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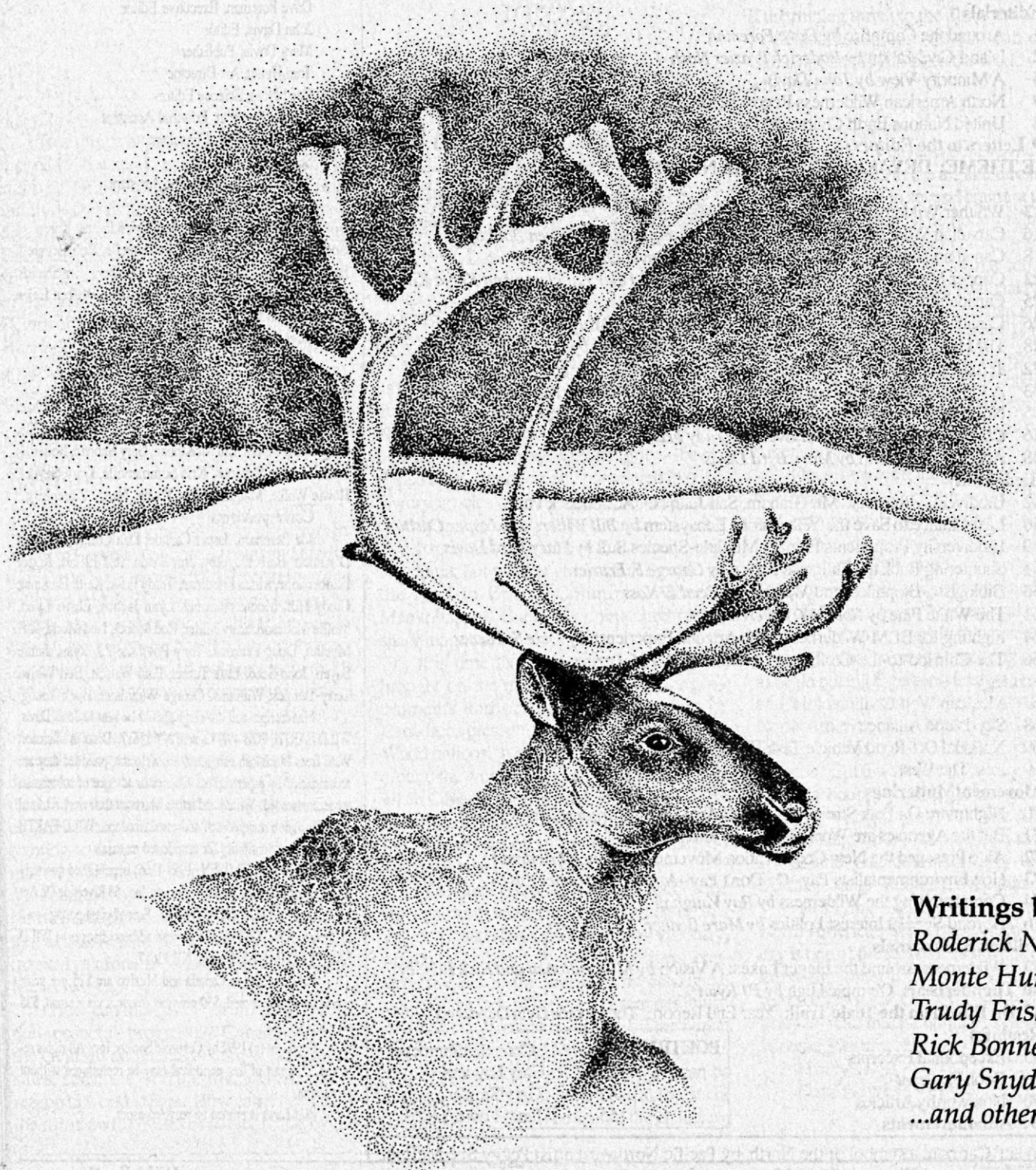
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Wild Earth

WINTER 1991/92

VOLUME 1, NUMBER 4

Issue Theme:
Devastation in the North



Writings by:
Roderick Nash
Monte Hummel
Trudy Frisk
Rick Bonney
Gary Snyder
...and others



VOLUME 1
NUMBER 4

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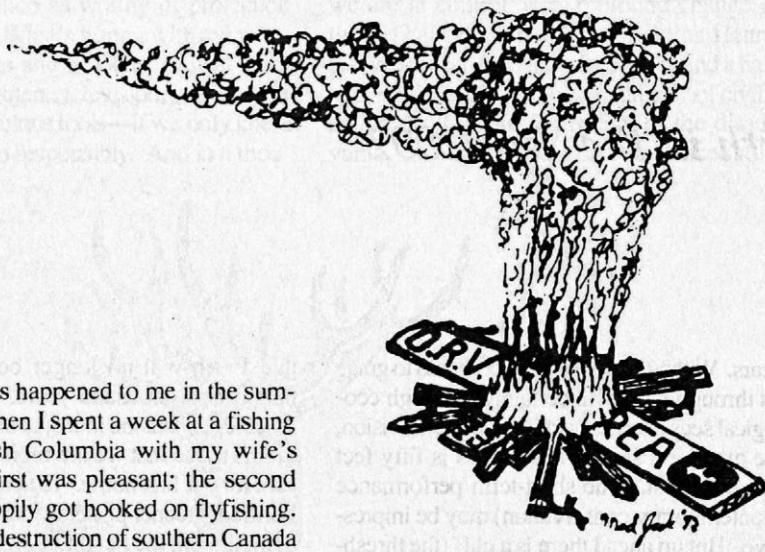
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AROUND THE CAMPFIRE



Two things happened to me in the summer of 1986 when I spent a week at a fishing camp in British Columbia with my wife's family. The first was pleasant; the second dreadful. I happily got hooked on flyfishing. But, sadly, the destruction of southern Canada smacked me between the eyes with the fury of a rogue Moose. In "The Dark Side of the Return of the Wolf" (in *Confessions of an Eco-Warrior*) I wrote about the three-hundred-mile-wide swath of destruction across southern Canada and how that "development" is cutting off the wild lands in Washington, Idaho, Montana, Minnesota, and New England from the great northern wilderness running to the Arctic Ocean.

Despite the logging, plowing, damming, roading, and citifying that has occurred in southern Canada, the boreal forest and tundra to the north has remained a great refuge for wildness and for the human spirit. Canada, more than any other nation with the possible exception of Russia, has the opportunity to preserve true ecological wildness with all native species and natural processes intact.

At least so I thought until I visited Calgary and Edmonton, Alberta, last fall to speak at several colleges. Afterwards, over the mandatory beers (but they are better in Canada than the US), I was privileged to talk to a number of grassroots wilderness activists who are fighting to keep Alberta Alberta. I was dismayed to learn that the great northern wild is not secure, that the boreal forest stretching from Alaska to the Atlantic is under an industrial assault rivaling the dismemberment of the tropical rainforests of Brazil, Indonesia, and Malaysia.

How can this be? Canada? Good, grey, dull, peaceful, progressive Canada. Canada the civilized and middle-class. It has universities, scientists, wealth; it is a champion of reason in world affairs. How can it be making the same awful mistakes earlier made by the

United States and currently being made in the poverty-stricken tropics?

As you read this issue of *Wild Earth* with its theme of wilderness destruction in Canada, you will realize why I call Canada "Brazil North." Nowhere else on Earth today is wilderness—biodiversity with integrity—being ripped apart, shredded, and hammered into the tawdry articles of international commerce as quickly and intensely as in Canada. Yes, it's also happening in Irian Jaya, Sarawak, and Rondonia, but what is going on at the end of the road in British Columbia, Alberta, Manitoba, and Quebec is unmatched for its sheer magnitude and stupidity.

It is time that international pressure be brought on the national and provincial governments and on the business leaders of Canada, as pressure has been applied on Third World nations. It is time that conservationists around the world raise such a hue and cry that when Canada is mentioned, images of forests falling and native people being driven from their homes spring to mind just as they do when we hear the word "Amazon."

Yet, Canada remains the paramount hope for significant wilderness preservation on this planet. Canada has some of the most visionary, effective, committed, and intransigent conservationists in the world. The ecological fabric of the bulk of the country remains intact. If the destruction can be stopped, if the boreal forests of Alberta and Manitoba can be saved, if the nightmarish James Bay project can be terminated, if the last great coastal forests of British Columbia can be spared the chainsaw,

if the mining threat to the Tat is thwarted, if . . . If self-conscious restraint can come to Canada, Canada can bless the world with true wilderness.



I sometimes have to believe that certain ideas float around in the air like circling birds and find lodgment in several brains at the same time. Such an idea is the notion of using the principles of conservation biology to devise ecological preserve systems that connect isolated Wilderness Areas and National Parks into larger functioning ecosystems that are able to maintain their natural integrity. *Wild Earth* magazine is a child of that notion—particularly of its more grandiose sibling which is to plan a connected and buffered wilderness preserve system for the entire continent of North America.

Ideas, however, are just ideas, no matter how many people pluck them out of the air and nod enthusiastically. For one of these airy ideas to become reality, an individual is needed who can push others out of inertia. Doug Tompkins is the man who just pushed a bunch of us off the precipice. You can read the details in David Johns's report in this issue of how a dozen of us have formed a steering committee to begin pulling together wilderness restoration and biological corridor proposals for all of North America. Rod Mondt and I are establishing a clearing house in Tucson for that purpose. But it was, frankly, Doug Tompkins with his boundless energy, enthusiasm, and prodding who got us off our butts to organize the meeting, and who provided the where-withal and gracious hospitality to hold it. Thanks, Doug. We needed the push.

This tying together of a comprehensive North American Wilderness Recovery Strategy is one of the two main focal points of *Wild Earth* (the other is providing a voice and forum for the New Conservation Movement). You will read much about the recovery effort in coming issues.

Happy Trails
Dave Foreman

Island Civilization

A Vision For Planet Earth in the Year 2992

by Roderick Frazier Nash

It is no news today that Planet Earth is not well. The problem, in a nutshell, is that one species out of thirty-odd million is growing in both its numbers and its impact on the environment to levels that are unsustainable on the finite spaceship that carries the only life of which we are aware through the cosmos. In the larger community, the global ecosystem, *Homo sapiens* is no longer a good neighbor. Our ability to co-exist responsibly with other life forms began to disappear about 15,000 years ago, when we turned from hunting and gathering to herding and agriculture. Since then, through technological civilization we have carried environmental modification to dangerous extremes. Now there are signs that in our tendency toward uncontrolled growth, humans are a kind of cancer in the Earth organism. Like cancer cells, we destroy normal systems. Like cancer, we are very good at growth. We both do well in frontier-like contexts where expansion is a virtue. But ultimately, and ironically, we fail from our own success. It is well to remember that at the moment of a cancer's greatest achievement, its host organism is near death, **but so is the cancer.** Humans too will go down with the ecological ship unless we cultivate the capacity for self-restraint.

We are presently in the midst of the most powerful environmental movement in history. There is talk in the 1990s of a green decade and a coming green century. And we are starting to do some things reasonably well. Recycling, non-polluting production, and energy efficiency are more than slogans. But most of today's environmentalists lack vision. I mean long-term vision: a conception of what we want civilization to be like in a thousand

years. Without it, we have no compass to guide us through what will certainly be rough ecological seas ahead. Lacking long-term vision, we are like a skier whose focus is fifty feet down the hill. The short-term performance (contemporary conservation) may be impressive. But up ahead there is a cliff (the thresholds of irreversible change in the planet's life-support systems), and the myopic skier runs the risk of carving perfect turns right into the abyss! We need bifocal vision. We must operate in the day-to-day and year-to-year arena, but at the same time, we must keep an eye on the big, long-range picture. We are now playing God. For better, but probably for worse, the future of the planet is in our often clumsy hands.

The vision I am about to advance will be controversial because I am addressing the big, tough issues that entail subordination of human interests to the interests of the biotic whole. Even biocentrists and "deep ecologists" will disagree with parts of my proposal. But before the fur flies, let me urge the importance of futuristic thinking in general. If you don't like some or all of my dream of Island Civilization, create your own. The essential thing is that we occasionally lift our eyes from everyday details to the far horizons of planetary possibility. Where do we want our species, and nature in general, to be in a millennium? Without such goals there can be no direction. And without direction we drift into an increasingly frightening environmental abyss.

I will begin with four hopes or objectives that I entertain for the future of the human endeavor on Earth. The adjustments I then propose are designed to assist their realization. **First**, I hope our presence on this planet can be sustained for many thousands of years. I do not share the misanthropy of the most radical deep ecologists whose extreme biocentrism persuades them that the best course for *Homo sapiens* is species suicide. Neither am I among the futurists who expect

that Earth will no longer be our principal habitat in a thousand years. Regardless of whether expansion into space works or not, it seems to me that we are morally obligated to care for our first home. To abandon a ravaged Earth for greener planetary pastures would be, at minimum, the height of ingratitude.

Second, I believe in the existence rights of all species and of normal ecosystemic processes. I further believe that these rights trump the rights of humans to increase their numbers, their affluence and their claim to habitat. I hope that the avalanche of species extinctions occurring presently can be curtailed and that environmental ethics will guide future people-planet relationships. The moral community should eventually be identical with the ecological one. I anticipate natural rights expanding to embrace the rights of nature. I hope that in a thousand years not only all human beings, but four-footed beings and rooted beings and flying beings and microbiotic beings will **all** join together in an expanded ecological brotherhood. Building on Martin Luther King's 1963 rhetoric, I say let freedom ring not only from but **for** Stone Mountain in Georgia and also for oceans, rivers, and forests everywhere.

Third, I hope that a meaningful amount of wilderness will remain on this planet forever. I do not applaud a totally humanized, homogenized environment, no matter how beneficial or benign. Wilderness preservation is essential, not merely for human recreation, but as a gesture of planetary modesty on the part of a species that desperately needs to be reminded that it is a member and not the master of the ecosystem. Aldo Leopold understood this in the 1940s when he warned that the first law of successful tinkering is to save all the parts. The second law, we could now add, is to save the instructions, and these are contained in healthy wild ecosystems.

Finally (and here I expect to part company with respected colleagues on the more

radical frontiers of environmentalism), I hope for full development of the human intellectual and technological potential. The sticker "Back to the Pleistocene" does not appear on my bumper. I regard many characteristics of modern civilization as worthy of protection and extension. What's wrong with symphonies, universities and modern medical technology? Computers, television, and nuclear power are marvelous tools—if we only knew how to use them responsibly. And in a thou-

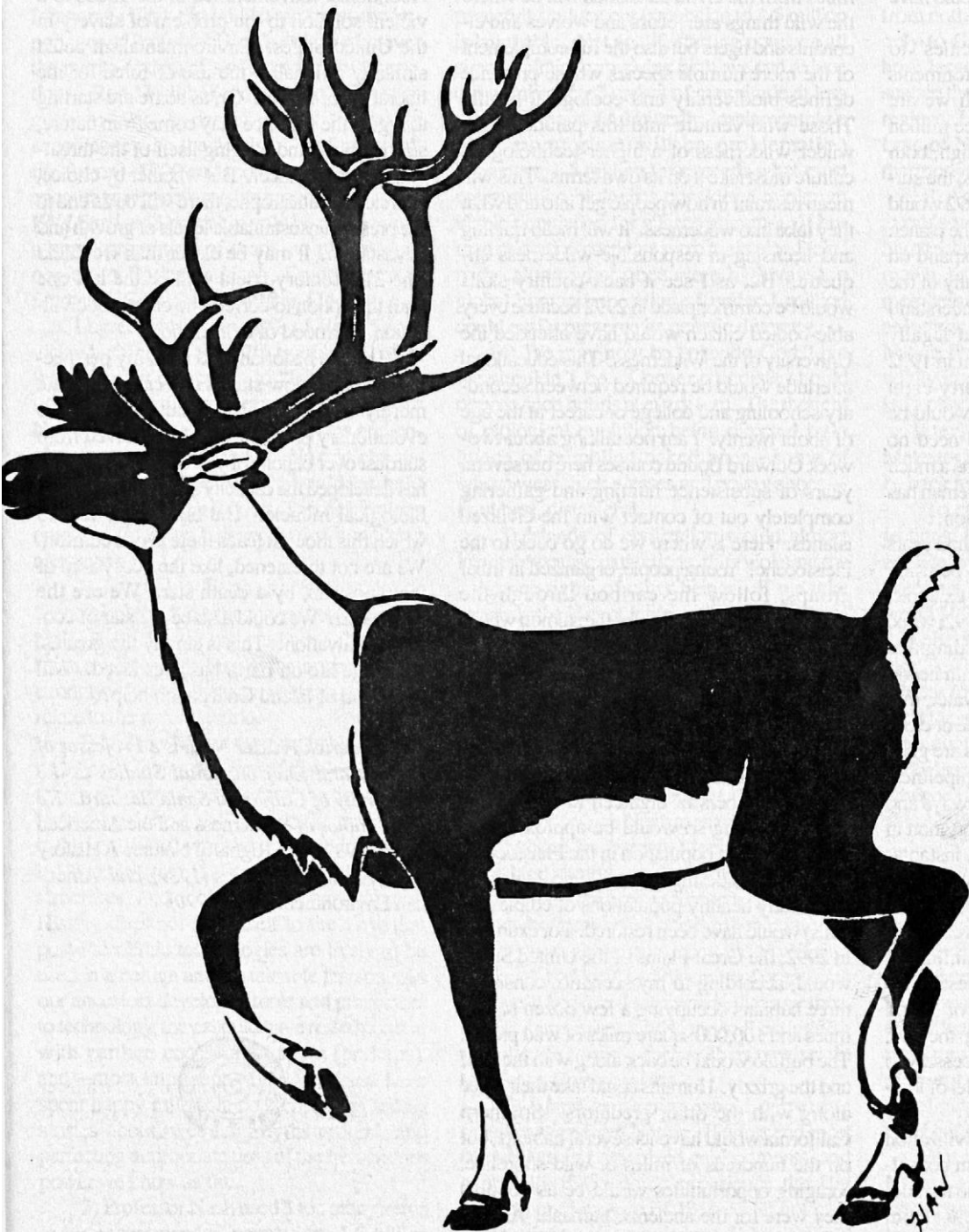
sand years what wonders might exist? Technology, you see, is not the basic problem. Machines only express human values. Change these values and you can alter the most basic pollution of all: mind pollution. And, since we are in control here, profound change is theoretically possible. The trick, as Henry David Thoreau recognized a century and a half ago, is "to secure all the advantages" of civilization "without suffering any of the disadvantages." Moreover, don't a reasonable

number of humans have as much right to fulfill their evolutionary potential as any other form of life? **The essential proviso is that in doing so they don't compromise, or eliminate, the chances of other species to do the same.**

My thousand-year vision starts with the assumption that on a finite planet, shared with other species, only limited numbers of humans can enjoy unlimited opportunities. Restraint, in other words, is the key to progress. Less is indeed more. The first essential limitation must be in our numbers. We are now 5.3 billion and growing—fast. Demographers think that between one and two billion humans, living carefully and efficiently, is a sustainable population. So, in 2992, I call for about 1.5 billion human beings maximizing their potential while respecting the potentials of other beings. Wouldn't this be preferable to fourteen or forty billion barely clinging to a pathetic existence on a biologically impoverished planet?

