for a major company. Before it made any mention of the job, the requirements or the salary range, the ad boasted that the location was in a small community nationally recognized for its livability.

Often local officials, concentrating on the need for commercial growth to preserve their town's economic vitality, fail to recognize how important a community's livability is to that very economic growth. We designed these preceding questions in order to encourage residents to undertake a thinking and planning process which links economic health to the other vital signs of community health. There is no way to determine how much weight to give each question or the score which would make a project appropriate or not. However, asking the questions, analyzing the possibilities and then using the results to negotiate with developers will focus the town's planning process on the importance of improving the town's economic climate while making sure it remains a great place to live.

This article is copyrighted and is reprinted by permission. It first appeared in Small Town, Third & Poplar, POB 517, Ellensberg, WA 98926 in the May-June 1991 issue.

Deborah Brighton is an associate with Ad Hoc Associates, a consulting firm specializing in planning, as well as fiscal and environmental analysis. She must be contacted at Ad Hoc Associates, RD 1, Box 319, Salisbury, VT 05769.

Abenaki Land

Continued from Page 7

and the rights that flow from that title, can only occur through negotiation between the Nation's government and the Federal government. There has never been any Abenaki or Federal Government action to extinguish Abenaki aboriginal title, therefore it remains.

3 Shortly after the Supreme Court's decision, the lower court denied the Abenaki Nation's Motion to Dismiss for Lack of Jurisdiction in every case in which it was filed. The order grants the State jurisdiction to prosecute based on the Supreme Court's ruling that Abenaki aboriginal title no longer exists. Yet the Supreme Court was not empowered to rule in that place, since aboriginal title involves a federal question of law.

Copyright by author. No changes to be made without permission.

[End: Note: To make contributions for legal expenses, or for more information, please contact: Sovereign Republic of the Abenaki Nation of Missisquoi, POB 276, Missisquoi 05488, Phone 802-868-7146.]

A longer version of this article appeared in The Environmental Professional Volume 13, pp 225-234, 1991. Readers wishing a copy of the full article, including footnotes and extensive bibliography can send $1.50 to the Forum.

Contest

What Places Should Be Trashed?

In response to the question "Should we make a list of places we want to protect?" David Brower told the Forum (p. 9), "We don't want a list of places to save, we'd like to come up with a short list of places we are willing to work to save."

Send the Forum the list of places in the Northern Forest you are willing to work to save. Please explain why you chose this place(s). The winner will receive a limited edition center prisming her/his choice(s) from David Brower. Deadline: November 1, 1992
Public Lands and The Decline of Neotropical Migratory Songbirds in New England.

by Buck Young

"It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, cardinals, doves, jays, wrens, and scores of other bird voices there was no new sound; only silence lay over the fields and wood and marsh.

Rachel Carson, Silent Spring, 1962

"Exactly 30 years ago, Rachel Carson warned of the silent spring that would follow the widespread use of DDT and other chemicals. Science and government worked together to ban DDT and control other pesticides, thus preventing a silent spring. Now science is again telling government that we face an increasingly silent spring. This time the culprit is deforestation -- right here in the USA."

David E. Blockstein, American Ornithologists Union, Congressional Testimony, 1992

According to the US Fish and Wildlife Service in "Recent Declines in Neotropical Migratory Birds:

- Long-term observations suggest that many species of birds that nest in North America, and winter in Mexico, the Caribbean and Central and South America are declining.
- Recent declines followed a period of stability or in some cases increasing abundance. These conclusions are based on data collected from the Eastern Region of the North American Breeding Bird Survey...

- "In eastern North America, where the best information is available, long-term surveys indicate that populations of 71% of the species classified as neotropical migrants declined between 1978 and 1987."
- The largest decline documented by the U.S. Fish and Wildlife Service was in Northern New England, where between 24 and 52% per cent of the neotropical migrants are in decline. (See Fig 1)

According to the paper, "In eastern North America, forest composition has changed since historical times. Large blocks of mature forest have been reduced to smaller patches or replaced with younger forests that differ vegetatively. Habitat fragmentation results in increased pressure from competitors, predators and nest parasites like the brown-headed cowbird." Songbirds need large unfragmented forests with large tree free from the edge created by logging, road building, and development; songbirds are dependent on large blocks of undisturbed forest. According to the American Ornithologists Union, songbirds are among the animals most dependent on National Forest Lands. The U.S. Forest Service holds the largest amount of breeding habitat for Neotropical migratory songbirds under one ownership in the United States.

John Terborgh, Professor of Environmental Science, Duke University writes: "Some of the threats to bird life here in the United States seem more intractable than others. Probably little can be done to reduce the hordes of blue jays, raccoons, opossums, and cowbirds that have degraded the habitat of rural and suburban areas. It thus seems inevitable that long-distance migrants are going to continue to decline in neighborhood parks and woodlots. Conservation efforts should therefore be directed towards consolidating and expanding the largest tracts of forests... It would be useful to prohibit the subsidized clearing of our national forests." ("Why American Songbirds Are Vanishing," Scientific American; May, 1992)

What is Causing Songbird Declines? Neotropical Migratory songbirds are threatened by the deforestation of the tropics, and by the creation of edge in North America. Representatives from the U.S. Forest Service like to say that the problem lies only in the tropics, but scientists disagree:

"We're not saying the destruction in the tropics isn't important. It may be at some point," said Richard Holmes, an ecologist from Dartmouth College who has been studying birds in Hubbard Brook since 1969. "But at the moment it is the root of the problem seems to lie in North America.

Why is this Problem Worse Now Than in The Past? Songbird's nests are suffering from increased predation and parasitism because of an increase in edge.