The other major application of restraint that my proposal demands concerns living space. From the point of view of other species, one of the worst characteristics of contemporary human civilization is its tendency to sprawl. In the past five hundred years in the temperate latitudes, we have witnessed a frightening explosion of the human-modified environment. In Europe and large parts of Asia, Africa and North America we approach saturation. Unchecked, this expansion could affect every part of the planet. Remember, we are facing in the next thousand years an extrapolation of technical abilities beyond our wildest imaginings. Domed cities covering the poles and undersea subdivisions are very conceivable. **Instead of this explosion, I call for implosion.** My dream for the next millennium envisions most of the

continued next page



1.5 billion human beings living in five hundred concentrated habitats. Integrated into each one would be the means of food and material production and energy generation. In the vast spaces between these habitats would be the habitats of other species. Most of the planet in 2992 should be returned to a wilderness condition. Instead of dominating the globe, mankind and its works should occupy small niches in a continuous wild ecosystem. Instead of islands of wildness in a matrix of civilization, as presently exists, we would have **Island Civilization**.

I use "habitats" rather than "cities" to imply that these future human environments will be unlike anything with which we are familiar. Accommodating about three million people each, they could be a mile high, both above and below ground or, perhaps, the surface of the sea. The technology of 2992 would permit habitats to exist anywhere on the planet. Civilization could be expected to expand on the poles, but it would shrink radically in the temperate latitudes. To more fully understand what I have in mind consider that legally designated Wilderness Areas amount in 1992 to about 2% of the contiguous forty-eight American states. In 2992 the ratio would be reversed; Island Civilization would need no more than 2% of American soil. This is a much bigger "Outside" than even Dave Foreman has envisioned. It needs some explanation.

First, bear in mind that in a thousand years the 1.5 billion people on Earth will be using technology inconceivable today. For example, there will be no need to cut trees in 2992; wood will have been outmoded as a building and printing material (along, perhaps, with newspapers and books!). With energy, water, materials and foodstuffs produced inside or close by the habitats, dams and aqueducts are gone and with them all long-distance pipelines, cables and transmission wires. Freeways and railroads no longer exist. All transportation in 2992 is in the air and, more likely, instantaneous. Science fiction, you say? Well, consider what was thought in the 1890s about a moon landing. I think that if humans can keep the planet habitable, they have unlimited technological potentials. Turn our best minds loose on the technical challenges of Island Civilization (rather than repairing the old, unsustainable paths) and it is not necessary to go back to the Pleistocene for a model of low-impact living.

What would living in Island Civilization be like? In addressing this important consideration it is necessary to put aside the termite-mound apartment house image. I am confident that architects of the future, building on the ideas of visionaries like Paolo Soleri, will be capable of designing very dense but

very appealing single-structure habitats. Of course there will be sacrifices. What will be gone completely in the imploded habitat of 2992 is the "American Dream": single family homes on half-acre lots widely separated from business and cultural centers and linked with networks of roads into a nearly continuous fabric of civilization. But while I have in mind an **intensely** urban culture, I envision far more possibilities for contact with high-quality wilderness than exist at present. Just a few miles from the civilized islands will be where the wild things are: bears and wolves and elephants and tigers but also the full complement of the more humble species whose presence defines biodiversity and ecological health. Those who venture into this paradoxically wilder wilderness of a higher-technological culture must take it on its own terms. This will mean restraint in how people get into and what they take into wilderness. It will mean training and licensing in responsible wilderness etiquette. But as I see it back-country skills would be commonplace in 2992 because every able-bodied citizen would have attended the University of the Wilderness. This educational interlude would be required between secondary schooling and college or career at the age of about twenty. I am not talking about two-week Outward Bound courses here but several years of subsistence hunting and gathering completely out of contact with the civilized islands. Here is where we do go back to the Pleistocene! Young people, organized in tribal groups, follow the caribou through the mountain passes and fish for the salmon whose runs have been restored to the free-flowing rivers. They learn the ancient and primitive skills and, more importantly, the land wisdom and reverence of indigenous peoples.

Could someone live off the land a thousand years from now? You bet, considering that the numbers of eighteen to twenty-one year-olds doing so would be approximately equal to human population in the Pleistocene, and also considering that ecological integrity (especially healthy populations of edible animals) would have been restored. For example, in 2992, the Great Plains of the United States would, according to my scenario, consist of three habitats occupying a few dozen square miles and 100,000 square miles of wild prairie. The buffalo would be back along with the wolf and the grizzly. Humans could take their place along with the other predators. Southern California would have its several habitats, but on the hundreds of miles of wild shoreline, foraging opportunities would be as good as they were for the ancient Chumash. Also as good as ever would be the chance to acquire an environmental ethic which underlies the ecological responsibility of Island Civilization.

How to make the dream of Island Civilization come true is beyond the scope of this outline proposal. Suffice it to observe that if the reform route proves ineffective the radical option of force or revolution will make increasing sense and particularly to a population shocked and frightened by the early-warning signs of ecological catastrophe. Violence, after all, has figured frequently in human history as a way to change paradigms. One thinks of the American Revolution and the Civil War. The Abolitionist movement led in the 1860s to a violent solution to the problem of slavery in the United States. Environmentalism could similarly rationalize the use of force for the liberation of nature. Or, as some are starting to argue, the violence may come from nature, striking back and purging itself of the threatening human cancer. But whether by choice, coercion or catastrophe, there **will** be an end to the present unsustainable levels of growth and devastation. It may be closer than we think. The 21st century could well be the last one with the option to correct the course of civilization in a mood of deliberation.

I am an historian, and from my perspective mankind now stands at a crossroads not merely of human history but of the entire evolutionary process. Life has evolved from stardust over billions of years until one species has developed the capacity to disrupt the whole biological miracle. But amidst the fear to which this thought leads there is one comfort. We are not threatened, like the ecosystem of the dinosaurs, by a death star. **We are the death star.** We could also be the star of ecological salvation. This is simply the greatest challenge life on Earth has ever faced. Will the vision of Island Civilization help?

Roderick Frazier Nash is a Professor of History and Environmental Studies at the University of California Santa Barbara. He is the author of Wilderness and the American Mind (1982), The Rights of Nature: A History of Environmental Ethics (1989), and American Environmentalism (1990).



A Minority View

I cannot resist an editor's rejoinder to the foregoing. First, though, let me stress the importance of Professor Nash's article, whatever the merits or demerits of his specific suggestions. Rod Nash has made a profound suggestion: People need to begin to plan in accordance with the needs of life forms—all life forms—1000 and more years hence. We encourage responses to his provocative essay. *Wild Earth* will probably only be able to print a small proportion of them, so please send copies to Roderick Nash, Environmental Studies, UCSB, Santa Barbara, CA 93106.

I agree with about 98% of Rod Nash's vision but find the other 2% troubling. I offer the following objections to "Island Civilization" with the utmost respect for Professor Nash—one of the premier historians and environmental ethicists today. No one else associated with *Wild Earth* should be held accountable for what follows. These objections emanate from the perspective of a walking anachronism.

1) To speak of Earth as a "spaceship" or "ecological ship" is to heave insults at the only biologically diverse orb we know. This may seem a minor point, but the metaphors we use strongly influence the way we think about and relate to the natural world.

2) As Jerry Mander argues in his brilliant new book (*In the Absence of the Sacred*), it's time we disabuse ourselves of the notion that technology is neutral. Technologies developed in the last 10,000 years have almost invariably led to exploitation of Nature, centralized power structures, and biological impoverishment. History does not lend itself to the view that post-Paleolithic technologies are likely to be used in a benign and sustainable fashion. As our ancestors developed tools and precursors to technology, they should have rested content with earthen cookware, spears (perhaps), and—most important—fire. We could have spent happy millennia contemplating, telling stories about, weaving myths around, and perfecting appropriate uses of the tremendous power we know as fire.

3) Professor Nash used 3 too many zeros in his recommended population: 1.5 billion would almost certainly be incompatible with a full flowering of biodiversity; 1.5 million is

plenty. Some will say the idea that we can peacefully reduce our population to 1.5 million is laughable. Not so. If, starting now, we all simply refrain from giving birth, we can reduce our numbers by 3 orders of magnitude in less than 100 years. (Admittedly, implementing a birth moratorium will be problematic.) Moreover, 1.5 million far exceeds what most conservation biologists consider a minimum viable population for a large mammal. If human migration corridors were maintained (e.g., paths along what once were highways), a global human population of under 1 million could easily preserve its genetic diversity.

4) We may now be "playing God," but we shouldn't be. Conservationists should oppose such hubris at every turn. The thought of biological evolution being directed by a bunch of bumbling naked apes—some of whom wear thick glasses and pointy shoes—is, at best, distasteful.

5) Islands of civilization would almost inevitably cause extinctions, thus violating the existence rights of other beings. If we take seriously the idea of intrinsic, inalienable rights for all life forms, we cannot justly consign any sizeable portion of the biosphere to human domination. Every area has unique life forms. Biologists are continually raising their estimates of the number of species on the planet (as well as the number going extinct every day). Recent studies suggest that even the ocean floor (which Nash says might someday be inhabited by humans) has indescribably great biodiversity. As scientists do more intensive studies of ocean sediments, forest soils, stream bottoms, caves and other relatively unknown environments, they may well find such high and localized diversity of organisms that we'll be forced to concede that any thoroughly humanized landscape will extinguish singular life forms—each with as much right to exist as *Homo sapiens*.

6) Island civilization would perpetuate our alienation from Nature. If we spend most of our lives in humanized environments, and especially if we don't experience the Big Outside until the age of 18, we will not gain Earth wisdom or knowledge of place. We'll be bleary-eyed dweebs.

7) Unless we accept the old Judeo-

Christian idea of *creatio ex nihilo* (creation from nothing, an ability historically attributed only to God and capitalists), it's hard to see how large concentrations of people could sustain themselves without exploiting outside regions. Humans cannot persistently flout the laws of Nature, in particular the 2nd law of thermodynamics (the entropy law).

8) Again, humans will remain essentially at odds with Nature as long as they employ high technology and live in artificial environments, as long as they refuse to be regular members of the biotic community. Moreover, as long as the human habitats are at odds with Nature, they will remain like a cancer. It seems wildly improbable that a living organism can long play host to 500 benign tumors. Sooner or later, a tumor will turn malignant. Metastasis will follow; and before long, we'll be back to 1991.

To conclude these rough and hasty objections, Roderick Nash has done us a great service by making us look ahead, and has given us an enticing glimpse of a possible world 1000 years hence. However, I suggest that about 2% of Rod's vision needs radical modification. We are indeed like skiers headed blindly toward an abyss. Let us, then, stop, shed these plastic appendages, climb back up the mountain while we still remember the way, and glissade gracefully down the side from whence we came ... back to the Pleistocene.



Before descending, though, I'll return to the present for a moment, albeit still from a recidivist's perspective: David Johns gives a good overview in this issue of the recent North American wilderness recovery strategy meeting. I believe, however, that one idea discussed at that gathering needs more emphasis—expanding wilderness. Continental wilderness recovery not only entails an ongoing process of refining maps and such, but is in itself (or will be if we succeed) an ongoing process.

We would be unwise to pronounce a limited wilderness preserve system as an ultimate goal. The work of rewilding this continent is the work of many generations. Any

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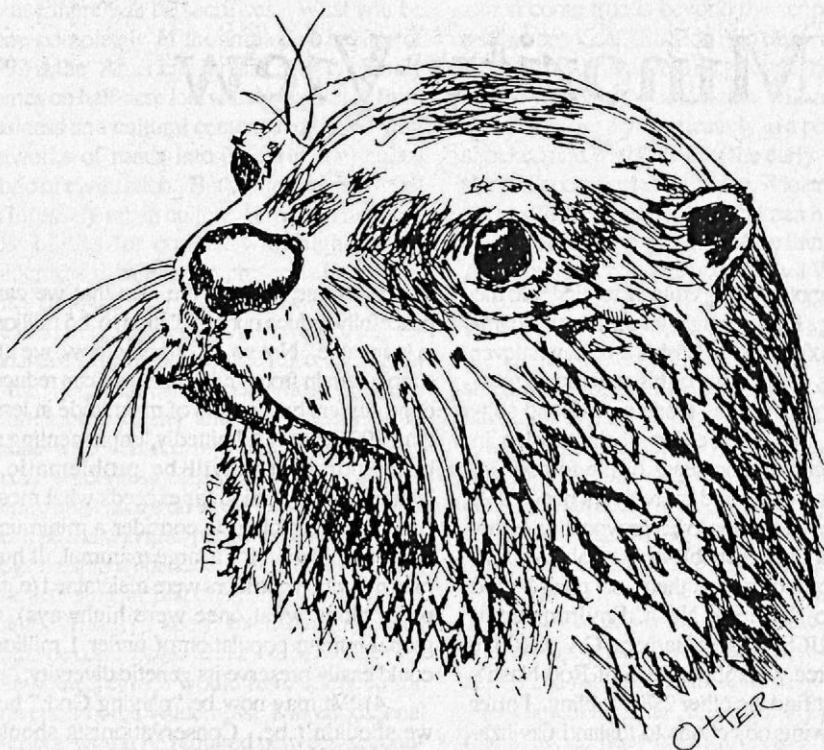
preserve system of the type generally discussed by conservationists must be seen as a stop-gap measure. A system of bounded preserves and corridors in a developed matrix is a threadbare garment. It's like a sieve. Most species with large populations might be caught by such a sieve, but many rare, sensitive and imperiled species could fall through the gaps. Instead, let the matrix be wild!

Also, it's a bit disingenuous for us to claim to be taking a biocentric perspective when we simply propose a preserve system sufficient to preserve viable populations of all native species. Biocentrism means more than mere *existence* rights for all species; and if we truly accord equal rights or equal worth to all species, then we must allow all species to flourish throughout their entire natural range. It is not biocentric to protect Grizzly Bears only in the Northern Rockies, Canada, and Alaska. It is biocentric to allow Grizzlies to repopulate the whole of their original range, from the West Coast to the Mississippi River and thence to continue eastward if they will, perhaps someday to prowl the ghosttown of Washington, DC.

By espousing expanding wilderness, we also make our proposals more realistic. Perhaps we cannot within our lifetimes restore wilderness to 95% of the continent, but we can begin a restoration process whose end will not be declared by any now living. The prevailing economies of the last 500 years on this continent have been based on destroying Nature. The economies of the next 500 years should be based on helping Nature heal.

Another reason why deep ecologists and their ilk need to acknowledge the ultimate incompatibility between industrial civilization and Nature has to do with vital needs. If we would limit our exploitation of the natural world to what is necessary to fulfill our vital needs (Deep Ecology principle #3 "Humans have no right to reduce this richness and diversity except to satisfy vital needs." Naess and Sessions), we would thereby allow wilderness to reclaim most of this and all continents. Our vital needs are food, water, shelter, and clothing. *Wild Earth* hopes soon to publish rough calculations of the proportion of North America's land base needed to provide food, water, shelter, and clothing to sustain its present human population—a population conservationists recognize as far too large. (Results, of course, will vary, depending on what modes of production one assumes.) I'll wager that the figures will be less than 10%.

—John Davis



STATEMENT OF PURPOSE

Wild Earth is a non-profit periodical serving the biocentric grassroots elements within the conservation movement, and advocating the restoration and protection of all natural elements of biodiversity. Our effort to strengthen the conservation movement involves the following:

- We shall provide a voice for the many effective but little-known regional and ad hoc wilderness groups and coalitions in North America.
- We shall serve as a networking tool for grassroots wilderness activists.
- We shall help develop and publish wilderness proposals from throughout the continent.
- We shall aim to complete, and subsequently publish in book form, a comprehensive proposal for a North American Wilderness Recovery Strategy.
- We shall render accessible the teachings of conservation biology, that activists may employ them in defense of biodiversity.
- We shall expose threats to habitat and wildlife, and offer activists means of combatting the threats.
- We shall facilitate discussion on ways to end and reverse the human population explosion.
- We will defend wilderness both as *concept* and as *place*.

North American Wilderness Recovery Strategy

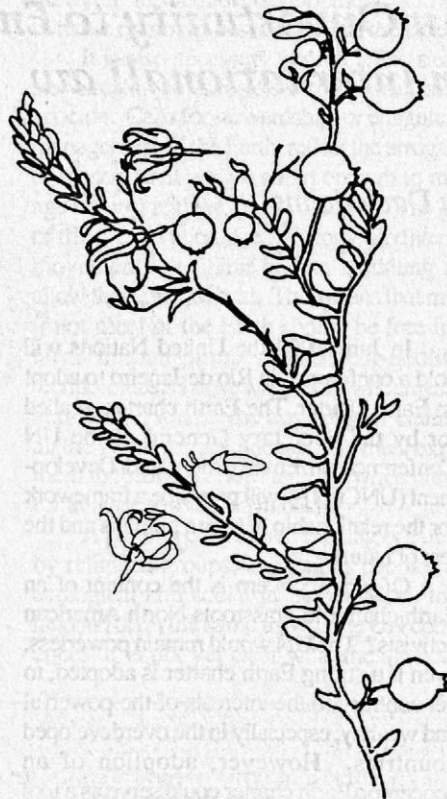
by David Johns

Ecocentric activists are all too familiar with the frustration that comes from constantly fighting local developments while the biosphere as a whole continues to deteriorate. An important step in overcoming that frustration was taken in San Francisco on November 20-21 when 15 activists met to begin developing a comprehensive North American Wilderness Recovery Strategy.* The vision emerging from that meeting is of a North America once again rich with widespread and healthy populations of all native species; a North America where evolution continues free from overriding human interference. It is a vision that can catalyze similar visions on other continents, so restoring the fierce green fire that once universally animated this planet.

Ensuring that all extant native species of North America can thrive and evolve is a radical proposal which takes us back to our own deepest roots. Calling for anything less than is needed to save 4 billion years of evolution is not "being reasonable"—it is a betrayal of the planet that gave us birth. Ours is the agenda needed by wolves and salmon and rivers and lichen.

The vision that inspired the meeting in San Francisco was not the property of those attending but the outcome of years of struggle by thousands of people. The focus of this initial brainstorming session was on realizing the vision: from developing a comprehensive continental wilderness proposal to strategizing on the initial steps of implementation. Restoring wilderness is a long term proposition. The Recovery Strategy and its implementation will be the work of many throughout the continent: activists, conservation biologists and others. It will evolve with our experience and with the generations. The vision of a continent restored will provide a yardstick against which to measure our efforts in reclaiming the Earth for life. It is a vision to keep alive in ourselves and rekindle in others love of Earth and place.

Numerous elements of preserving



biodiversity and the evolutionary process were broadly addressed: what sort of preserve system is necessary; how to determine the size of reserves; how to integrate regionally developed plans into a continental proposal; how to identify the people critical in developing the proposal; how to build support for the proposal within the environmental movement and among the general population and policy makers.

The discussions were only a beginning, but much was achieved. To preserve the biodiversity of the continent a system of large core reserves, adequate to provide for genetic, species and ecosystem diversity, linked by broad corridors and surrounded by buffers, must be established. Such core reserves and corridors would be large enough to provide for species and ecosystem resiliency in the face of natural disturbances and global change, including climatological change. Proposed

core areas and corridors would build on existing wilderness areas and be free from agricultural and industrial enterprise. Buffer areas would allow gradations of human economic activity, with degree of intensity decreasing toward the core. Exotics would be eliminated where possible.

The meeting recognized that both development and implementation of the Wilderness Recovery Strategy depends primarily on the work of regional efforts, such as PAW in the East and the Greater Ecosystem Alliance in the Pacific Northwest. A structure for coordination among the regions will be needed. The role of those meeting—a group that will expand over time—is to provide that necessary coordination. This entails identifying areas where regional proposals need to be developed, bringing proposals from the various regions together with the support of those who develop them, and producing a document embodying the whole. The process is one of uniting the pieces from an existing grass roots movement for the protection of the wild. It is a matter of complementing and combining—not supplanting—efforts already under way in many parts of North America and encouraging them in the rest. People from northern Canada south to the Caribbean and Central America will be essential to the process.

After the proposal is developed into a document it must be disseminated to deep ecology and environmental activists and organizations and to selected media. A call for what is really needed to preserve biodiversity and evolutionary processes will change the direction and focus of the conservation movement. The timidity of many mainstream organizations in the face of industrial civilization and population growth is killing the Earth. That must be made clear. *Wild Earth* will be a source of news on the development of the Wilderness Recovery Strategy, and will

continued next page

run regional recovery plans as they are developed.

Taking the Wilderness Recovery Proposal to the public and educating policy makers is the next step. A clearinghouse to share information, organize meetings, develop and disseminate publications and coordinate efforts for implementation of the Recovery Plan has been established in Tucson. Its role will evolve with the input of those all over the continent working on the plan.

The time has come for the North American Wilderness Recovery Strategy. We must take our vision of an Earth rich with life and embody it in concerted action. Just as surely as tree farms must again become forests and the Grizzly must again be free to roam, we must put our heads and hearts together in a coordinated effort before more is irreparably lost.

For further information contact Rod Mondt, POB 5784, Tucson, AZ 85703 (602-578-3682).

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United Nations Earth Charter:

An Opportunity to Enshrine Ecocentrism in International Law

by David Johns

In June 1992 the United Nations will hold a conference in Rio de Janeiro to adopt an Earth charter. The Earth charter—called for by the Secretary General of the UN Conference on Environment and Development (UNCED)—will prescribe a framework for the relationship between humans and the rest of nature.

Of what concern is the content of an Earth charter to grassroots North American activists? The UN would remain powerless, even if a strong Earth charter is adopted, to act contrary to the interests of the powerful and wealthy, especially in the overdeveloped countries. However, adoption of an ecocentric Earth charter could serve as a tool in the struggle to preserve biodiversity and wilderness in much the same way the Universal Declaration of Human Rights has over the decades served to discourage human rights abuses. Once adopted the Universal Declaration of Human Rights, though not directly enforceable, gained legitimacy among much of the world's population. Movements were able to use the Declaration, to which governments had subscribed, to point out their failings and push for reform. It can be used to embarrass and hammer at states and corporations for their oppressiveness.

The U.S. and most other governments will not willingly support an ecocentric Earth charter. They might, however, acquiesce to a strong statement of principle if it lacks specific enforcement mechanisms. Much debate among conservationists has centered on whether it is best to strive for a strong but unenforceable charter, with the understanding we would go back later to get enforcement, or in the spirit of Sea Shepherd, enforce the

law directly; or call for strong enforcement mechanisms now in response to the global emergency, recognizing that a concomitantly weaker statement of principles would emerge.

Other areas of debate among those trying to influence their government's position at the "Earth Summit" are North-South relations, gender and class relations, and the role of stewardship. Most Earth proponents agree that preservation of biodiversity will require fundamental changes in human social structure, but deep ecology brings a particular perspective to the debate: that preservation of biodiversity is our central value and must not wait upon the implementation of social change (no peoples agree on what human social change should occur in any event). Programs aimed at structural transformation or statements on human-human relations in the Earth charter should flow from the central goal which is to preserve biodiversity and the evolutionary integrity of the planet.

North-South relations will be a central focus at the conference. The North, with some significant exceptions, can be expected to call for protecting "resources" it considers important (such as rainforests) and for population control, notwithstanding the primary role the Northern Hemisphere nations play in fostering both overpopulation and clearing of rainforests. Third World elites consider the conference another chance to press their development agenda. They will argue that their economies must grow so that their people reach a decent standard of living. The North has exploited the earth ruthlessly to obtain the wealth it enjoys and the South will not accept limits on its development for environmental reasons. Just as the North's rhetoric does not really reflect concern for the forest, the South's does not reflect real concern for the poor. The elites of both North and South are overwhelmingly concerned with protecting their own privilege. The bargain that may emerge

from such an amalgamation of interests would at best protect some ecosystems in the South that the North considers valuable provided the North is willing to pay for such preservation and address international economic inequality.

Some northern countries, sensitive to both the acute nature of the ecological crisis and the political realities of the United Nations, are attempting to fashion a compromise that recognizes the need for a halt to wholesale ecological destruction while winning broad support. Positions put forward in preparatory meetings by Canada, Sweden, and New Zealand offer hope for obtaining an ecocentric charter. For these proposals to succeed there must be effective mobilization around the world. The US, Britain, Japan and other wealthy countries are most concerned with their continued access to resources and markets. Pressure on these governments from activists is critical. The US in particular is in a position, through disinterest or active opposition, to block the emergence of a meaningful document. To gain Third World support for protection of the wild it must be made clear that preservation will not be undertaken at the expense of the South while the North continues to receive huge transfers of wealth. There is a need to link the issues of population growth in all areas of the globe with overconsumption among elites and wealthy nations.

Much of the debate around North-South relations will focus on notions of "sustainable development." Sustainable development rep-

resents both a cynical lie, cloaking continued accumulation by a few in the guise of a higher standard of living for all, and a dangerous ecological delusion. Development in the sense of ever higher levels of material consumption cannot be sustained. It is a path that threatens millions of species with extinction. Creating human communities that can be sustained within the framework of the larger biological community is the only hope for an end to ecocide. An Earth charter must distinguish between "sustainable development" and sustainable communities, and affirm the latter.

It is also necessary to dispel fantasies of stewardship as a solution to the problem of ecocide. Calls for stewardship, or enlightened management of the Earth, reflect the arrogance of reason (that we are smart enough to manage nature) and the denial of limits. The goal of the preservation/deep ecology/biodiversity movement is to limit human meddling and allow the planet to heal. This means that much if not most of the Earth should be free from large human numbers and post-neolithic technologies. Those who decry wilderness as anti-human ignore the absurdity of claiming all the Earth for one species. We must expect them to throw a serious tantrum when we ask for at least half the earth back.

A parallel conference is being organized by religious groups, indigenous peoples and ecological and social justice activists, to be held in Rio at the same time as the UN conference. It is not yet clear what the agenda of

this grassroots conference will be, nor what effect it will have on the official meetings. What is clear is that the best chance US activists have of influencing the outcome of the UN meetings is lobbying Congress, encouraging support for the Canadian, Swedish and New Zealand positions, and encouraging organizations in other developed countries to do the same with their governments. This needs to be done now, before positions become locked in, as they will be by early 1992.

Representatives Jim Jontz, sponsor of the Ancient Forest Protection Act, and George Miller, member of the House Subcommittee on Energy and Environment, have shown an interest in the US taking an ecologically sound position at the Earth charter conference. Let them know your views. Ambassador Robert Ryan, Head of US UNCED Coordination, has been reported to be willing to listen to environmental groups, but it may be only the usual empty ritual.

It is possible that members of Congress and even Mr. George "Wetlands" Bush himself, might support—under pressure—a somewhat ecocentric earth charter if they were convinced it would buy them some votes and couldn't be enforced. Such a charter, once in place could take on a life of its own and grow some teeth.

David Johns is a defender of Oregon's desert and a participant in planning for the Earth Summit.

Letters to the Editors

Wild Earth invites letters from readers. We can neither print nor respond to all of them, and those printed may be edited down for space, but we will strive to print a representative cross-section. Expressed opinions, no matter heterodox, do not necessarily reflect those of the editors or any other contributors to these pages.

BEYOND FAMILY PLANNING

The two articles about excessive global human population in the WILD EARTH Fall 1991 issue by McCormick & Saltonstall (there are two fine New England surnames), had they been written and printed about the time I founded ZPG Inc. in 1968, might have been good perhaps even great.

But as Bill notes much has happened in recent years. Our human global total gets more & more. In 1968 best estimates of our human global total were some 3.5 billion of us whereas by mid 1991 most agree our earth total

was well over 5.3 billion. Perhaps up to and even some over 5.5 billion? Who knows exactly?

When I called the first ZPG Inc. board of directors meeting in NYC in Spring 1969 I accepted the majority "family planning" view which basically was voluntarism. With the benefit of hindsight I now believe I was wrong. ZPG Inc. should have then started advocacy of coercion as a minority of the board members such as Garrett Hardin and one or two others urged. Their fears have been proven too accurate. They feared family planning or voluntarism would turn out to be TOO LITTLE AND TOO LATE FOR TOO MANY MILLIONS. And that considers only human-

kind without thinking of wildlife losses.

Coercion to limit family size by birth to two remains a NO NO among most (nearly all?) committed to family planning. We can anticipate family planners will publicly or at least privately 'cut us down' as fully as they can.

At least we wildlife advocates ought to understand that even if 'gradualism' might reduce—say—US births (4.1 million) in 1991 down to the number of US deaths (2.2 million in 1990) by early in the 21st century the time scale of some wildlife habitat losses will be like 'forever'.

Now I personally favor Garrett Hardin's view that we humans must use "mutual coercion mutually agreed upon" even for humankind's sake. He was correct back in the late 1960's. More so now as the '90's unfold; humane coercion is needed and the sooner the better for humankind and more so for wildlife. Those who ask for such and send a SASE to lessen my out-of-pocket expenses will be sent a copy of my six page memo on statewide

continued next page

voting to force surgical contraception on anti-social couples (yes both) who after two births do not do that themselves.

—Richard M. Bowers, Rt 1, Box 28, Delancey, NY 13752

PENNIES FOR WILDERNESS

In the pursuit of wildness, the Penny Drive has begun in the heart of the Wild Northern Rockies—*Pennies for Wilderness!* After only eight months, the Missoula, MT penny drive has generated \$1000 for the educational and lobbying efforts of the Wild Rockies Legislative Action Fund (WRLAF). This fund works for the introduction and passage of the comprehensive proposal, the *Northern Rockies Ecosystem Protection Act*.

We can help preserve our Natural Heritage by using *Common Cents!* Missoula businesses have set-up penny jars with uniquely designed labels on their counter-tops, helping spread the word about saving this pristine mountain region. Pennies for Wilderness must spread throughout America, because wildlands in the northern Rockies belong to each and every one of us (including wildlife).

To date, more than 140 businesses and organizations, representing over 3 million people have endorsed the bill. Just think, if all of those caring wildlands advocates pitched in their two cents worth to this grassroots fundraiser, that would add up to \$60,000. This money would greatly aid the Rockies by heightening awareness and pushing for the enactment of NREPA.

If you are interested in starting up a penny drive in your community, please call or write: Pennies for Wilderness/WRAP, POB 8395, Missoula, MT 59807; 406-721-5420.

We'll send you labels with simple steps on the back on how to get a drive going.

We can counteract industrial greed with jillions of pennies!

—Jamie Lennox, Bonner, MT

THE DEEP ECOLOGY FOOD FIGHT, DAY TWO

I'm not one to rant on the work of others as long as it's biocentric and responsible. I do have to comment on the letter by Ed Detrixhie, Deep Ecology and Overpopulation, *Wild Earth*, Fall 91. We do need on occasion to refine and restate the foundation from which we build. That defines our objectives. In this light I comment, constructively I hope, not to tear down but to build and refine, as a talmudic sidebar.

"... Deep Ecologists come off as a severe and grim lot who would forbid gourmet food and jazz. No kidding, I've heard such fears only half jokingly expressed."