- Nest Predation: Animals like blue jays, raccoons, possum, and house cats like to eat songbird eggs.
- Nest Parasitism: Certain bird species, like the Brown Headed Cowbird lay their eggs in the nests of neotropical songbirds. The parasites typically hatch before the songbird eggs, and out-compete the songbird's own young for food.

*Edge is the place in a forest where areas with trees touch areas without trees. Edge is created by timber harvesting, road building, and development. Nest predators and parasites thrive in edge. Songbirds need to be far away from edge in order to escape predators and parasites and successfully rear their young.

From 1966 until the late seventies, when our forests were recovering from the abusive logging of the turn of the century, songbird numbers were recovering rapidly. Since the late seventies however, development, logging, and road building have increased dramatically, and songbirds have suffered.

Land managers like to tell us that edge is good for wildlife, and that there are more species of wildlife in edge than anywhere else. Unfortunately, the species that thrive in edge are the same species that live everywhere else in the state, because most of the state is edge. Other species, like songbirds, need large undisturbed forests, and they are also in great danger. It doesn't make sense to disturb the only remaining large blocks of forests for the same species that thrive in our backyards. Increasing the number of species on every single acre without paying attention to which species they are causes extinctions on the regional scale. We don't need to wipe out songbirds so that we can have more raccoons or possum or deer.

Buck Young coordinates the Preserve Appalachians Wilderness Neotropical Migratory Songbird Task Force. His address is: P.O.B 52A, Bondville, VT 05340.
How Much Dioxin Is In Maine's Lobsters?

by Jamie Sayen

This is a question the paper industry, the lobster industry and the State of Maine don't want to ask. Unless the rivers are restored to their health and operate on different ecological principles than the rivers and estuaries of British Columbia, we can be certain that the fish and shellfish of Maine are seriously tainted with dioxins, furans, and hundreds of other organochlorines that have been dumped legally and illegally into the rivers of Maine and New Hampshire for decades by paper mills.

The Department of Marine Resources for the State of Maine refuses to test shellfish for dioxin levels. Rather than protect lobster fishermen by preventing organochlorine poisoning, the DRC prefers to "protect" the lobstermen by covering up the truth, and risking the health of the tourists who dine on Maine lobster.

The paper industry excuse for poising the environment is always "Jobs, Jobs and More Jobs." But, if the jobs provided at the mills cause the poisoning of shellfish and fish and the humans and non-humans that eat them, then paper mill jobs are causing the elimination of jobs in recreation, fishing and even license plate manufacturing (Maine's license plate has a lobster on it).

In British Columbia, Howe Sound was closed to crab and prawn fishing in 1988. Since then commercial, recreational and native food harvesting of crab, oysters, clams, prawn, and shrimp has been closed in Georgia Strait (see accompanying map). Don't expect them to open for 20 years.

Also, there have been consumption advisories for rockcod, lingcod, salmon, and waterfowl liver. Waterfowl affected include: Western Grebe, Surf Scoter, Barrow's Goldeneye, Common Merganser, and Greater Scaup. All these birds, except the Grebe, are hunted for nature or recreation. Most of these birds disperse and breed over northern and western Canada.

The Federal Government of Canada has declared 2,3,7,8 TCDD (Dioxin) to be a "deadly contaminant."

Maine and New Hampshire warned fishermen not to eat more than one or two eight ounce servings of fish caught below paper mill waters per year. Pregnant and nursing women were advised to refrain from consuming tainted fish altogether. If the fish are tainted, it is reasoned that the bottom-feeding shellfish are also tainted. Crabs concentrate dioxin to very high levels of dioxin in their tissues in British Columbia.

Chlorine Dioxide No Solution

Recently, many paper mills have converted their bleaching process from chlorine gas to chlorine dioxide. It is cheaper and produces a stronger pulp, and it has reduced the levels of 2,3,7,8 TCDD discharged by the mills. But, it will never totally eliminate dioxins and furans. In addition, there are several reasons why chlorine dioxide is no solution.

Organochlorine contamination continues, and, in fact, overall organochlorine creation remains about the same as with the chlorine gas bleaching process.

Hundreds of Organochlorines in the effluent are still unidentified. Although over 200 organochlorines from pulp mill effluent have been identified, scientists realize that probably 70% of the organochlorines in mill effluent are still unidentified. When you don't know what you won't hurt you, right?

The effect of chlorate on algae is also frightening. Chlorate is one of the major by-products from chlorine dioxide bleaching. It is a non-specific herbicide proven to destroy rockweed beds in the Baltic Sea.

Chlorine dioxide is much worse for workers. It is a highly explosive, toxic gas, and it is ten times more dangerous to workers than chlorine gas. Highly corrosive, it is very susceptible to leaks. There have been several documented leaks in the past couple of years in the paper mills of New Hampshire and Maine.

Alternatives to Chlorine Gas and Chlorine Dioxide Bleaching

"Unbleached paper may not be as lily-white as bleached paper, but it is much more ecologically safe. Can't we see the beauty of unbleached paper and clean rivers?"

"Non-chlorine final bleaching agents include: Oxygen, Hydrogen peroxide, and sodium hydrosulfite. Many non-chlorine bleached papers are whitened with hydrogen peroxide bleaching and oxygen bleaching (or oxygen de- chlorination). State law mandates that paper industry does not produce organochlorines, but they are not environmentally benign either. More research must be done on these processes.

Our Goal: Zero Organochlorine Discharge

"The best paper to buy is UNBLEACHED, 100% RECYCLED, NON-DE-INKED paper. But, there aren't many such products on the market because the paper industry has fought these changes the way the auto industry fought seat belts. (The November issue of the Forum will provide a guide to safer papers.)"