Food eaten with a toothpick should be banned. Gourmet foods are at the root of too many ecologically destructive, inhuman, and abusive activities to be allowed. Deep Ecologists should act to eliminate the gourmet food industry. I'm sorry I sound like I am "half joking." This is my speaking style that allows me to say these things without crying, screaming, smashing the podium, and starting a food fight. I'm dead serious. We, as ecologically responsible activists, should do everything we can to eliminate gourmet foods and a lot of common food sources as well. We should evaluate the source of the products we, as a culture, consume. I avoid oxymorons like responsible consumerism, but we do need to do some introspection on occasion. Common products, such as tofu, cotton, domestic meats, tuna, silk, and fruits, are bad enough.

When I think of gourmet foods, I think of toothpick foods like salmon, clam, oyster, snail, octopus, shrimp, lobster, whale meat, olives, shark fin, turtle, monkey, crab, figs, whelk, sole, and veal. I'm not talking about the evils of the food eaten by the masses, such as apples, beans, peanut butter, or even pineapples, bananas, oranges, or meat. I'm talking about the side dishes of the rich. Foods eaten because of their novelty and expense. I doubt that many *Wild Earth* readers would buy veal, shark fin, monkey, tuna, or shrimp, and you probably do what you can to stop these obviously abusive markets, but we tend to overlook such markets as the salmon industry. I'll use this romanticized industry as my first model.

Standing on the shore of British Columbia at night, you will see the lights of about 20-25 salmon fishing boats constantly moving across the horizon, like toy carnival ducks. I once found a baby whale that had been killed by the prop of one of these salmon boats. This whale was one of how many? What are some of the other externalities of this industry's long-lines, gillnets, huge by-catches, Native Rights issues, fish hatcheries, noise and light pollution, fuel spills? Where do the huge piles of nets along the rocks and beaches come from? How many miles of these are still fishing as they wash untethered along the bottom of our oceans? And for what? So that some rich pukers can demonstrate their excesses. Salmon meat is good stuff. It's rich, sweet. But who gets to eat it? Salmon is not a mainstay of the diet of the human horde. It is the product of highly subsidized and very abusive industries that cater to the rich. Salmon does not settle well in an empty belly. As ecologists/activists, we should do our best to stop salmon marketing. Salmon fishermen are no better than the loggers cutting the last of the Old Growth. Salmon hatcheries are similar to tree farms. They are developing new strains of non-native fish that did not co-evolve with the traditional environ-

ment. Hatcheries are chemical dependent. The over-crowded conditions of a hatchery demand use of toxins. These chemicals drain out into the environment along with tons of fish waste, fecal matter, ammonia, nitrites, nitrates, bacteria, disease, herbicides, and pesticides. All these act to unravel downstream systems wherever there are salmon farms.

And where do shrimp come from? A can? No! They are the product of massive aquatic Clear Cutting. The nets used to collect these delicate prawn are very unselective. If you've been to Earth before, you know about turtle exclusion devices (TEDs), and how rarely they are used, and how ineffectual they are. Beyond the charismatic sea turtles, billions of other critters are killed and washed overboard for relatively few shrimp. And what of the shrimp themselves? Can the ocean ecosystems withstand the overharvesting of this keystone zooplankton?

Clams? Out of respect for antiquity I'll mention that some Cherrystones are 75 years old or older. Grandmother on the half shell? Oyster farms dominate some estuaries. Lobster fishermen fight regulations that allow these crustaceans to reproduce before being of legal marketing size. As it is now, they are sold at least one instar before reproduction, thereby jeopardizing the population. Population dynamics indicative of this problem unfortunately bolster the market for smaller Lobster, thereby empowering the greedy lobstermen. The good news here is that Lobster from the coast of British Columbia and New England are highly toxic. As detritus scavengers they bioaccumulate dioxin, PCB, pesticides, etc.. Parts of the BC fisheries have been closed but New England will not acknowledge the problem.

Thousands of shark are being killed for the toothpick class by having their extremities hacked off and being thrown overboard into a bloody froth of fellow sharks, or to die a miserable death as they sink to the bottom.

There's terrible news about the drought out in California-- it may be ending. Many of the rivers redirected to agricultural land in the American Southwest are being drained to grow, not wheat, not rice, but figs and olives. If we built an equation based on our "individual anthropocentric index" with figs on one side and a river on the other, how many figs equal the worth of a free flowing river? When those little olives are staring back up at you from the bottom of your last martini, ask yourself if the buzz is that much better because the rivers are dammed.

How do you like your African savanna and rainforest tea? With a slice of Costa Rican rainforest lemon? One lump of Everglades sugar, or two?

"Hey Buddy, Can ya spare a dime for a salmon steak?"

Jeff Elliott, 81 Middle Street, Lancaster, NH 03584

THE BRONX GETS WILDER

Thank you for printing the best conservation publication I have ever read. I read in *Wild Earth* of logging and road building all over the country. Well here in the Bronx the opposite is happening. The Bronx is famous for its social problems. Yet the Bronx has thousands of acres of wilderness and most conservationists are not aware of it. Actually, 25% of the land of the Bronx is city park lands. And within the last 20 years wilderness has greatly increased in the borough, mainly because of the New York City Department of Parks.

The Parks Department has helped by planting thousands of Eastern White Pine trees and other native species in the Bronx Parks. Some areas have old-growth type conditions. I regard myself as a pioneer in ecological restoration for the Bronx. Since I started planting Eastern White Pine, etc. on my own in 1975 from the New York State Department of Environmental Conservation (DEC) plants I purchased, I have planted several groves of White Pine. Foreign plants such as Oriental Bittersweet vines and Porcelainberry vines are a serious problem. The Parks Department has greatly helped the parks by closing off many back roads that car thieves used. I recently discovered a large Tulip Tree that measured 14 feet around at chest height, give or take an inch. It is the second largest Tulip Tree in New York City. There have been a few losses in Bronx Park wilderness, but there have been far more gains.

Mr. Jerry Kirwan, Bronx, NY

WILD EARTH'ERS:

Ecosystem components, including wetlands, riverine and terrestrial habitat, are interrelated and interdependent. These mosaics of communities require strong commitments for their protection and rehabilitation. The role of the Environmental Protection Agency in preserving aquatic habitats is well established. However, the Agency's Region III (VA, WV, MD, PA, DE, DoC) recently identified the adverse physical modification of terrestrial habitat as one of the foremost ecological issues in the Region; yet, these areas have been receiving little Agency emphasis. In recognition of this, the EPA has decided to strengthen its broad environmental protection mandate and commit itself to preventing further degradation of terrestrial habitat and promoting habitat restoration.

The EPA is not restricted by land-management boundaries as are other land-based federal and state agencies. The inadequacies of current efforts in assuring long-term viability of the Earth's ecosystems has prompted some progressive Region III personnel to form

the Terrestrial Ecosystem Protection Initiative (TEPI) Task Force. On November 14 and 15, 1991, they hosted a preliminary strategy workshop in Harper's Ferry, West Virginia. Invited to this initial meeting were representatives for the EPA, US Forest Service, US Fish and Wildlife Service, Army Corps of Engineers, National Park Service, various state agencies, Sierra Club, Wilderness Society, Audubon Society, The Nature Conservancy, the scientific/academic community, and one grassroots NCM (new conservation movement) group—Virginians for Wilderness. Problems were identified; ideas for their resolution were proposed. A subtext to the discussions was a vision of habitat integrity that included establishment of landscape linkages, environmentally-sensitive land-use planning, habitat augmentation and restoration, and **no net loss of biodiversity** (emphasis theirs!)

To effectuate this vision, future EPA activities will include a public outreach program, development and implementation of regional and national ecosystem protection strategies, and participation of the Agency in formulating local and regional land-use plans. The Agency would also like to act as a clearinghouse for applied research efforts on habitat. Data would be compiled and accessed through a universally-adopted database system. A comprehensive computer model, based on Gap Analysis (identifying remnant habitats at risk), has na-

tionwide planning and regulatory applications.

Region III identifies its overall goals in the mission to protect terrestrial habitats as: (1) to facilitate and coordinate intra-/inter-agency cooperation; (2) author a Regional Policy Statement that will serve to enhance existing habitat protection opportunities and provide the basis for innovative approaches for restoration and conservation; and (3) conduct, direct, sponsor, and/or fund ecological activities at the national and regional levels.

—Loki (another neighborhood biophilic for Ragnarok)

CLAW addendum: This is a rare occurrence/maybe this gift horse has no teeth. Th "strategy" recognized th impacts of th **human herd (as a given)** but refused to discuss de-population measures/hmm...haven't we seen this movie? Does FWS wanna "cooperate" with Jasper? Does F Dale (sic) wanna "facilitate" th PAW Proposal? Will state "game" commissions listen to anybody that doesn't kill for pleasure? Who knows...maybe it's "New Perspectives"...again. Loki got th ball rollin with a "no net gain" for roads. These people were amazed that activists exist without headquarters. They have their hearts in th right places; it's up to us to help them help us help th planet.

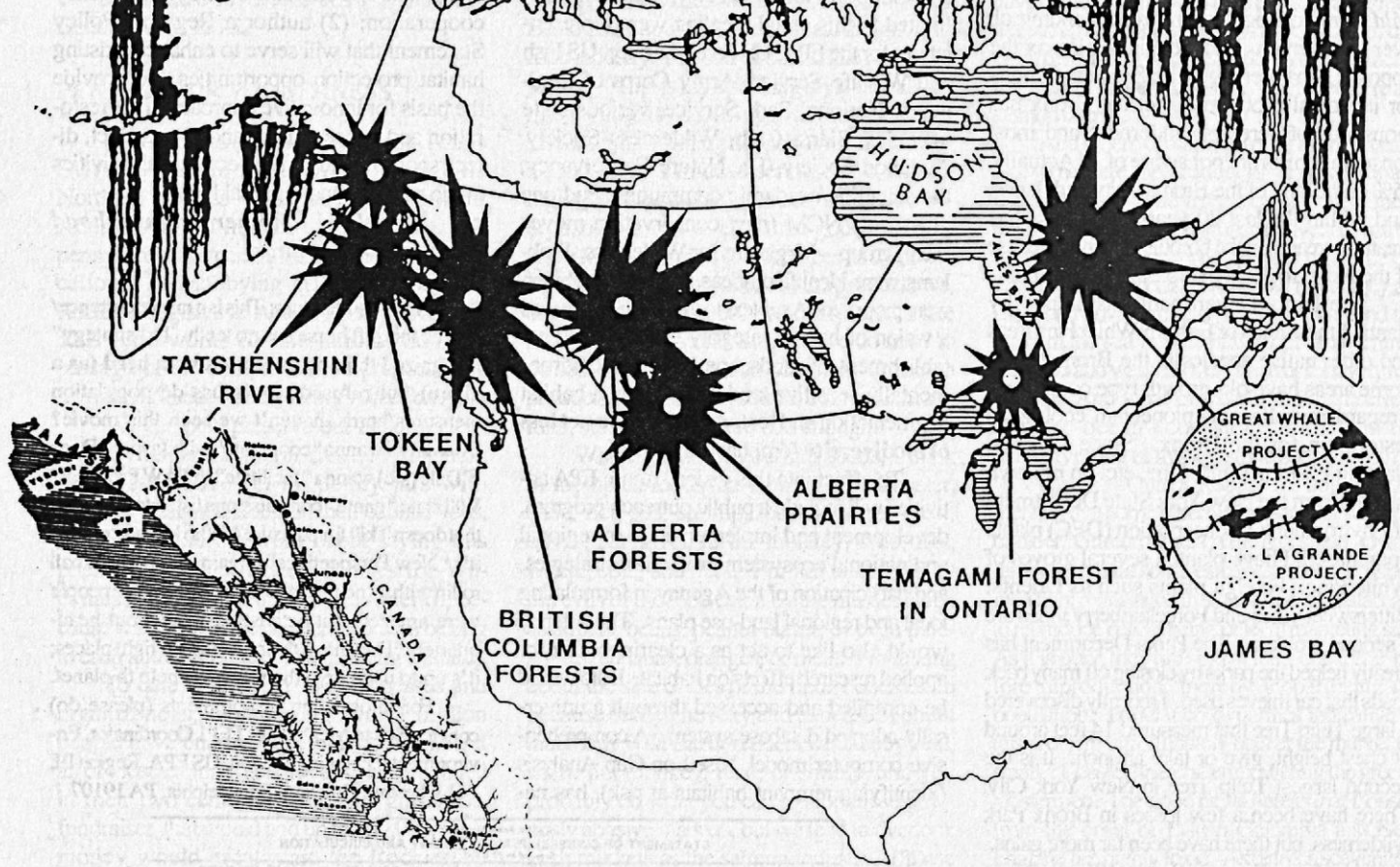
For information or comments (please do) contact: Susan McDowell, TEPI Coordinator, Environmental Planning Section, US EPA, Region III, 841 Chestnut Building, Philadelphia, PA 19107.

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11. I certify that the statements made by me above are correct and complete <i>Mary Byrd Davis, Publisher</i>		

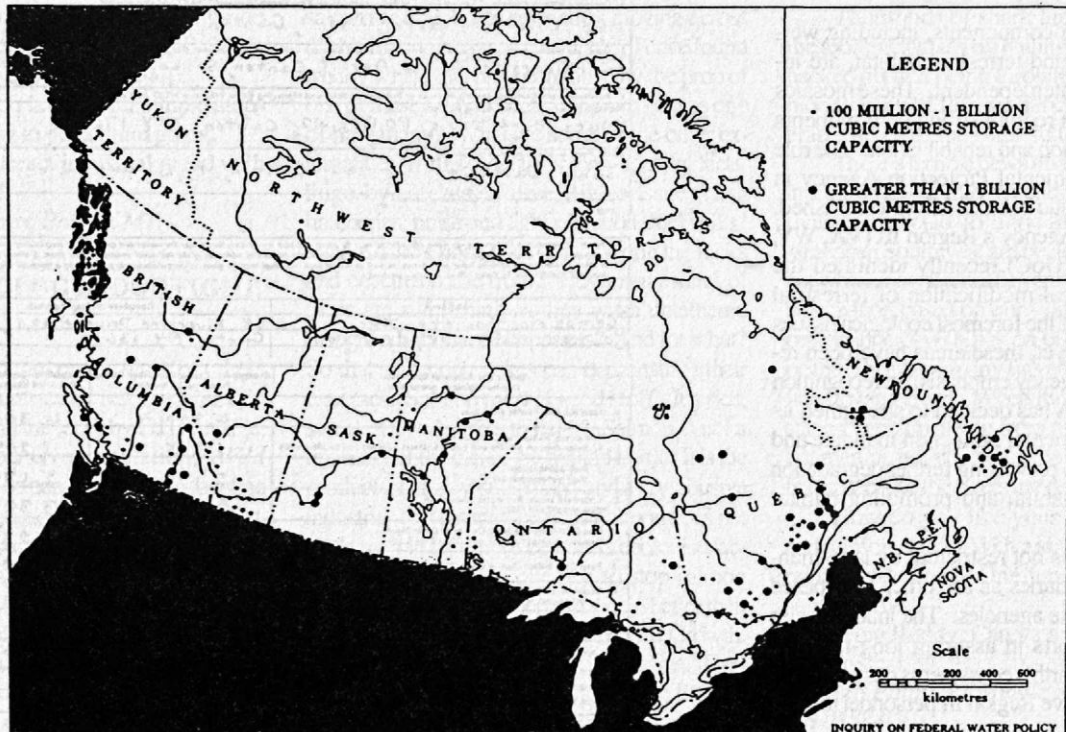
PS Form 3526, Feb. 1989

(See instructions on reverse)

DEFORESTATION IN THE NORTH



LARGEST DAMS IN CANADA, 1985



Whither Wilderness in Canada?

by Monte Hummel

Not many Canadians appreciate the fact that Aldo Leopold often turned his thoughts toward our country when he considered the future of wilderness in North America. For example, over forty years ago, in *A Sand County Almanac* he wrote, "In Canada... a representative system of wilderness areas can and should be kept. It will be contended, of course, that no deliberate planning to this end is necessary; that adequate areas will survive anyhow. All recent history belies so comforting an assumption. To what extent Canadians will be able to see and grasp their opportunities is anybody's guess."

Today, we Canadians are finally coming to realize that it's not good enough to leave the future of wilderness up to "anybody's guess." In fact, if we want to protect even representative samples of biological diversity in our country, it will only be accomplished through deliberate planning. Already we have lost a great deal, and if we let things drift, or put our trust in somehow "muddling through," the wilderness lost will be global in significance, and irreparable.

Canada in no way deserves the reputation we have as a world leader in establishing protected areas. Over sixty countries have set aside a greater percentage of their land mass in national parks than Canada. In the last 100 years, we have legally protected only 3.4% of

our land area from logging, mining and hydroelectric development through all federal, provincial and territorial protected areas. Of our 350 or so natural regions, less than one-quarter are judged to be adequately represented by protected areas. And we've lost the option to establish a minimum protected area of 50,000 hectares in 91 natural regions. The original tallgrass prairie (in Manitoba) is over 99% gone, shortgrass and mixedgrass prairie (in Saskatchewan and Alberta) over 80% lost, aspen-parkland (in all three prairie provinces) 75% reduced, Carolinian flora and fauna (in Ontario) over 90% reduced, and Acadian hardwood forests (in Nova Scotia) over 90% eliminated. Our wetlands, our old-growth forests, and even our expansive boreal forest are under siege. So far, 211 species are listed by the Committee on the Status of Endangered Wildlife in Canada, and not surprisingly, there is a clustering of endangered species around endangered habitats such as those outlined above.