We must not allow industry's agents in the government to sacrosanct human and non-human health for paper industry profits. Instead of weakening Maine's dioxin discharge regulations, they should be strengthened to eliminate the production of all toxic organochlorines.

ZERO DIOXIN DISCHARGES. Source: The Northern Forest Forum, November 21, 1991, POB 189, Gabriels Island, B.C. V0R 1X0
Dioxin Detoxification Campaign Exposed

[Ed. Note: The following article is reprinted from Rached's Hazardous Waste News #275, March 4, 1992. This important newsmaker was published by Environmental Research Foundation, POB 73700, Washington, DC 20056-3700. Subscription rates are: $50 per year for individuals and citizen groups, $80 for government agencies; $15 for students and seniors with ID; and $40 for libraries and universities.]

A remarkable front-page story in the Wall Street Journal February 20 confirmed that the paper and chlorine industries have waged a successful two-year campaign to bamboozle the nation's media about the toxicity of dioxin, and that U.S. Environmental Protection Agency (EPA) fell for it too.

The point of the campaign was to save the paper industry, which uses 15% of all the chemical industry's chlorine output, and which is facing billions of dollars in lawsuits brought by citizens claiming damages from dioxin released from paper mills.

The Journal's story ("How Two Industries Created a Fresh Spin on the Dioxin Debate") by Chicago-based staff writer Malcolm Gladwell describes a battle-scarred campaign by the American Paper Institute (API) and the Chlorine Institute to "revisit" the scientific evidence that dioxin is a potent carcinogen.

The Journal says, "The paper industry scored its first major public-relations success in 1990, when paper companies arranged to challenge the findings of the most influential dioxin study ever done. That study, reported in 1979 by Richard Kociba, a Dow Chemical Co. pathologist, was done on 485 white rats, about the same number of rats spiked with dioxin.

Dr. Kociba found a strong link to cancer: a daily dose of billions of a gram led to tumors."

To counteract the Kociba study, API hired five pathologists and brought them to Miami's lab in March, 1990, where for two days they reviewed Dr. Kociba's rat slides under a microscope. The pathologists voted on each slide--"were they looking at a cancer tumor or at a "benign" tumor? At the end of the two days, they had voted for 30% fewer cancerous tumors than Dr. Kociba had observed 12 years earlier. Robert A. Squire, the pathologist who oversaw the recount, told the Journal, "There wasn't much unanimity. This was an uncertain finding."

Nevertheless, API managed to ignore the uncertainties. Based on its "new evidence" that dioxin is less potent than previously believed, API wrote letters to the Food and Drug Administration (FDA), to President Bush's science advisor, and to William Reilly, chief of EPA. API told Reilly, "All of the Agency's analyses are now out of date in light of the significant new evidence showing that the risks of dioxin may have been overstated."

The Journal does not say so, but almost immediately the API's publicity machine began to chug. They passed out a press release saying that dioxin was no longer considered very dangerous. May 31, 1990, the Washington Post ran the world with the headline, "Scientists Temper Views on Cancer-Causing Pollutant Dioxin." The story, by Malcolm Gladwell, said, "Dioxin--the chemical that forced the evacuation of Love Canal, sparked a wave of lawsuits over Agent Orange and became notorious as the most potent carcinogen ever tested--may be far less dangerous than previously imagined, according to new scientific evidence." Gladwell went on, "Enough experts have joined the revisionist chorus that some scientists consider a softening of the government's stance toward the chemical inevitable. Gladwell's "chorus" consisted of quotations from four scientists. Gladwell neglected to mention that three of them were consultants paid by the paper industry.

With the Washington Post on board, the "detract dioxin" campaign was rolling.

The Journal goes on, "Next the Chlorine Institute, anxious to bring three dozen of the world's foremost experts on dioxin to a conference at the Banbury Center on Long Island (in October, 1990)." The Journal continues, "Also present was George L. Carlo, a scientist but not widely regarded as a dioxin expert. "Carlo is not a scientist with a long history of dioxin credentials," Dr. George Lucier of the National Institutes of Environmental Health Sciences told the Journal. The Journal goes on, "Why was Carlo there? Though described as a 'conference participant' by the Chlorine Institute, he was actually the industry's $150-an-hour observer. Based on his account, the institute would later circulate reports that the scientists had reached an important consensus.

Carlo's account, which the Chlorine Institute immediately circulated widely to journalists and to state regulatory officials, said that the Banbury had reached consensus that dioxin does no harm until a certain threshold of exposure is reached. In other words, Carlo claimed--the Chlorine Institute sent out press statements claiming--that the Banbury meeting had reached an agreement that there is some amount of dioxin that is safe.

The Journal continues, "The institute's statement, however, didn't accurately reflect what had happened at the conference... A Chlorine Institute official concenting its representations about the conference were a 'botched publicity effort.' The institute now agrees there was no conference consensus on whether a dioxin threshold exists."

But however, before the world had a chance to learn that the Chlorine Institute was playing fast and loose with the facts, the Institute's disinformation about Banbury was fed to William Reilly, chief of EPA, who fell for it. Citing the Banbury "consensus," in early 1991 Reilly ordered his scientific staff to officially 'reassess' the toxicity of dioxin.

The paper industry got help from other friends in high places. In May, 1991, a highly placed federal health official just three years shy of retirement announced that dioxin was much less toxic than previously believed. Dr. Vernon Hook, Director of the Center for Environmental Health and Injury Control, announced that dioxin was only "a weak carcinogen."

Hook's statements formed the "news hook" that allowed the New York Times to climb on board with its own page-one story August 15, 1991: "U.S. Officials Say Dangers of Dioxin Were Exaggerated." With the Times aboard, the Times, Hook and Reilly all speaking with one voice, the "detract dioxin" campaign was clearly succeeding.

But with the publication of the Wall Street Journal's story Feb. 20, the campaign has come unraveled. The scientist in charge of EPA's reassessment, Peter Preuss, is quoted in the Journal saying that Vernon Hook's statements "mised" the public about the dangers of dioxin. Other scientists on EPA's reassessment team say dioxin seems to be just the top of a nasty iceberg--that other chemicals in the environment seem to share dioxin's ability to interfere with the human reproductive and immune systems. If we all carry dioxin in our bodies at an average of 7ppt [parts per trillion], when you add furans and PCBs [polychlorinated biphenyls], our average body burden of "dioxin equivalents" may be as high as 100 ppt. This is not good news. And it means that any additional dioxins or furans added to the environment would worsen a situation that is already unacceptable from a public health perspective.

Knowing this, anyone who intentionally emits dioxins into the environment seems like a logical target for a barrage of lawsuits.

It is now clear that dioxin lawsuits can devastate an industry. For example, the Wall Street Journal reported February 7, 1992 (p. A5), that the Georgia Pacific Co.--a major paper producer--recently lost two dioxin lawsuits in which juries awarded $2.4 million to residents living downstream of its paper mill on the Leaf River in New Augusta, Mississippi. GP has been named in 159 additional lawsuits filed by 8200 plaintiffs who claim they suffered emotional harm after eating fish contaminated with dioxins from the GP plant. Furthermore, according to the Journal, GP's insurance carriers say their policies don't cover damages in lawsuits like these. GP has now sued Aetna Life & Casualty and seven other insurance companies in Mississippi federal court asking a judge to force the insurance carriers to pay. No matter how that lawsuit comes out, someone is likely to have to pay tens, or perhaps hundreds, of millions of dollars--and this represents the problems of only one mill owned by one company.

As the Journal commented, "Other paper companies are likely taking note of GP's setbacks. International Paper Co. and Champion International Corp. are among those who faced similar suits." Likely they are...
Dioxin Attacks Immune System

[From Rachel's Hazardous Waste News 22:70 (January 29, 1992)]
EPA chief William Reilly was right when he raised the issue of how dioxin triggers cancer. But it won't be reassuring to the paper industry. On the contrary, two studies of workers exposed to dioxin, published during the past year, have shown unmistakable increases in cancers of several types. A study of 2717 American workers revealed a cancer rate 46% above the norm. Likewise, a study of 1583 German workers revealed a cancer rate 94% above the norm; among German workers 20 years on the job, the rate was three times the norm. Notably, among female German workers, the risk of breast cancer was doubled. Whereas a year ago one might have argued that dioxin had ever been shown to cause cancer in humans, now such arguments are only voiced by the kind of people who say it still isn't proven that cigarette smoke causes lung cancer.

Linda Birnbaum, one of the scientists conducting EPA's reassessment of dioxin, says these two studies have convinced her that dioxin causes cancer in humans, at least at relatively high exposures. But, she told Science News (January 11, 1992, pgs. 24-27), she has to express concern about dioxin's toxicity. That concern is that much lower doses of dioxin may result in adverse health effects that are very subtle and difficult to detect. She was talking about dioxin's impact on the immune system.

The immune system is an exceedingly complex network of organs, cells, and chemical secretions (hormones) that react to preserve health in the face of a vast array of hostile microorganisms and toxicants that our bodies encounter every day. The immune system fights against common colds, influenza, and the body's own cells that go haywire and start multiplying uncontrollably (a definition of cancer).

A degraded immune system leaves the body less able to defend itself against hostile forces in the natural environment. Dioxin attacks the immune system.

To study TCDD's (dioxin) toxicity to the immune system, researchers use mice, whose immune systems model those of humans. For example, researchers have measured how well TCDD-treated mice withstand the influenza virus. Mice pre-treated with TCDD readily die after exposure to a quantity of virus that rarely kills healthy mice.

Naturally, it would be very difficult to detect such effects in people. If people exposed to unusually high levels of dioxin, say at a paper mill that manufactures seeing machine foreigner, had damaged immune systems and consequently experienced various illnesses, no one might ever suspect dioxin as a cause.

People might question whether some of dioxin's low-level effects represent real harm to people, but...few people will contend that suppression of the immune system is not an adverse health effect," Birnbaum told Science News.

Unlike hormones, which remain in the body only a few days after their release, dioxin has a half-life in the body of seven years. At the end of one half-life, half the initial dose is gone. What this means is that dioxin has, relatively, a very long half-life in the body, unlike the hormones that it mimics, so it stays around to play havoc with the body's chemical systems year after year. Thus one TCDD molecule can continuously disrupt normal cell physiology," says Science News, citing work by well-known dioxin researcher Thomas A. Gamsray at the University of Rochester (NY) Medical School.

No Safe Level of Dioxin

[From Rachel's Hazardous Waste News 22:70 (January 29, 1992)]
Is there a threshold for dioxin's damage to the human body? Is there a level of dioxin below which no effects can be observed? George Lucier of the National Institute of Environmental Health Sciences in Research Triangle, North Carolina, has been asking this question in his laboratory. His data show no evidence of any threshold. "My data might not prove that a threshold doesn't exist," he told Science News, "but there's also no evidence of any thresholds." In other words, any amount of dioxin does some damage, according to Lucier's findings. This means the only safe amount is zero.