In light of this, in 1989, World Wildlife Fund Canada launched our "Endangered Spaces" campaign, with the release of our book by the same name. The purpose of the campaign is to establish a network of protected areas in Canada, representing all our natural regions, and adding up to at least 12% of the lands and waters of our country, by the year 2000. The 12% guideline was drawn from the UN "Brundtland Commission" (World Commission on Environment and Development, chaired by former Norwegian Prime Minister Gro Harlem Brundtland). The Commission's report, *Our Common Future*, suggested that the existing 4% of the world set aside in protected areas should be tripled "to constitute a representative sample of the earth's ecosystems." Notice, however, that the Endangered Spaces goal is to adequately represent the natural regions or biological diversity of Canada, not to simply establish a big park in the Arctic representing 12% of our country!

When we launched our ten-year cam-

paign, we promised to publish an annual report on Canada's progress toward the Endangered Spaces goal. These WWF reports eschew rhetorical commitments in favour of a no-nonsense, quantitative assessment of whether or not we are actually chalking up more area on the ground, and adequately representing natural regions hitherto judged to be inadequately represented by protected areas. Since we have just published our Second Annual Progress Report, and promoted it through an 18-day tour across Canada, I can report to the readers of *Wild Earth* on where we now stand.

On the positive side, we have done a great job in recruiting support from Canadians. Simply put, the Endangered Spaces campaign has catalyzed the largest coalition of interests ever assembled around a conservation concern in Canada. Over 350,000 citizens and 230 organizations have endorsed our campaign centerpiece, The Canadian Wilderness Charter.

Our book, *Endangered Spaces: The Future of Canada's Wilderness*, has become a bestseller four-times over, and has been distributed to all 1050 elected members of provincial, territorial and federal governments. Cross-country media support through editorials, interviews, feature articles, letters to the editor and television coverage has been mountainous.

The federal government has committed to completing the terrestrial component of our National Parks system by the year 2000. It has supported the campaign goal of protecting at least 12% of Canada's lands and waters in its \$3 billion six-year *Green Plan*. And a motion to this effect received unanimous all-party support in our federal House of Commons.

Ontario, Manitoba, Saskatchewan, British Columbia, and Yukon have each formally committed to completing a network of protected areas representing all their natural regions by the year 2000. We're now working out not whether, but how to accomplish this in these jurisdictions.

continued next page

Canadian Wilderness Charter

1 Whereas humankind is but one of millions of species sharing planet Earth and whereas the future of the Earth is severely threatened by the activities of this single species,

2 Whereas our planet has already lost much of its former wilderness character, thereby endangering many species and ecosystems,

3 Whereas Canadians still have the opportunity to complete a network of protected areas representing the biological diversity of our country,

4 Whereas Canada's remaining wild places, be they land or water, merit protection for their inherent value,

5 Whereas the protection of wilderness also meets an intrinsic human need for spiritual rekindling and artistic inspiration,

6 Whereas Canada's once vast wilderness has deeply shaped the national identity and continues

to profoundly influence how we view ourselves as Canadians,

appreciation by citizens of Canada and the world,

7 Whereas Canada's aboriginal peoples hold deep and direct ties to wilderness areas throughout Canada and seek to maintain options for traditional wilderness use,

b) producing economic benefits from environmentally sensitive tourism,

8 Whereas protected areas can serve a variety of purposes including:

c) offering opportunities for research and environmental education,

a) preserving a genetic reservoir of wild plants and animals for future use and

9 Whereas the opportunity to complete a national network of protected areas must be grasped and acted upon during the next ten years, or be lost,

1 We agree and urge: That governments, industries environmental groups and individual Canadians commit themselves to a national effort to establish at least one representative protected area in each of the natural regions of Canada by the year 2000,

2 That the total area thereby protected comprise at least 12% of the lands and waters of Canada as recommended in the World Commission on Environment and Development's report, *Our Common Future*,

3 That public and private agencies at international, national, provincial, territorial and local levels rigorously monitor progress toward meeting these goals in Canada and ensure that they are fully achieved, and

4 That federal, provincial and territorial government conservation agencies on behalf of all Canadians develop action plans by 1990 for achieving these goals by the year 2000.

Chambers of Commerce and Bar Associations have formally endorsed the Charter. Even natural resource industries are cautiously supportive. For example, Noranda Forest and McMillan Bloedel have endorsed completion of the federal and provincial park systems and ecological reserves network in BC. The Mining Association of Canada now recognizes our mission, and is talking about how we might work together. Other major corporations such as Canada Life, Canadian Airlines, Consumers Distributing, The Body Shop and the Canadian Printing Industries Association have also become welcome allies.

But most compelling of all, the Endangered Spaces campaign has truly gone grassroots. Right across Canada, "Wilderness Crusaders" are walking, pedaling, paddling, marching, running, baking, swimming, hula-hooping, roller-blading and even playing marathon billiards to support wilderness protection. We broke all attendance records and raised \$80,000 on Earth Day alone through the efforts of kids, mother, fathers and grandparents climbing the 1760 steps of the CN Tower in Toronto.

So, what tangible results have all this hope and energy generated? **Not even enough increase in the amount of Canadian wilderness protected to change the number**

from 3.4% last year. It's still 3.4%.

The most optimistic interpretation of this stark reality would be that governments have been gearing up, through planning and getting the machinery in place, to expand their networks of protected areas. If so, we are justified in expecting some dramatic increases soon. And if so, we're not sure how this will come about when jurisdictions such as Alberta are reducing their parks acquisition budget by 60%. In fact, most provinces are spending less than 75 cents per person per year on new protected areas.

A more pessimistic interpretation would be that the Canadian political system is just incapable of moving beyond blather. But it has certainly shown formidable action on the development side, by promoting some of the largest dams (Quebec), pulp mills (Alberta) and copper mines (BC) anywhere in the world. Where, we ask, are the parallel commitments to protected areas? And, without these commitments why should Canadians approve large-scale industrial proposals which further reduce our wilderness options.

With all this in mind, the 1991 annual report includes specific action steps which should be taken over the next year by each province and territory. When these action steps are amalgamated, they constitute a blueprint

for wilderness in Canada over the next year (see attached). We will be measuring progress in each jurisdiction against these action steps in next year's progress report. We're not going away.

The Endangered Spaces campaign has been carefully positioned as a reasonable science-based, bare minimum, wilderness bottom-line below which we cannot sink. It is not a demanding or radical proposal in the best tradition of Dave Foreman, but has been deliberately crafted to pragmatically nourish an agenda set by governments themselves. It sets a deadline for getting the job done. It appeals to moderate Canadians who are simply concerned about protecting their natural heritage. And it provides an unprecedented national coalition as watchdog.

Yet, despite its responsible tone, so far the Endangered Spaces objective appears to be challenging the Canadian political system beyond its capability to act. Perhaps this is a measure of just how far all of us have yet to travel.

Monte Hummel is the President of WWF Canada, a founder of numerous grassroots conservation groups, and a carnivore biologist.

SPECIFIC ACTIONS REQUIRED TO PROTECT WILDERNESS IN CANADA OVER THE NEXT YEAR (BY MAY 1992)

YUKON

- Approve a new parks policy and system plan by January 1992, including criteria for representing Yukon's natural regions with protected areas.
- Establish Territorial Parks at Carcross Dunes, Kusawa Lake, and Lazulite Deposits.

NORTHWEST TERRITORIES

- Make Government commitment to the **Endangered Spaces** goal.
- Confirm natural regions map and protected area targets for NWT in action plan for Sustainable Development Policy.
- Establish territorial parks at Campbell Lake, near Inuvik, and Kuujuag in South Baffin.
- Designate Kazan and Thelon Rivers as Canadian Heritage Rivers.

BRITISH COLUMBIA

- Make Cabinet decision on Parks Plan '90 recommendations by end of 1991.
- Designate the Tatshenshini Wilderness as a protected area.
- Designate protected areas in the South Chilcotin.
- Increase protection of Clayoquot Sound, including expansion of Strathcona Park and designation of Flores Island.
- Set targets for representation of the 10 coastal landscape units.

ALBERTA

- Make Government commitment to the **Endangered Spaces** goal.
- Initiate protection of wilderness areas within the Prairie, Foothills, Rocky Mountains, Parkland, Boreal and Canadian Shield natural regions.
- Establish Lakeland Provincial Park, encompassing all presently reserved lands and waters.
- Participate in the Canadian Heritage Rivers Program, and nominate the Christina and Clearwater Rivers.
- Release the task force report on protected areas prepared jointly by the Parks and Forestry departments.
- Make Government commitment to undertake comprehensive assessments to identify candidate protected areas for the Boreal and Foothills natural regions of the northern half

of Alberta.

- Develop an action plan for the province's Ecological Reserves program.

SASKATCHEWAN

- Implement schedule of Parks System Plan by fall 1991, with completion by 2000.
- Establish Matador Grasslands and Wildcat Hills wilderness parks.
- Establish the prime protection areas identified in the Great Sand Hills Land Use Strategy.
- Implement protected areas provisions of the Prairie Conservation Action Plan.
- Act on remaining proposed ecological reserves.
- Designate Churchill River as a Canadian Heritage River.

MANITOBA

- Establish a National Park at Churchill.
- Purchase 640 acres of Tallgrass Prairie.
- Identify candidate sites for protected areas in the Northern Transition Zone.
- Add Roaring River Canyon, Teepee Creek Ravine, and Shell River Valley as a Wilderness Zone in Duck Mountain Provincial Park.
- Establish a protected area in Manitoba Lowlands region.
- Identify possible sites for protection in Souris Till Plain natural region.

ONTARIO

- Identify candidate sites to represent at least 5 site districts by 1993.
- Set agenda to represent all remaining unrepresented site districts by 2000.
- Defer logging on all identified old-growth forests until protection targets in the old-growth policy are met.
- Initiate protection of the Madawaska Highlands.
- Evaluate wilderness protection options for the Alneau Peninsula.
- Renew funding the Carolinian Canada program for site protection.
- Obtain final Cabinet approval of the provincial wetlands policy.

QUEBEC

- No construction on James Bay II until a combined environmental assessment is complete and the government protects representative wilderness areas in northern Quebec.
- Remove the moratorium on creating new parks in place since 1986.
- Announce boundaries for all 20 park

reserves north of the 49th parallel.

- Develop an action plan for protected areas in the five unrepresented natural regions in southern Quebec.
- Prepare a biodiversity strategy for Quebec integrating existing protected areas system.

NEW BRUNSWICK

- Amend the Endangered Species Act to strengthen habitat preservation.
- Develop a natural regions map for New Brunswick.
- Obtain Cabinet approval for a representative parks system and representation criteria.
- Amend the Parks Act to prohibit resource extraction.
- Develop incentives for private stewardship of natural areas.
- Create a public advisory committee on natural areas.

NOVA SCOTIA

- Make Government commitment to the **Endangered Spaces** campaign goal.
- Complete revisions to the definition of natural regions in Nova Scotia.
- Designate at least 5 Nature Reserves under the Special Places Act.
- Designate the class and assess the contribution of existing provincial parks to representing Nova Scotia's natural regions.
- Develop mechanisms for private stewardship.

PRINCE EDWARD ISLAND

- Develop an action plan to protect sand dunes, wetlands and estuaries.
- Establish a Significant Environmental Areas Program.
- Preserve the Greenwich Dunes under public ownership.
- Designate 5 natural areas, including 3 bogs.

NEWFOUNDLAND

- Make Government commitment to the **Endangered Spaces** goal.
- Finalize protected areas targets and identify gaps in natural region representation, including marine areas.
- Map existing land use designations and resource interests for Newfoundland and Labrador.
- Identify candidate protected areas through consultation.
- Achieve sufficient progress on native land claims to enable protection of natural areas in Labrador.

Canadian Wilderness Law: Problems and Prospects

by Bronwen Boulton

When the British North America Act (1867) was drawn up at the time of Canada's confederation, its designers saw no need for wilderness protection. If you could survive in the wilds you might get rich, but woe to the unwary who learned too late that a human being far from the trappings of culture is a puny thing. Canada was then an inviolate northern majesty, cloaked in forests that mantled all horizons and ribboned with rivers that coursed wildly for endless miles; she hoarded untold mineral wealth beneath slumbering hills and dizzying peaks and was guarded fiercely by bear, wolf and big cat. Wilderness was something to be conquered and plundered, not protected.

In 1991, significant federal environmental legislation is scant at best. At its base lies the Fisheries Act, which predates the BNA Act by ten years.(1) This lends authority to the Fisheries Act, making it strong and exclusively federal. Because fisheries protection was, from the beginning, a major federal responsibility, Parliament has been able to enact strong water laws and enforce (though haphazardly) strong water pollution legislation. Jurisdiction over navigable waters gives the federal government power over oceans and freshwater courses; thus, oil spills, ocean dumping, and dams are federal responsibilities. Authority regarding international and interprovincial affairs allows federal action on such issues on out-of-province water diversion and Great Lakes water quality. Water "apportionment, conservation and development" were concerns when the International Joint Commission, the oldest of Canadian-American intergovernmental organizations, was established with the 1909 Boundary Waters

Treaty. The Commission is still active today, producing decisions on water diversion and air pollution. "It can also act as a final court of arbitration on any issue between Canada and the US, but has never been used thus."(2)

American and Canadian negotiators have debated issues related to economic and environmental interdependence since the late 19th century, when the US put up cash and the manufacturing markets, and Canada staked her wilderness capital.(3) Continuing US commercial and industrial dominance entrenched a system wherein Canada offered the fruits of her wilderness for a share in the booming American continental enterprise. But this economic system ignores environmental degradation and, though the Canadian wilderness is needed for American economic development, the US has no direct stake in Canadian ecological integrity. Now, pristine rivers and valleys are viewed as prizes in a heightened competition for a declining inventory. American (and other foreign) demand for Canadian resources will likely continue until Canada has no more to offer, or until Canada decides to protect what wilderness remains. We must adopt a less abusive system before Canada's "resource base" is depleted and both Canada and the US are irretrievably polluted.

The federal government can merely set policy, not enact legislation dealing with air, wildlife, land use, forests, or habitat protection. Wildlife and wildlife habitats fall under provincial jurisdiction, governed by such legislation as fish and game parks, ecological reserves, migratory bird, pesticide and forest acts. Historically evident and especially apparent today, are federal/provincial disputes

over legislative rights and responsibilities. The provinces possess a greater range of jurisdiction over land and environmental affairs than does the federal government, and they guard their rights fiercely, jabbing and feinting while federal bureaucrats vainly try to pummel a ponderous, battered and confused body of federal legislation into a show of legitimate authority.(4)

Conservation groups in both Canada and the United States have long called for the preservation of unique ecological areas, as logging, mining, agriculture, industry, and cities encroached upon "the vanishing wilderness."(5) Luckily, when the provinces confederated in 1867, though transfer agreements conferred much Crown land to the provinces, the Dominion of Canada retained a considerable amount of land, including the Yukon and Northwest Territories. Some land was eventually set aside in a national parks system, with the first national park designated in 1887, near Banff. Early emphasis in siting national parks was on scenic areas with recreational potential for tourism. Later, to preserve "unique or fragile habitats or to protect endangered species," isolated areas were saved in what Parks Canada termed the "natural region concept," to "protect for all time representative natural areas of Canadian significance."(6)

But in many cases, wilderness set aside is no longer wilderness. Human culture has encroached and impacted so much, with migration trails interrupted, water sources diverted and boundary feeding areas usurped, that some areas no longer function as part of the wide natural scheme.

Hoping to rectify the lack of a coherent, connected wilderness system, Canada's Parliament, on 17 June 1991, unanimously passed a motion to preserve and protect in its natural state by the year 2000, at least 12% of Canada.(7) A motion is not a law, however, and federal/provincial cooperation is needed

to complete this system of "protected area networks." Good intention could easily be thwarted by one or more provinces, which allow mining, recreational vehicles, logging and grazing within some provincial parks. We also need to ask "which 12%?" Canada is vast and our definition of wilderness is vague. Although the use of the term "networks" in the motion is reassuring, it is misleading. If we wish to retain country-wide, interconnecting ecosystems, we will need to set aside far more than 12% of our total area.

The solution to "vanishing wilderness" lies in a reversal of current thinking, so that we do not view wilderness as a part within the greater national organization, but, instead, as an organic framework recognizing no political boundaries. Setting aside more "parkland" is the least we can do. The people and Parliament of Canada must recognize, however, that segregated wild places do not function as wilderness, and that wilderness is not a dispensable luxury. Until we acknowledge the immanent value of undisturbed ecosystems, helter-skelter development and provincial and transitional self-interest will continue to dictate policy detrimental to Canadian wilderness survival.