Chlorine Free by '93

The Northern Forest Forum is printed on chlorine free paper produced by Lyons Falls Paper & Paper Inc. What this means is that the paper was bleached by a process that did not use chlorine, either as chlorine gas or as chlorine dioxide.

Lyons Falls bleaches its pulp using a sodium sulfite instead of a sodium sulfate kraft pulp cooking process. This allows the mill to bleach its pulp with a combination of hydrogen peroxide and sodium hydrosulfite.

Although some mills produce chlorine-free newsprint and coated groundwood, Lyons Falls is the only U.S. mill that produces 100% chlorine-free printing and writing papers.

We are grateful to Lyons Falls for its helpfulness in supplying chlorine-free paper for the Forum. We hope that some day they will produce a recycled paper (post-consumer waste) that is chlorine-free and un-inked. If the nation's or even this region's environmental groups banded together to purchase in bulk, we could create sufficient demand to influence the production of paper that minimizes environmental damage.

Contact Lyons Falls' Customer Service at: 1-800-648-4458, or Larry Cannon at 815-455-0981.

The Northern Forest Forum
Faulty Assumptions of Northern Forest Lands Council

by Mitch Lansky

I: Introduction

"The Happy Coincidence"

Much of the debate within the Northern Forest Lands Council has been structured around the following set of assumptions:

* the large land ownerships have served the region well;
* the goal of the Council is to support and enhance the "traditional" land ownership patterns and uses;
* the major threat to the Northern Forest is "land conversion";
* "land conversion" means subdivision of land, especially for uses other than timber management;
* the main impetus for land conversion has been excessive regulations and taxes.

These assumptions are an assertion of a myth of the "happy coincidence" that what the industrial landowners of Maine have done in pursuit of cheap fiber and higher revenues has been universally beneficial to the forest, forest wildlife, local communities, and the state's economy. "Saving" the forest means, simply, to reinforce this status quo. The way to reinforce the status quo is to:

* reduce property taxes;
* restate a federal capital gains deduction;
* reduce the burden of inheritance taxes;
* "purchase "conservation" easements that consist of development rights but allow owners to sell their future land for profit.

II: Flaws in the Argument

These assumptions are not accurate reflections of reality for the corporate forests of Maine (I cannot speak, however, for other regions of the Northern Forest).

(1) The large land ownerships have not always served the region well. In 1974, for example, when this "happy"

past was supposedly occurring, William Osborne, in his book The Paper Plantation, documented how the companies were:

* degrading their forests;
* exploiting their workers;
* using leverage over timber prices to the detriment of woodlot owners and pulpwood cutters;
* contributing minimal revenues to the tax base (considering the size and value of their land);

* polluting the state’s air and water;
* discouraging local economic diversification.

The result has been that the corporations have been enriched by the valuable resources of the state, while the local inhabitants have stayed relatively impoverished. The Northern Forest Lands Study documented that this impoverishment still persists in forest-dominated communities nearly two decades later. (Ed. Note: See pp. 33-37 of the Study which is available from the Northern Forest Lands Council, 54 Portsmouth St., Concord, NH 03301.)

(2) Some of the "traditional" land ownership patterns and uses, such as those listed above, are not worth maintaining. Reference to "tradition" also masks the fact that forest practices and other forest uses are continually evolving. One can hardly call the recent reliance on mechanized harvesters, whole-tree logging, or herbicides "traditional" when they have expanded to their current status in only the last decade.

(3) Property subdivision for development, while a problem in some areas, has only occurred on around one percent of Maine's unorganized territories. While some individuals and groups have raised the fear that millions of acres of paper company lands will be sold for development lots, the reality so far has been that most sales of paper company lands have gone to other timber management companies (but many of these companies, which are lobbying for taxation relief, do have their own real estate divisions and have sold a portion of their most valuable development properties). Most of the development activity is focused around shorelands and scenic areas. Well over 90 percent of the unorganized territories of Maine are unlikely targets for development, due to poor access or unsuitable surroundings. Who would want to build a condo in an industrial clearcut?

While the development of certain sensitive areas around the beauty strips desired by recreationists has been a problem that needs to be addressed, the impact of such problems to the forest and forest wildlife has been minor over the last decade compared to the impact of industrial management on the millions of acres that lie beyond the beauty strips.

(4) Focusing on land sales and subdivision as being the major source of land "conversion" and assuming that such conversions ought to be prevented because they are undesirable can lead to policies irrelevant to forest or community health. Subdividing land is not necessarily bad for the forest, nor is consolidating land necessarily good. It depends on how the land is used. A consolidated ownership can, through abusive management, more severely "convert" the land (by changing the ecosystem from a mature, diverse forest to a simplified, fragmented, young forest) than a responsibly-managed subdivision. Fragmentation of ownerships and fragmentation of forests are not necessarily the same thing.

The relative poverty of the area, the decline in forest jobs, the high accident rates, the high percentage of exported raw logs, the high percentage of foreign workers, the decline in spruce volumes, the threat to biodiversity, and the degradation of forest beauty are not primarily due to land subdivision and development. They are more due to the status quo that the Council may end up protecting to prevent "conversion."

(5) The boom in subdivisions was not, primarily, a result of excessive taxation and regulation of timberlands. It had more to do with changes in the economy that led to a frenzy in speculative investments.

Taxation: The decision to subdivision and sell both the Coburn and Diamond lands, for example, occurred before the changes in capital gains in 1986. The boom in subdivisions in the unorganized territories began in 1985-86 before the changes in the tax laws and ended in the 1990s, despite those changes.

Who Owns the Maine Woods?