Bronwen Boulton is a member of the



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3. A.E. Eckes, Jr. The United States and the Global Struggle for Minerals Austin: U of Texas P, 1979. p 129-30.
4. British Columbia's W.A.C. Bennett led a successful foray into the realm of federal/provincial jurisdictional dispute in 1961, when he challenged the federal government's au-

thority over the right to sell power to the US over a long (thirty-year) term. Canadian Encyclopedia, vol. 2. opcit, 853. This treaty is due for review, but I have so far been unable to discover details from BC Hydro or the provincial ministries of Energy, Mines and Resources, or Environment.

5. R.B. Woodrow, "Resources and Environmental Policy-Making at the National Level: The Search for Focus." in Resources and the Environment: Policy Perspectives for Canada ed O.P. Dwivedi. Toronto: McClelland and Stewart, 1983 p 28.

6. J.H. Marsh. ed The Canadian Encyclopedia vol. 2. opcit, p 1361-2.

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When edges of color
sink under the palm of earth
and a universal gray unites grass with
trees
and trees with trees

like fingers spreading wide,
finding they have webs

the frogs pull out from their horded banks
of day
and celebrate the mud-dark reach of pond
into sky

and trees.

At night these frogs fly with their song
trailing them like a lifeline,
curling into the trees and moving
into the leaves and sky
on the crest of the pond's
secret explosion.

The men and women in the cabin
hunch under the shoulders of the forest
and listen to the night revolutions
as they stare at their fingers of light,
their lifeline,

watching
for webs.

—Chris Schimmoeller

Canadian National Parks: Losing Ground

by David Orton

Aldo Leopold, in his book of essays *Sand County Almanac* (1949), noted "In Canada and Alaska there are still large expanses of virgin country." He also pointed out that "Wilderness is a resource which can shrink but not grow"; that "intellectual humility" is the "cultural value" of wilderness; and that "raw wilderness gives definition and meaning to the human enterprise." Apart from the use of the word "resource," which enjoys widespread but not uncontested currency in Canadian writings about wildlife and the parks systems, any biocentrist/ecocentrist could only endorse Leopold's sentiments—while perhaps focusing more on the necessity to defend what is left of the natural world in Canada, *for its own sake*. Modern industrial capitalist society promotes economic growth and, as part of this growth, consumerism as the fountain of self identity. Yet deep ecology, with its concept of self-realization, puts forward the view that how we *relate* to Nature, where Nature is not an object but a subject, is an alternative basis for self identity, and will, if grasped by enough people, mean the preservation of wild Earth. But it is necessary for Earth defenders, unless they want to confine their efforts to utopian dreaming, to seek the political *human* appeal, which can mobilize the wide coalition of forces now needed for wilderness defense in Canada. This they must do in addition to examining and putting forward the demands of conservation biology as they relate to wildlife and parks. In my view, it is also important that large numbers of people experience, in the tradition of treading lightly, the national parks system, if park values are to survive.

WILDLIFE CONSERVATION

From the perspective of conserving biodiversity, Canada is a young country biologically. About 12,000 years ago the country was covered by the most recent ice sheet. A species loss here (over a dozen species so far), "may be as damaging as the loss of several hundred in a smaller, more highly specialized ecosystem elsewhere," according to a State of the Environment Report by Environment Canada, *On The Brink: Endangered Species in Canada*, 1989. This book reports, "Canada's flora and fauna may still be rich in numbers, but they are poor in diversity of species, and getting poorer."

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) consists of representatives from wildlife bodies in the federal, provincial and territorial governments; plus delegates from the Canadian Nature Federation (naturalists), the Canadian Wildlife Federation (hunters), and World Wildlife Fund Canada. Aboriginal peoples are not part of this Committee. COSEWIC produces an Annual List of animals and plants classified as "extinct," "extirpated," "endangered," "threatened," and "vulnerable." The latest lists 213 plant and animal species as endangered, threatened or vulnerable. The number increases each year. Reports from this Committee, which meets annually, comment that many plants, reptiles and amphibians have not been investigated, nor have practically all of the insects and other invertebrates. The Annual List is thus very selective, reflecting the historical domination of "game biology." The most serious designation is "endangered," defined as any native species "Threatened with imminent extirpation or extinction in all or much of its Canadian range because of human action."

There have been a few successful interventions to arrest species loss. The White Pelican, now removed from the COSEWIC list, and the Peregrine Falcon, Wood Bison,

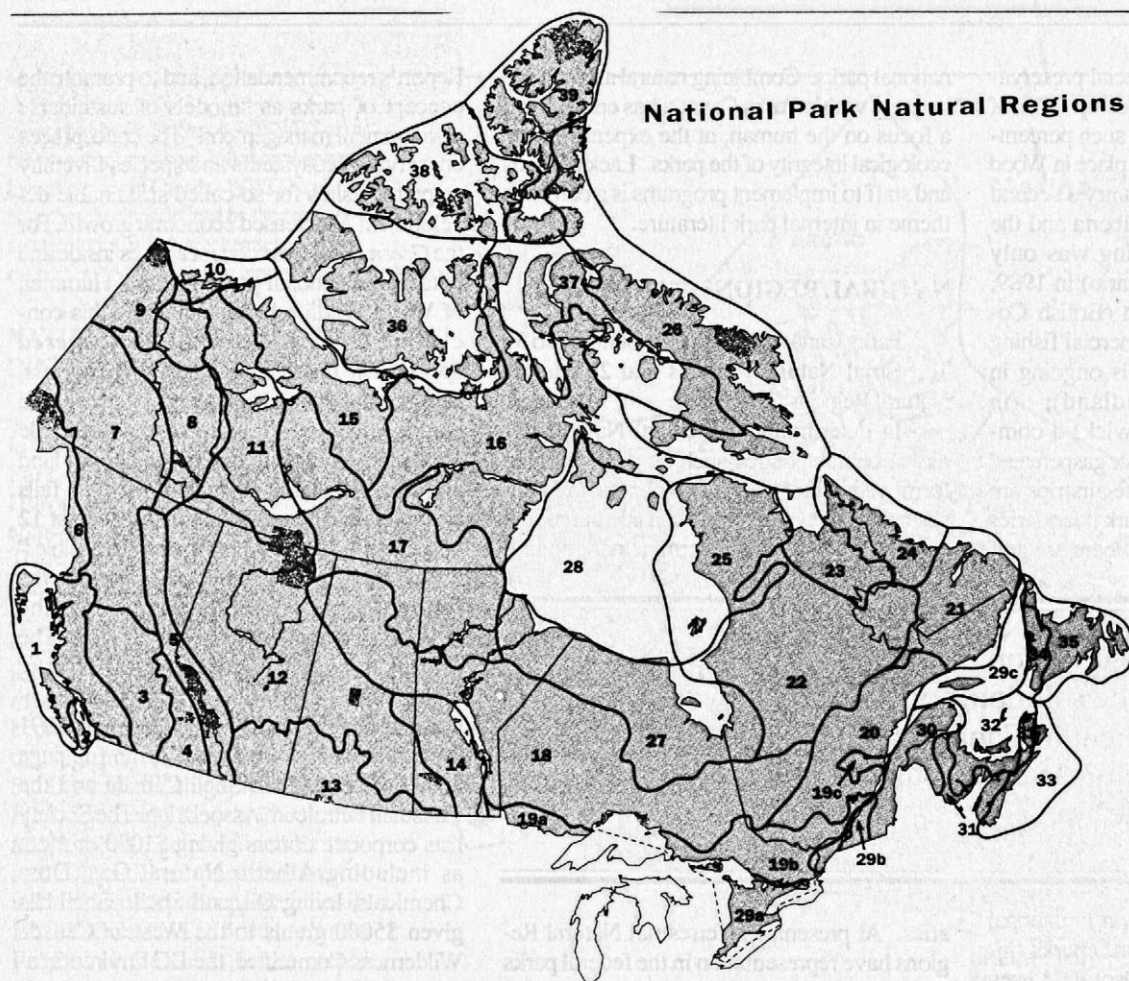
Whooping Crane, Trumpeter Swan, and Swift Fox have all had their situations improved by interventionist wildlife programs. The role of human intervention in ecosystems for "good" causes, if one believes that Nature knows best, remains a nagging issue. Such interventions as captive breeding releases, habitat manipulations for waterfowl, wildlife transplants to the United States from Canada, radio collars, banding and wing tagging are now part of conventional "wildlife management."

An idea of the jurisdictional wildlife complexity in Canada is conveyed in the following quotation from *On the Brink*:

Care of non-domestic flora and fauna in this country is a concern of all ten provinces, two territories, and the federal government. Provincial and territorial authorities are responsible for terrestrial plants and animals, for example, except for those bird species named in the Migratory Birds Convention, a treaty signed with the United States in 1916 to give protection to a wide range of birds including waterfowl, shore birds, sea birds, and passerines (perching birds). These species fall under the jurisdiction of the Canadian Wildlife Service of Environment Canada. All marine species, including whales, seals, and other mammals, as well as fish, invertebrates, and plants found in salt-water, are the concern of the federal Department of Fisheries and Oceans (DFO). Jurisdiction over freshwater fish is also vested in DFO, but in certain instances particular aspects of fisheries management have been delegated to the provinces. Consequently the responsibility for endangered fish varies across the nation.

Finally, protection and management of wildlife species on federal lands (national parks, wildlife refuges, military reservations, etc.) are the responsibility of federal agencies such as Parks Canada, the National Capital Commission, the Canadian Wildlife Service, and the Department of Public Works. The end result? More than 25 government departments and agencies have some degree of involvement with wildlife and habitat protection in Canada, not to mention the voluntary programs of dozens of nongovernmental conservation organizations.

National Park Natural Regions



WESTERN MOUNTAINS

- 1 Pacific Coast Mountains
- 2 Strait of Georgia Lowlands
- 3 Interior Dry Plateau
- 4 Columbia Mountains
- 5 Rocky Mountains
- 6 Northern Coast Mountains and Mountains
- 7 Northern Interior Plateau and Mountains
- 8 Mackenzie Mountains
- 9 Northern Yukon Region

INTERIOR PLAINS

- 10 Mackenzie Delta
- 11 Northern Boreal Plains
- 12 Southern Boreal Plains and Plateaux
- 13 Prairie Grasslands
- 14 Manitoba Lowlands

CANADIAN SHIELD

- 15 Tundra Hills
- 16 Central Tundra Region
- 17 Northwestern Boreal Uplands
- 18 Central Boreal Uplands
- 19 (a) West Great Lakes - St. Lawrence Precambrian Region
- (b) Central Great Lakes - St. Lawrence Precambrian Region
- (c) East Great Lakes - St. Lawrence Precambrian Region
- 20 Laurentian Boreal Highlands
- 21 East Coast Boreal Region
- 22 Boreal Lake Plateau
- 23 Whale River Region
- 24 Northern Labrador Mountains
- 25 Ungava Tundra Plateau
- 26 Northern Davis Region

HUDSON BAY LOWLANDS

- 27 Hudson-James Lowlands
- 28 Southampton Plain

ST. LAWRENCE LOWLANDS

- 29 (a) West St. Lawrence Lowland
- (b) Central St. Lawrence Lowland
- (c) East St. Lawrence Lowland

APPALACHIAN

- 30 Notre Dame - Megantic Mountains
- 31 Maritime Acadian Highlands
- 32 Maritime Plain
- 33 Atlantic Coast Uplands
- 34 Western Newfoundland Island Highlands
- 35 Eastern Newfoundland Island Atlantic Region

ARCTIC LOWLANDS

- 36 Western Arctic Lowlands
- 37 Eastern Arctic Lowlands

HIGH ARCTIC ISLANDS

- 38 Western High Arctic Region
- 39 Eastern High Arctic Glacier Region

Another Canadian committee, similar in structure to COSEWIC, is called RENEW (Recovery of Nationally Endangered Wildlife). It works with terrestrial vertebrates - land mammals, birds, reptiles and amphibians—listed as endangered, threatened and vulnerable.

PARKS OVERVIEW

The federal government has responsibility for over 40% of the land mass of Canada, if the Yukon and Northwest Territories—the homelands of many aboriginal peoples, and potential sites for wilderness parks—are included. The legislative base for wilderness is weak in Canada. Of course, legislation in it-

self does not protect ecosystems anyway. For example, if enforced, the federal Fisheries Act, Section 33, covering the deposit of “deleterious substances,” could shut down every pulp and paper mill in Canada for polluting freshwater and marine ecosystems. A legislative factor *undermining* wildlife protection in Canada is the promotion by provincial governments of “game farming”—with the accompanying commercial sale of meat, selling of various animal body parts for the overseas aphrodisiac trade, etc. Game farming reinforces the idea that wildlife is a commodity and in this sense undermines wildlife and wilderness.

The federal parks system is ahead of any provincial parks system regarding a conser-

vation ethic. “Resource” extraction has been much more prevalent in provincial parks. British Columbia and Ontario have the best and most extensive of the provincial parks systems. Designated areas outside of the parks system, e.g. federal migratory bird sanctuaries and national wildlife areas, offer some protection to wildlife.

Two quotations from the National Parks Act give the basic orientation of park management, and show the contradiction between human use of the parks and upholding ecological integrity:

(A) “The National Parks of Canada are hereby dedicated to the people of Canada for their benefit, education and enjoyment, subject to this Act and the regulations, and the National Parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations.”

(B) “Maintenance of ecological integrity through the protection of natural resources shall be the first priority when considering park zoning and visitor use in a management plan.”

The ecological integrity statement, an amendment added in 1988, is often cited in parks literature as embodying the soul of the national parks system. However, the Parks Service’s *State Of The Parks 1990 Report* (Part 1) tells us that “The ideal national park proposal provides first an outstanding example of the natural environment plus economic and social benefits to its adjoining regions.”

The national parks use a five zone land use system: “special preservation,” “wilderness,” “natural environment,” “outdoor recreation,” and “park services.” According to a March 1990 report by William Watkins, for the Federal/Provincial Parks Council, *A Survey Of Resource Extraction And Land Use Policies*

continued next page

In *Canada's Park Systems*, special preservation and wilderness zones make up 97% of federal park lands. Yet despite such percentages, extensive logging is taking place in Wood Buffalo National Park, the country's second largest wilderness preserve (Alberta and the Northwest Territories); hunting was only phased out in Point Pelee (Ontario) in 1989; the aquatic life of Pacific Rim (British Columbia) is threatened by commercial fishing operations; fuelwood cutting is ongoing in Gros Morne (Newfoundland); in Kouchibouguac (New Brunswick) a commercial fishery in park streams for gaspereaux, smelt and eel is allowed; private airstrips are used within Banff and Jasper park boundaries (Alberta) by local flying clubs; there are golf

national parks. Combining natural and cultural heritage within Parks Canada has encouraged a focus on the human, at the expense of the ecological integrity of the parks. Lack of funds and staff to implement programs is a common theme in internal park literature.

NATURAL REGIONS, LAND BASED

Parks Canada divides the country into 39 Terrestrial Natural Regions and 29 Marine Natural Regions (see maps).

In determining Terrestrial Natural Regions, characteristics such as geology, land form, vegetation, fauna and climate are considered. However, political considerations, not ecological, ultimately determine park bound-

The fundamental question here is whether corporations are part of the solution, a view pushed by all levels of government in Canada and industry itself, or part of the problem? Is the existing economic system ecologically viable?

courses --with their pesticides -- in 11 national parks, and downhill ski areas in 3 parks (including Banff and Jasper). Also, land uses outside park borders—e.g. clearcutting, pesticide spraying in forestry or agriculture, and roads for logging, mines, and oil wells—have negative reflections within the parks. Predators such as Grizzly Bears, Gray Wolves, Cougars and Wolverines crossing a national park boundary, which they do not recognize, can literally be entering another world. Constraints are needed on human activities around national parks: bans on hunting, only selection logging, etc.

Parks should not be islands. There is some lip service to conservation biology and biocentric values in some Canadian Park Service documents. However, I have yet to see the needed advocacy of measures like moving the towns of Banff and Jasper outside of park boundaries and strict speed limits on existing highways and railways that cross national parks...let alone extensive buffer zones around parks; the creation of wildlife corridors for migration and genetic exchange; the roll back of human use of lands around parks like Elk Island (Alberta) (fenced!), Point Pelee or Riding Mountain (Manitoba). The present trend is loss of wildlife and wilderness by attrition, despite park zoning.