The Ten Largest Landowners in Maine are:

<table>
<thead>
<tr>
<th>Company</th>
<th>Acres Owned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowater, Inc.</td>
<td>2,088,432</td>
</tr>
<tr>
<td>Seven Islands Land Co.*</td>
<td>1,011,000</td>
</tr>
<tr>
<td>International Paper</td>
<td>980,891</td>
</tr>
<tr>
<td>Prentiss &amp; Carlisle Mgt. Co.*</td>
<td>970,000</td>
</tr>
<tr>
<td>S.D. Warren Co. (Scott Paper)</td>
<td>930,000</td>
</tr>
<tr>
<td>Champion International Corp.</td>
<td>730,000</td>
</tr>
<tr>
<td>Boise Cascade Corp.</td>
<td>670,000</td>
</tr>
<tr>
<td>Irving Pulp &amp; Paper</td>
<td>561,000</td>
</tr>
<tr>
<td>Diamond Occidental Forest Inc. &amp; James River Corp.</td>
<td>526,000</td>
</tr>
<tr>
<td>Georgia-Pacific Corp.</td>
<td>488,035</td>
</tr>
<tr>
<td>TOTAL</td>
<td>8,953,358</td>
</tr>
</tbody>
</table>

*Management Companies for Family Ownership

According to the Northern Forest Lands Study, there were 14,200,000 acres of private land in Maine's portion of the Study region. The largest 18 landowners in Maine own over 75% of the Maine woods. Less than 0.1% of the landowners own more than 75% of the Maine Woods.

Source: Bangor Daily News, July 11-12, 1992

Sturgeon Pond (top center) located in Maine, just north of Lake Umbagog, is 650 acres. The clearcut area is at least as large. Photo courtesy Alex S. MacLean - Landslides.
Local Control Quiz

Supporters of the Paper Industry and Property Rights Advocates have often objected to public ownership of forest lands (especially by the citizens of the United States via federal ownership). They have piously called for a retention of “local ownership.” Eight multinational paper corporations own about 7 million acres in Maine.

Can you match the corporation (column A) with the location of its corporate headquarters (column B)?

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boise Cascade</td>
<td>Toronto, Ontario</td>
</tr>
<tr>
<td>Bowater</td>
<td>Darien, Connecticut</td>
</tr>
<tr>
<td>Champion International</td>
<td>Stamford, Connecticut</td>
</tr>
<tr>
<td>Fraser</td>
<td>Atlanta, Georgia</td>
</tr>
<tr>
<td>Georgia-Pacific</td>
<td>Boise, Idaho</td>
</tr>
<tr>
<td>International Paper</td>
<td>Purchase, New York</td>
</tr>
<tr>
<td>James River</td>
<td>Philadelphia, Pennsylvania</td>
</tr>
<tr>
<td>Scott Paper</td>
<td>Richmond, Virginia</td>
</tr>
</tbody>
</table>

The tax-paying public that makes up for these lost revenues (or that pays added taxes to finance the purchase of easements) must be assured that they are getting more for their increased burden than the maintenance of large, hereditary ownerships, or the maintenance of adequate profit levels of absentee ownerships, or the maintenance of adequate profit levels of absentee multinational industrial landowners. They need to be assured that they are getting some tangible public benefit or they will balk at supporting the recommended policy changes.

Since taxation is an unreliable inducement to responsible forest management unless there are substantial “strings” attached to any benefits, the major taxation issue should be equity. The NFLC policy emphasis for “saving” the northern forests, therefore, should go elsewhere.

IV. Appropriate Policy

The criteria for appropriate forest policy should be that practices qualify as ecologically sound, socially responsible, economically viable, and sustainable.

*Ecological soundness is primary in importance because all other criteria depend on it. "Ecologicial sound" implies practices that maintain native biological diversity at all levels of organization over the landscape, and it implies practices that maintain forest health or stability—i.e., resistance to and resilience from disturbances. This implies maintaining, when possible, mature, diverse forests that contain the full array of predator/prey complexes and nutrient cycles. 

*Social responsibility implies practices that do not increase social inequities either between groups in this generation or between this generation and those to come. It implies safe work conditions and fair wages for workers. It implies also that practices benefit, rather than harm, the communities where they take place, and that communities have a say over what goes on in their jurisdictions. Because practices that are ecologically sound create inequities between generations and harm local communities, they are not socially responsible.

*Economic viability implies practices that incorporate ecological and so-
special concerns and still bring in positive revenues. If it is not viable to incorporate ecological and social costs, these concerns most likely will not be incorporated.

*Sustainability implies not just fiber supplies for the expected life of a mill, but ecological and social values at a local level for centuries to come.

The role of the NFLC should be to assess all government tools--such as planning, research, education, taxation, regulation, and reserves and demonstration areas on public lands--to see if they harmonize with the above criteria and with each other. The NFLC should determine to what extent regional cooperation will further these goals.

We already have examples where these government tools have been incompatible with sound forestry policy or have been used in an incomplete manner. Policies that address economic viability through tax incentives, for example, but neglect ecological or social implications have not "saved" the foresters, making an enterprise more economically viable. This is why the NJFLC finds:

(1) The Council will have no regulatory power to discuss how the situation could be reformed.

I agreed to be part of the Citizens' Advisory Committee because I hoped that the Northern Forest Lands Council was going to work for the best interest of the forest and the communities of this region in which I live. Based on current emphases, I am not convinced that this is presently the case. I welcome further dialogue and hope that the NFLC can address these important ecological, social, and economic issues in the near future.

Mitch Lansky, a Selector in Weymouth, Maine, in the heart of the industrial forest of Maine, is a member of the Maine Citizens' Advisory Committee for Maine. This was originally addressed to Charles Levesque, Executive Director of the NFLC. Mitch is also the author of the forthcoming Beyond the Beauty Strip: Saving What's Left of Our Forests, which will be published in October by Tilbury House, 112 Water St., Gardiner, ME 04345. Tel. 207 582-1899. Price: $26.95 (Cloth) & $16.95 (Paper).

Northern Forest Conference November 12-13, 1992
Sustaining Ecosystems, Economies, and a Way of Life in the Northern Forest, co-sponsored by the George D. Aiken Lecture Series of UVM and The Wilderness Society at the University of Vermont, Burlington, VT 05401. For information, call Debra Livramento (The Wilderness Society) 202-832-2300.

Revised Mission Statement of Northern Forest Lands Council

Submitted to the NFLC on September 1, 1992 by 14 groups
That Belong to the Northern Forest Alliance

The mission of the Northern Forest Lands Council is to critically examine current trends in forest land ownership, uses and practices, and to reinforce the continued existence of large forest areas which promote sustainable natural and human communities in the Northern Forests of Maine, New Hampshire, Vermont and New York.

The mission is to be achieved by:

* Protecting the ecological integrity of the region;
* Enhancing the quality of life for local residents by promoting a diverse, sustainable regional economy, and by providing the opportunity for the people of the region to determine the future of their communities;
* Encouraging an ecologically and economically sustainable forest-based economy;
* Protecting the recreational, wildlife, scenic, and wildland resources of the region.

Operating Principles

The Northern Forest Lands Council finds:

The Northern Forests are of national significance and are facing a number of ever-increasing pressures from land fragmentation, development, recreational use, unregulated activities, misdirected land taxes, global market forces and air and water pollution. These have significant adverse impacts upon the ecological and economic integrity of the region; on attempts to manage forest lands in a sustainable manner for the life of local residents.

In the past land conservation efforts have tended to focus on planning, zoning and acquisition. The Northern Forest Lands Council presents an opportunity to explore additional ideas for land and resources conservation that can help local people.

The Northern Forest Lands Council will be guided in its work by the following Operating Principles:

(1) The Council will be advisory only. States shall retain all of their existing regulatory power. Responsibility for land use planning and regulation will remain with state and local governments.

(2) There is a need to gather natural and economic resource information that can contribute to decision making to conserve the ecological integrity of the region and to enhance the social and economic condition of the region's communities.

Specifically, the Council will assess the impact of traditional, current and alternative forest uses and land management practices on the long-term health of the natural and human communities of the region.

(3) The Council cannot and will not acquire land. The Council recognizes that public acquisition, from willing landowners, is only one of many tools with which to protect critical lands within the Northern Forest area. The Council realizes that wholesale public land acquisition is not the total solution to the problems of the Northern Forest, but that fee acquisition remains an effective way to protect public values. Acquisitions of fee title and conservation easements are appropriate to:

* Protect the ecological integrity of the region;
* Protect water quality;
* Ensure public access;
* Prevent impingement of lake development; and to
* Assure the long-term integrity of working forests and farms.

(4) To encourage the conservation of important tracts of timber and recreation lands, the states and federal government should provide conservation tools and incentives that promote ecologically sustainable economies. Encouragement should also be given to a variety of public-private partnerships that exchange incentives for long-term commitments by landowners to manage their lands in a sustainable manner while keeping them open for appropriate public use.

(5) In all of the work of the Council, landowners, residents of the region, and other citizens concerned about the future of the Northern Forest will be consulted and treated openly and fairly.

(6) The Council will build upon the work of the Northern Forest Lands Study, the Report of the Governors' Task Force on the Northern Forests, and the work of others who are working to promote sustainable natural and human communities.

(7) The Council will seek public input at all stages of its process.
People of New York have a "park on the cheap" and they continue to pay the price of assuming that the good of large private holdings can hold on forever. Gradually, almost imperceptibly, the character of the Park is eroded as its maintenance and development grow at the fabric of open space.

Lacking a clear vision of what the Adirondack Park can be, or should be, the state adopted an opportunistic, cartographic approach to acquisitions that dooms the present century. An obvious result of this approach is the hodge-podge, patchwork pattern of public and private ownership that now characterizes the region. More importantly, the Park is a jigsaw puzzle that lacks some critical pieces.

By fitting these missing ecological "pieces" together, we can form an Adirondack Park that will serve as a global symbol for land use and conservation. But first we must view the Park as an integrated whole and respect its special attributes.

* * *

Until the late 1960s, most Adirondack planning, including sportspersons, residents, legislators, and environmentalists—were preoccupied with the management of the Forest Preserve. Gilligan's Almanack, the state's constitutional safeguards were proposed and defeated, as were massive impoundment schemes reminiscent of the Hoover dam project in Yosemite. At times, the courts were called upon to interpret "points" of law. During this period, many lost sight of the fact that the Park is not synonymous with the Preserve. Still, some people, however, had a greater vision.

Laurence Rockefeller recognized that the Adirondacks were a national treasure and, in 1967, he formed the Adirondack Corporation to provide the creation of an Adirondack Mountains National Park. His trial balloon was rejected by all quarters and quickly fell to earth with a resounding thud. After that, things were never quite the same in the North Country. It was as though everyone who had been in attendance for the past seventy-five years was now ready to face up to reality.

In fact, the scattered lands of the Forest Preserve did not, and never will, add up to a true park. Private and public holdings are intermixed, confused, and interrelated. This is a unique pattern for a park, and one that Americans still have a hard time reconciling with their stereotypical image of parks as public reserves.