The Parks Service, which is part of Environment Canada, looks after historic sites and historic canal systems, in addition to the

aries. At present, 21 Terrestrial Natural Regions have representation in the federal parks system, though there are 34 National Parks. Some of the parks are classed as National Park Reserves: Kluane (Yukon Territory), Nahanni (Northwest Territories), Auyuittuq (Northwest Territories), Mingan Archipelago (Quebec), Ellesmere Island (Northwest Territories), Pacific Rim and South Moresby/Gwaii Haanas (British Columbia). Unresolved native land claims are usually the reason for the establishment of a National Park Reserve, so that traditional hunting/fishing/trapping by aboriginal peoples can take place. The Northern Yukon National Park (Yukon Territory) does not have Reserve status, as it was the result of a settlement of a land claim. While wilderness and wildlife advocates need to keep the distinction between native rights and the rights of Nature clear, it is important to ally with native peoples in Canada, from a social justice perspective. Support for the settlement of land claims is, moreover, a condition for the establishment of additional federal parks in northern Canada.

To complete the federal land park system, with representation in each Natural Region, 18 additional parks are required. The federal government's *Green Plan*, released in December 1990, aims to complete the land based park system by the year 2000. The Plan further promises to reserve 12% of Canada as "protected space," following the Brundtland

Report's recommendation, and to promote the concept of parks as "models of sustainable development management." The concept sees conserving ecosystems and species diversity as prerequisites for so-called sustainable development—increased economic growth. For the *Green Plan*, this concept applies inside and outside the national parks. Monte Hummel, of World Wildlife Fund Canada, in his concluding essay in the book *Endangered Spaces: The Future For Canada's Wilderness*, says sustainable development is fine *outside park boundaries*: "It is an entirely admirable philosophy applied to that portion of our land and waters that will be developed, but it fails to appreciate the value of leaving at least 12 per cent in as 'unmanaged' a state as possible."

Perhaps such a perspective, explains the "enlightened" corporate support for the WWFC Endangered Spaces campaign. The Canadian Parks And Wilderness Society, which supports the 12% campaign and sustainable development, in the Summer 1991 issue of its magazine *Borealis*, ran full page advertisements from Shell Canada and the Canadian Petroleum Association. The Society lists corporate donors giving \$1000 or more as including Alberta Natural Gas, Dow Chemicals, Irving Oil, and Shell. Shell has given \$5000 grants to the Western Canada Wilderness Committee, the BC Environmental Network and other environmental organizations in Canada. The fundamental question here is whether corporations are part of the solution, a view pushed by all levels of government in Canada and industry itself, or part of the problem. Is the existing economic system ecologically viable? If not, what is the alternative? Corporate support of environmental groups or corporate funds for Woodland Caribou and Mountain Goat studies, Trumpeter Swan recovery programs, etc. make it hard for the public to face such questions and the need for a basic shift in values.

The "natural regions" perspective was introduced by Parks Canada in 1971. Apart from the problem of deciding the "representativeness" of one area in an extensive natural region, natural areas are defined in a number of different ways in Canada. This becomes important, because a common perspective is necessary for public wilderness campaigns. For example, *On the Brink: Endangered Species in Canada*, divides Canada into 7 "Habitat Regions." Environment Canada, in its 1986 *State of the Environment Report*, suggests 15 ecozones. An updated version of this Report will be published this year, and will further refine the 15 ecozones into 40 ecoprovinces, 177 ecoregions and 5400 ecodistricts, according to the Canadian Environmental Advisory Council publication, *A Protected Areas Vision for Canada* (August, 1991). The Council claims that the ecoprovinces "closely approximate" the natural re-

gions used by Parks Canada. WWFC now believes there are about 350 natural or ecological regions in Canada. WWFC seeks to have these regions defined by the provinces and territories, which are themselves political bodies, and "adequately represented."

NATURAL REGIONS, MARINE BASED

Marine parks are in their infancy in Canada. The first National Marine Park was Fathom Five in Lake Huron's Georgian Bay, to protect shipwrecks and a number of islands. There will be a marine park component to the Pacific Rim National Park Reserve. The federal government's *Green Plan* states Canada will establish 3 new marine parks by 1996: two marine components to South Moresby/Gwaii Haanas and a park at the Saguenay (Quebec) home of the St. Lawrence Beluga Whales. The *Plan* says that by the year 2000, three additional marine parks will be created. Aquaculture pressures are restricting marine park opportunities in British Columbia and the Atlantic Region. In the Great Lakes areas, people pressures are restricting the establishment of freshwater (and terrestrial) parks. Given that there are 29 Marine Natural Regions, each requiring a national marine park, one can hardly call the present goals lofty.

Parks Canada is now reviewing its policies. National meetings across Canada have been organized, and a document, *Canadian Parks Service Policy* (no date), embodies the proposed thinking. As a matter of policy, marine parks are not to conflict with commercial fishing: "Fisheries will continue in marine parks, subject to protecting the park's ecosystem, to maintaining viable fish stocks and to attaining the purpose and objectives of the park." "Fish" are defined as in the Fisheries Act, "to mean fish, invertebrates, marine mammals and marine plants." Predators of fish, e.g. seals, which cause economic loss to the fishery, will be "managed," "subject to the requirement to maintain a viable population of the species." In-park support facilities for commercial fishing are also permitted. A zoning system, not yet finalized, will apply to water and land areas of marine parks.

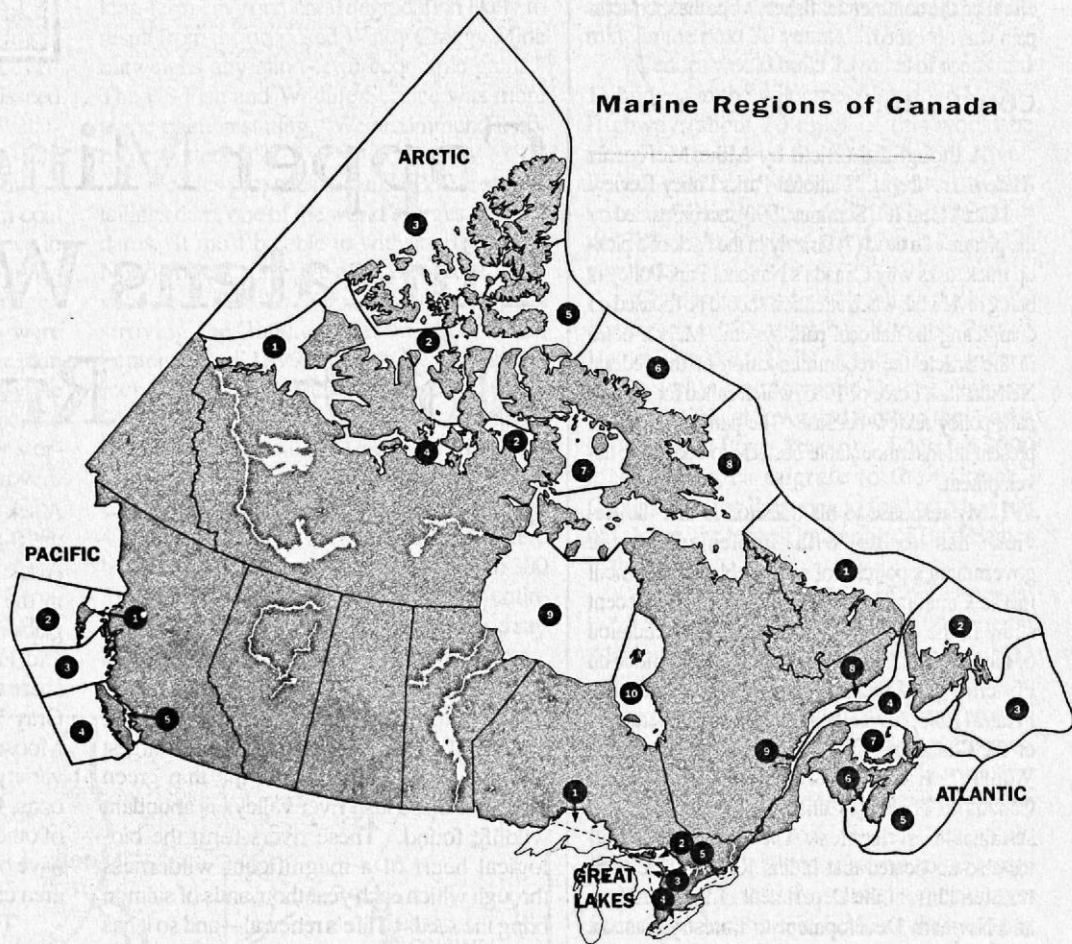
From my perspective, the present thinking on marine parks should be abandoned because the proposed marine parks will offer much weaker protection for the natural world

than terrestrial parks, with more subservience to doctrines of existing "resource" use. On the East and West Coasts, past studies (e.g. 1982 Report of the Task Force on Atlantic Fisheries, *Navigating Troubled Waters*) have argued for the need to privatize the fishery commons in order to "manage" it! That is, to give "each fisherman some form of property right to a certain amount of fish." No allocations of fish for non human species are considered.

Marine ecosystems tend to be very large. There are biological hot spots, like spawning banks or extremely productive areas with par-

ticular tidal conditions like the Bay of Fundy, where fish, marine mammals, seabirds, and fishing people, can congregate. Yet generally, the water column is the vehicle of life and it is strongly influenced by activities outside any marine park's boundaries. Much *new* thinking will be required before any ecologically viable marine ecosystems preservation policy, reflected in a marine parks system, can be put in place. But it would be good for activists to begin articulating the position of closing large areas of the oceans within Canadian jurisdiction to *all* extractive

continued next page



ARCTIC OCEAN

- 1 Beaufort Sea
- 2 Viscount Melville Sound
- 3 Northern Arctic
- 4 Queen Maud Gulf
- 5 Lancaster Sound
- 6 Eastern Baffin Island Shelf
- 7 Foxe Basin
- 8 Davis and Hudson Straits
- 9 Hudson Bay
- 10 James Bay

PACIFIC OCEAN

- 1 Hecate Strait
- 2 West Queen Charlotte Islands
- 3 Queen Charlotte Sound
- 4 West Vancouver Island Shelf
- 5 Strait of Georgia

GREAT LAKES

- 1 Lake Superior
- 2 Georgian Bay
- 3 Lake Huron
- 4 Lake Erie
- 5 Lake Ontario

ATLANTIC OCEAN

- 1 North Labrador Shelf
- 2 South Labrador Shelf
- 3 Grand Banks
- 4 Laurentian Trough
- 5 Scotian Shelf
- 6 Bay of Fundy
- 7 Magdalene Shallows
- 8 North Gulf Shelf
- 9 St. Lawrence River Estuary

activities. Such closures would even have a positive effect on the commercial fishery, once the short-term pain was absorbed.

CONCLUSION

A thoughtful article by Mike McIvor in *Wilderness Alberta*, "National Parks Policy Review — I Can't Bear It" (Summer 1990), accompanied by the picture of a dead (?) Grizzly in the back of a pick-up truck, asks why Canada's National Park Policy is being reviewed, when attention should be focused on completing the national park system. McIvor notes in the article the recommendation of the federal Neilson Task Force of 1985, which called for a major park policy review because "The park's regulations present an insurmountable obstacle to economic development."

My response to his question is that the Review has to do with implementing the government's policies of sustainable development in the Canadian parks system. A further recent straw in the wind would be the recommendation of the House of Commons Standing Committee on Fisheries and Forestry (*Forests of Canada: The Federal Role*, November 1990) that the operations of the Canadian Parks Service and the Canadian Wildlife Service be transferred from Environment Canada to Forestry Canada, all in the name of sustainable development. The Standing Committee also advocated that Indian Reserve forests be transferred from the Department of Indian Affairs and Northern Development to Forestry Canada. For forestry, the frightening future goal is shown in the federal government's *Green Plan*: "to Shift the Management of our Forests from Sustained Yield to Sustainable Development." If we translate this, it means moving from sustained yield—supposedly a provincially decided upon balance between annual growth and what is allowed to be cut—to cutting based on a projected expanded forest growth, essentially without limit. What is being signaled is that Canada's forest ecosystems are open to the world for conversion into pulp and paper and other forest products.

There is no ethical challenge to a human-centered universe, if sustainable development is accepted. This is the basic ethical flaw for those groups who seek an expanded parks system but who endorse a linkage of the 12% Endangered Spaces campaign in Canada with sustainable development. While we may support any new park initiatives in Canada, it is the *direction* of Canadian society itself, and the impact of the expanding, international capitalist economy on Canada, that is undermining existing park systems. This is why we are ultimately losing ground.

David Orton works with Green Web in Nova Scotia.

Devastation in the North

Copper Mine Threatens Wild Northern Rivers

by Peter Enticknap and Katya Kirsch

Today a struggle is being fought to protect "North America's Wildest Rivers," the Tatshenshini (Tat-shen-she-nee) and Alsek. In a region of snowy peaks and the world's largest non-polar ice fields, only in the thin green ribbon of these lush river valleys is abundant wildlife found. These rivers form the biological heart of a magnificent wilderness through which each year thousands of salmon bring the seeds of life's renewal—and so it has been for thousands of years.

The Tatshenshini and Alsek Rivers originate in the dry Canadian interior and meet the Pacific Ocean at the Gulf of Alaska in Glacier Bay National Park. They are the only rivers to bisect the world's second highest coastal range between Glacier Bay and the Copper River. The Alsek is over one mile wide after being joined by the Tatshenshini just above the US border. Here over 20 glaciers can be seen from one spot, as massive icebergs calve at the river's edge.

Conservationists' goal is simple: to preserve the Tatshenshini and Alsek in British Columbia and connect the protected portions of the largest contiguous wilderness ecosystem of its type in the world. Twenty-five million acres of protected wilderness would stretch from Admiralty Island National Monument in the Tongass National Forest north to Glacier Bay National Park, past the Yakutat Forelands and Russell Fiord Wilderness to Kluane National Park and Wrangell-Saint Elias National Park.

Bounded by Glacier Bay National Park to the west in Southeast Alaska and Kluane National Park to the north in Canada's Yukon, the 2.3 million acres of wilderness in British Columbia through which the Tatshenshini/

Alsek flows is unprotected. Guides say that the 8-12 day float on the Tatshenshini and Alsek Rivers is one of the best wilderness trips in the world. Gliding amidst the sparkling glaciers and snow-capped peaks of the St. Elias and Fairweather Mountains, river runners share the brief summers with Grizzly Bears, Gray Wolves, Mountain Goats, Dall Sheep, Moose, the rare silver-blue glacier bear [a variety of Black Bear], Bald Eagles, Gyrfalcons, five species of salmon and a multitude of other wild creatures. Rafters and kayakers have been about the only human visitors to this area until recently.

The Tatshenshini/Alsek are now rated the second most endangered rivers on the continent by American Rivers of Washington, DC due to a proposed copper mine in Canada. Near the confluence of the Tatshenshini and Alsek Rivers, under the 6200 foot Windy Craggy Mountain, lies one of the largest deposits of copper ore in North America. Geddes Resources Limited of Toronto hopes to slice off the top of Windy Craggy Mountain, creating a pit 1/2 mile deep and one mile wide, to extract over 100 million tons of copper as well as gold, silver, and cobalt. Geddes wants to begin construction immediately on the mine, roads and a small city for 600 workers. They hope for full production in 1994.

Because of the ore's high sulfide content, sulfuric acid would form from exposed rock. Acid mine drainage would concentrate heavy metals as it leached through the ground, carried by an annual rainfall of 75 inches. The mine tailings would need to be stored indefinitely to prevent poisoning of the Tatshenshini/Alsek Rivers and massive fish kills. Geddes President Gerald Harper says the toxic tailings will be contained "forever" under a man-made lake 2.5 miles long by one-half mile wide. However, the US Department of the Interior expressed concerns to the Canadian government that Windy Craggy could pollute the wilder-

ness waters of Glacier Bay National Park.

Even minute quantities of copper and other heavy metals are highly toxic to salmon and affect migration, behavior and fry development. The Bureau of Mines recently issued a report entitled "Acid Mine Drainage" stating that 12,000 miles of rivers and streams and over 180,000 acres of lakes and reservoirs are now poisoned in the United States from coal and metal mining acid waste piles. Mines in Great Britain developed during Roman times are, to this day, spewing acid mine drainage.

Both Canadian and US agencies were asked to comment on the proposed mine plan in 1990. It was subsequently rejected by the Canadian government on the grounds that the proposed technology, including that for storing mine tailings on glaciers, was unproven. "To have a 350 million ton waste rock experiment on top of a glacier was unacceptable. It was too high a risk," said Lisa Cox, project engineer for Environment Canada, the Canadian version of the US Environmental Protection Agency. Also commenting on Geddes's initial proposal, the US National

Marine Fisheries Service said, "We believe the long-term environmental degradation likely to result from the proposed Windy Craggy Mine outweighs any short-term economic gains." The US Fish and Wildlife Service was more to the point in stating, "We recommend it not be permitted. . ."

Geddes proposes to build a 360 foot high tailings dam, one of the world's largest earthen dams. It must be able to withstand some of North America's biggest earthquakes to prevent an avalanche of toxic waste from destroying the Tatshenshini and Alsek. In September of 1899, three "Great Quakes" rocked the region, including the largest ever documented in North America, measuring 8.6 on the Richter scale. Along the infamous Fairweather Fault, just 30 miles from Windy Craggy Mountain, the Fairweather Range leapt 47 feet in seconds. In the past 100 years there have been 45% more major quakes within 300 miles of Windy Craggy than along the entire San Andreas Fault. Though seismologists say little is known about this remote region, a new fault zone was recently discovered at the mine

site. US Geological Survey scientists predict another great quake in the area of the proposed mine in the next 30 years.