The unanimous idea made New Yorkers more willing to discuss alternate ways to proceed. Following the demise of his brother's ill-fated proposal, Governor Nelson Rockefeller appointed a Commission on the Future of the Adirondacks. After two years, the Commission delivered its report. It was the first time the state had officially tackled the complex issue of integrating public lands with the Forest Preserve to form a true park in the Adirondacks.

The next year, in 1971, the Legislature created the Adirondack Park Agency (APA) to devise a master plan for the Forest Preserve and to control some of the development and private land use within the Blue Line. Comprehensive zoning plans were virtually unknown in the late 1970s. As a consequence, the first years of the APA were tumultuous at
best. Twenty years later, many Park residents still view the Private Land Use Plan as the most restrictive zoning statute in the nation, if not the world. In fact, suburban communities throughout the state commonly function under zoning and permit requirements that are more restrictive. The Park Plan only regulates about one-half of the development in the region and is so flawed in its approach that the Agency now presides over what some have called the rational destruction of the Park.

When Diamond International unexpectedly dumped almost one million acres of northeastern forest lands on the market in 1988, New York was hit hard. Ninety-six thousand Adirondack acres went to a Georgia-based land speculator. It took the intervention of the governor to work out a deal to protect several thousand acres to Bowater for a little more than $300 million. (2) Answers to the Local Control Quiz: (a). Yes, the cost of 10 million acres of Park, developed, and they do not like having traditional hunting and fishing areas posted against trespass. They enjoy the Park's open spaces, its scenic vistas, its wildlife and its distinctive way of life. Unfortunately, these are the very qualities that will be lost if positive action is not taken. As we have seen from the vantage point of history, under the status quo alternative, the Park as we know it is slowly, being lost.

Preston Pond - Photo by Gary Randorf, Adirondack Council

The claim is sometimes made that current restrictions leave no room for growth. But 50,000 houses could be shoe-homed into the hamlets and hinterlands of the Park, without exceeding today's zoning density guidelines. Under current regulations, the Park's population could increase to 1.5 million people, compared to the 250,000-year-round and summer residents who live there to-day. The question, then, is whether growth will take place, but where it should occur.

A basic premise of the APA Act, and one of its major flaws, holds that virtually any kind of development is allowable anywhere. Protection of sensitive resources takes place mainly through requiring larger lots in certain areas, and not through the prohibition of incompatible uses. The net effect of this strategy is to encourage large-lot subdivision of the backcountry and the segmentation of unbroken forests into Wilderness 'transplants.' In this respect, the Act reflects an archaic and counterproductive approach to land use planning. Changes in the Act are clearly necessary. But laws alone will not make a true park.

There are essentially two alternate futures for the Adirondack Park. One results from an extension of the status quo, the other from changes in policies, procedures, and attitudes. The choice is ours. If we wish to control our destiny, we must take positive action. Otherwise, the inertia of the present will carry us forward into a future we may not desire.

Many Adirondackers have already expressed their opinion on which alter-native they prefer. In survey after sur­vey, Adirondack residents have indicated that they like things pretty much as they are. They do not want to see all private land in the Park fully developed, and they do not like having traditional hunting and fishing areas posted against trespass. They enjoy the Park's open spaces, its scenic vistas, its wildlife and its distinctive way of life. Unfortunately, these are the very qualities that will be lost if positive action is not taken. As we have seen from the vantage point of history, under the status quo alternative, the Park as we know it is slowly, being lost.

Park residents also realize that young adults can't stay in their home towns to raise a family unless communities thrive in harmony with surrounding wild lands. State policies must change so that people are given the economic opportunities they need to prosper.

The alternate future which most would choose is a countrysidal park. To be such a place in the next century and beyond, the Adirondack Park must retain its vast areas of undisturbed open space. It must remain a sanctuary for native plant and animal species, and serve as a natural refugium for human beings in need of spiritual and physical renewal. It must also provide for sustainable, resource-based local economies and for the protection of community character and countryside values.

The destiny of the Adirondacks lies with our generation and the choices we make together. For together, we will determine the future of this special place.

Answer to Land Acquisition Quiz: (a). Yes, the cost of 10 million acres of Northern Forest Lands would be less than one half of one cent of the current estimate of the cost of the S&L Bailout—$500 billion! And we can count on it going higher and higher.

Answers to Local Control Quiz: Boise-Cascade (Boise, ID); Bowater (Dartem, CT); Champion (Stamford, CT); Fraser (Toronto, Ontario); Georgia-Pacific (Atlanta, GA); International Paper (Purchase, NY); James River (Richmond, VA); Scott Paper (Philadelphia, PA).

Answers to Pollution Fine Quiz: (1) International Paper; (2) Georgia-Pacific, Woodville; (3) Boise-Cascade; (4) Lincoln; (5) Fraser; (6) James River; (7) Scott; (8) Champion International; Buckstop.

Answers to Tax Break Quiz: (1) Great Northern Nekoosa (which ceased to exist when Georgia-Pacific swallowed it in a hostile takeover in 1990). In October 1991 GP sold the GNP mills, hydroelectric rights on the West Branch of the Ausable, and 2.1 million acres to Bowater for a little more than $300 million.) (2) International Paper; (3) Scott Paper; (6) Champion International, St. Regis.

The Northern Forest Forum

Autumn Equinox 1992

Michael G. DiNunzio is the Adirondack Council's Director of Research and Education.
These drawings, which first appeared in Harpers' Weekly on January 24, 1885, were part of the public outcry against the abusive logging of the late Nineteenth Century in the Adirondacks. As a result of this outcry, the Adirondack Park was created in 1892. Today nearly two and a half million acres of Adirondack forest land again resembles the condition of the scene portrayed on the left ("as it was"). Courtesy of the Adirondack Museum.