Geddes would build 70 miles of roads and 11 bridges in the wilderness from the Haines Highway; about 20 miles of this would be along the banks of the Tatshenshini River. Recent studies revealed the highest concentration of Grizzly Bear dens in Canada along the Tat's banks, where the mine haul road is planned.

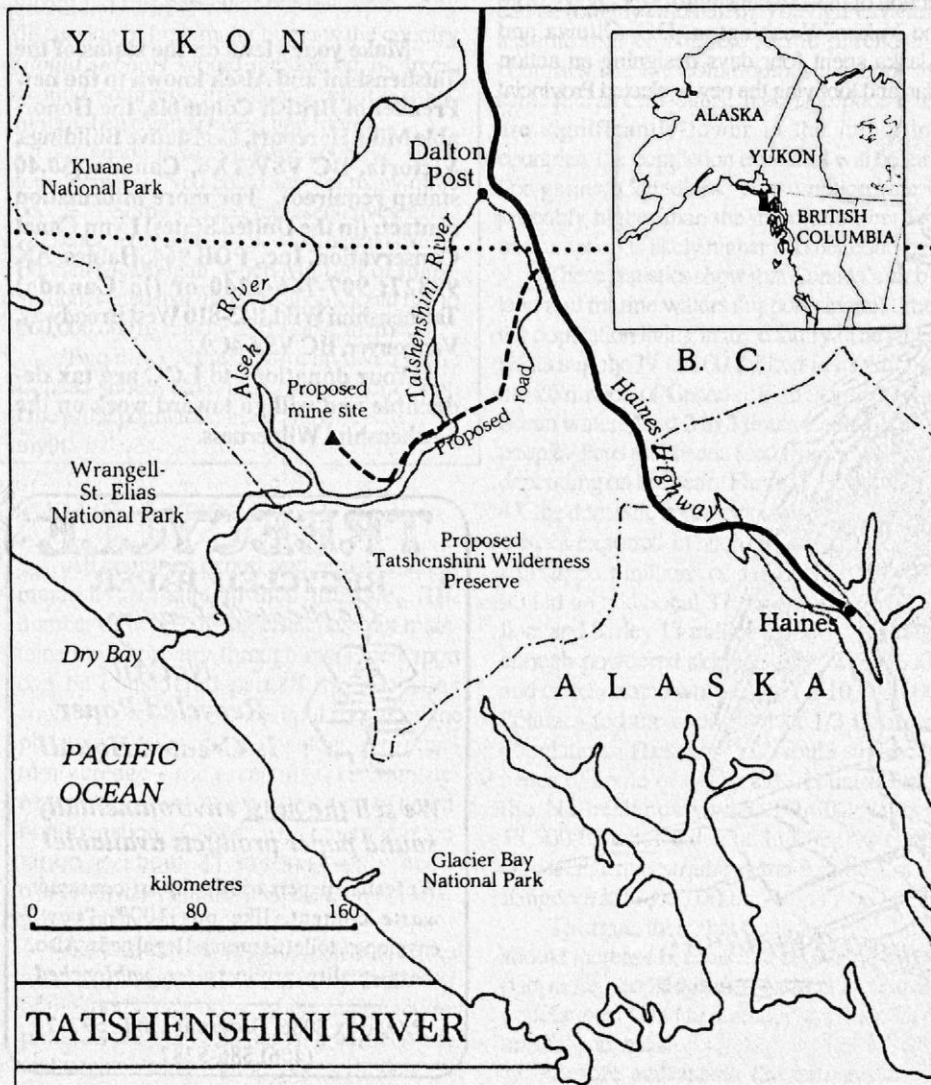
Geddes has proposed trucking the copper concentrate 150 miles south to the Port of Haines, Alaska. Daily, up to 225 giant ore trucks would roar down the Haines Highway along the Chilkat River and through the Alaska Chilkat Bald Eagle Preserve. Each fall 3000 to 4000 eagles migrate to the "Council Grounds" in the Preserve, to feed on a late run of salmon, the largest gathering of Bald Eagles in the world.

Haines is home to one of the strongest wild Sockeye Salmon runs in Southeast Alaska. Geddes's plan includes shipping 31 million gallons of fuel and thousands of tons of toxic chemicals and explosives through Alaskan waters and Haines each year. Because of local opposition to large-scale trucking, Geddes is now considering a slurry pipeline from the mine site to Haines. They would dump 361,000 gallons of toxic mine waste water each day into the salmon rich inlet near Haines. A loophole in EPA regulations may permit Geddes to dump toxic waste water from the pipeline into the Lynn Canal. Under Alaska's new Governor Wally Hickel, state water quality standards are being gutted to accommodate the oil and mining industry.

Residents of Haines, Alaska (pop. 2400) are divided over the project. Some say it would be good for the economy. Others worry about the environmental destruction. The impacts of ore, fuel or chemical spills on the pure waters of the Chilkat River and Lynn Canal could devastate the local economy dependent on commercial fishing and tourism. The leaders of both the Chilkat and Chilkoot Tlingits have spoken out against the mine plan, fearing it would destroy a subsistence way of life still followed by many residents.

The previous Government of British Columbia was secretive in reviewing the project. The Ministry of Mines was pushing for a "Mining District" in the Tatshenshini Valley before public outrage forced them to be more discrete in their plans to destroy this wilderness treasure. Gerald Harper admitted in a news interview, "If Windy Craggy gets established as a mine, then it could very well be the first of a group of two, three, or four or maybe even five mines."

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Though the Ministry promised to publish a compendium of comments from the review of the mine proposal in August 1990, all letters and Provincial reports were kept under wraps. The Ministry at first refused to even send Geddes's Revised Mine Plan (RMP) to the public, claiming it was just a "technical" document. The revised plan calls for a 50% increase in daily production to 30,000 tons per day. The Ministry of Mines is stone-walling the public by refusing to admit that acid mine drainage is a problem despite concerns from US agencies to the contrary. To date, thousands of letters from people concerned about protecting this wilderness have been sent to the Provincial government, according to inside sources. No decision based on government review of Geddes's Revised Mine Plan has been made public.

This spring, over 60 supporters of the Tatshenshini Wilderness paddled the Chilkat River in Haines to demonstrate their opposition to the proposed mine. Four hardy Yukon kayakers continued their journey on both the Alsek and Tatshenshini this summer for a total of over 300 miles to continue raising awareness of the issue. They are among a handful to successfully paddle Turnback Canyon on the Alsek River, once called "unpaddleable"

by the late Dr. Walt Blackadar who barely survived his solo descent.

Now more than 50 groups representing over ten million people in Canada and the United States are calling for protection of the Tatshenshini and Alsek Rivers. The International Union for the Conservation of Nature, including the Sierra Club, the US National Park Service, the Canadian Nature Federation, World Wildlife Fund Canada and the National Audubon Society, recently recommended that the governments of British Columbia and Canada consider the Tatshenshini and Alsek Rivers for National Park status. IUCN requested the United States and Canada to examine potential adverse impacts of mining on these transboundary waters through the binational International Joint Commission (IJC). A similar review by the IJC of a proposed Canadian coal mine on the Flathead River, upstream of Glacier National Park in Montana, resulted in the project being scrapped.

Over 30 activists from around the continent met in Vancouver, BC this fall to map out an international strategy for permanent protection of the Tatshenshini/Alsek. Folks from the Yukon, Washington, DC, Ottawa and Alaska spent four days designing an action plan and lobbying the newly elected Provincial

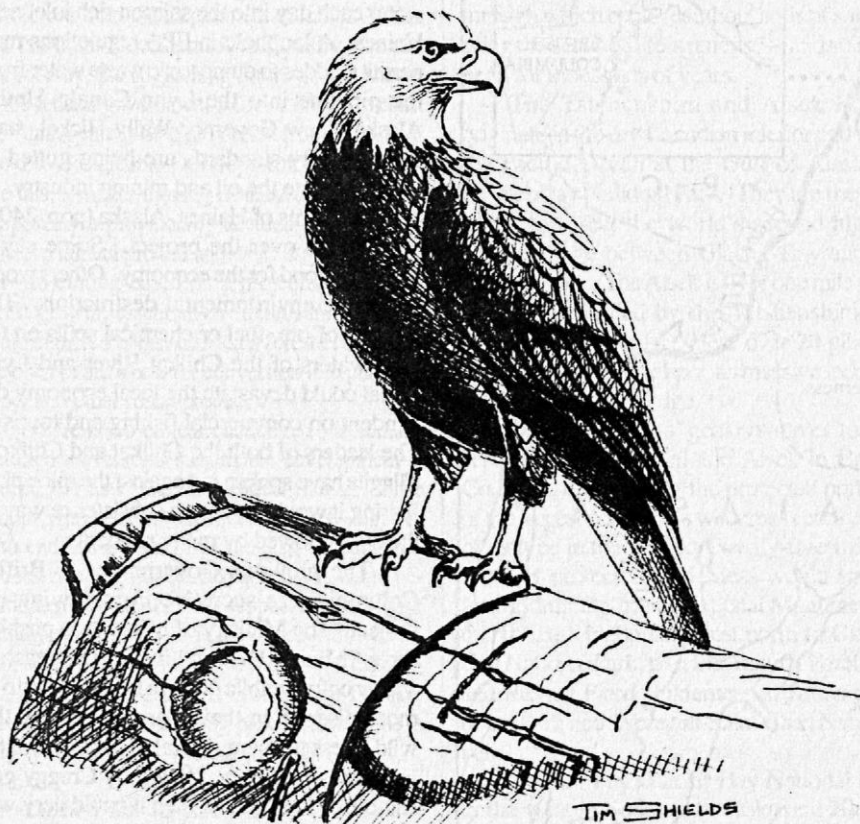
government. The New Democratic Party (NDP) was swept to victory in October with a 51 seat majority in the 75 member legislature. "It's the best thing, from an environmental standpoint, to happen in 20 years," said Ric Careless, Executive Director of Tatshenshini Wild.

Now we must turn the promise into action. For the time being, all work at Windy Craggy Mountain has been stopped. And so it shall be for thousands of years.

Peter Enticknap and Katya Kirsch are Southeast Alaska Conservation Council (SEACC) Board members who live in Haines, Alaska and are helping to coordinate the international campaign to save the Tatshenshini. SEACC was named Organization of the Year by the National Wildlife Federation in 1991 in recognition of years of work culminating in the Tongass Timber Reform Act of 1990. LCC is an all volunteer SEACC member group, a nonprofit tax exempt 501(c)(3) incorporated in Alaska in 1970.

Make your views on the status of the Tatshenshini and Alsek known to the new Premier of British Columbia, the Honorable Mike Harcourt, Legislative Buildings, Victoria, BC V8V 1X4, Canada (\$0.40 stamp required). For more information contact: (in the United States) Lynn Canal Conservation, Inc., POB 964, Haines, AK 99827; 907-766-2240 or (in Canada) Tatshenshini Wild, 843-810 West Broadway, Vancouver, BC V5Z 4C9.

Your donations to LCC are tax deductible and will go toward work on the Tatshenshini Wilderness.



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Canada's Phantom Population

by Connie Harris

PREFACE

This paper examines the numbers of people Canada provides for at present; i.e. it is strictly an anthropocentric discussion. This does not mean the author accepts the anthropocentric philosophy but simply that it was unnecessary to include the wilderness and wildlife in this particular narrow topic. Any discussion of how many humans the country *should support* would include bears, trees, ground squirrels, grasslands, prairie dogs, tundra, fish of all species, and more.

"Canada is such a large country," some foreigners say, "you could support many more people." Some elected representatives agree wholeheartedly and all agree to a certain extent. Barbara McDougall, when Minister of Immigration, stated that the population should rise to 100,000,000 as rapidly as possible, then stop.

Two misconceptions are involved in the Canada-should-have-more-people complaint. One is the population myth and one is the area myth.

THE POPULATION MYTH

All countries export and import food or materials to maintain their lifestyle. The number of people living elsewhere but maintained by a country through resource export can be considered part of the exporting country's population. This could be called the phantom population. It is analogous to phantom acreage—the area of other countries necessary to support the population of an importing nation. Canada's own human population is about 27 million—only about one-tenth that of the United States—but it has a huge phantom population.

Canada exports large quantities of natural gas, pulp, newsprint, lumber, metals, and much of the food it produces. Many manufactured products are imported, as well as fresh fruit and vegetables in winter. A precise determi-

nation of the numbers that Canada maintains would require considering imports as well as exports, but if food alone is considered, it can be shown that the basic food needs of many people outside the country are supplied by Canada's farmlands.

Statistics Canada provides data on numerous aspects of life in Canada, including agricultural production, consumption, exports and imports. Depending on the product, data for 1988, 89, or 89/90 were used here and a domestic population of 25,900,000 for 1988 and 26,200,000 for 1989. From these data, the number of people supported by food exports can be roughly calculated. The figures below assume that consumers in the purchasing countries use the commodities at about the same rate as Canadians. If consumption rates are significantly lower in the importing countries, the population estimates will be low. For grains, Canadians' consumption rate is probably higher than the importers', but fish consumption is likely higher in other countries.

These statistics show that Canada's arable land and marine waters support several times the population living in the country. The wheat fields supply 79 to 100 million *in addition* to the 26 million of Canada. Fish from adjacent ocean waters feed 2 to 3 times Canada's own people. Peas and beans feed from 1.2X to 3X depending on the year. Flax seed provides for 4X the domestic consumption. Other products are not exported in such large quantities but still support millions of people; canola in 89/90 fed an additional 37 million, oats 7.5 million, and barley 15 million. Canada exported enough powdered skim milk for 21,400,000 and concentrated whole milk for 10,700,000. Potatoes fed the equivalent of 1/3 Canada's population. These exports would supply the needs of some of the world's countries, e.g. the Netherlands at 15,000,000, Iraq at 18,500,000 and Cuba at 11,000,000 or the wheat and fish requirements for the United Kingdom at 57,000,000.

To argue, then, that Canada's population should increase because the country can support more people ignores Canada's phantom population: Canada already, in effect, feeds several countries.

Before addressing the area myth, it's

worth briefly considering immigration, which the Mulroney government considers good. Population data for the past six years, the duration of the present Conservative government, shows that Canada's growth rate is steadily *increasing*. In this period, births as a percentage declined, then increased. From this short period it is not possible to say if this is a trend. Immigration has increased dramatically in numbers and as a percentage of total population. In 1991 immigration was 2.6 times that of 1985 and accounted for almost 1% of the total population, or 56% of the population increase, whereas the 1984/85 immigration accounted for 46% of population increase. Although the number of immigrants each year is a small percentage of the total population, the cumulative effect becomes high, especially since the immigrants concentrate in the already populous parts of the country. For example, 22% of the people in British Columbia were born outside Canada. It seems that the newcomers are not too willing to populate all that vast empty space the politicians believe needs people! The increase in immigration is a result of deliberate national policy by the present government.

THE AREA MYTH

Canada is now the largest country in the world. The apparent vast areas available for human habitation, however, are an artifact of maps, of failing to analyze the features of the country. Canada's area is 3,852,000 square miles, from 41 to 83 degrees north latitude; 292,000 square miles of it (7.5%) covered by fresh water. The geology, physiography and climate of most of this land present problems for continuous human habitation.

Canada is divided into 4 to 6 regions, depending on how the Arctic is sectioned. These are the Canadian Shield, the Appalachian region, the St. Lawrence Lowlands, the Arctic, the Interior Plains, and the Cordillera.

The Canadian Shield covers 56% of the country; 13% of this region is fresh water. The surface is Precambrian igneous and metamorphic rocks, heavily eroded by Pleistocene glaciers. This has resulted in a surface of ex-

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posed rocks, thin soils and depressions filled with bogs, swamps, and lakes of many sizes. Different kinds of forest have established themselves, but the thin soils prevent any viable agriculture. Thus, over half of Canada cannot support any more humans than are already there; though forests, which re-grow very slowly, and minerals do provide a livelihood for the people present.

The Appalachian region, 1.5% of Canada, is a glacial region with a mix of highlands and valleys, lowlands and fjords. People are maintained by the forest, mines, pockets of good arable land and the adjacent ocean. Most of the food from this region is fish from the Atlantic Ocean, the stocks of which are currently declining.

The St. Lawrence Lowlands, also 1.5% of Canada's area, has the most people, the most industry, the most pollution and the most productive agricultural land. This area is overdeveloped and needs ecological restoration and fewer people.

The Arctic covers 8% of the country. It is too far north for any prolific plant growth and cannot be counted as a place for any more humans than are already there.

The Interior Plains cover 20% of the country. Prior to agricultural development, the plains, with a thick cover of glacial drift, had several types of grasslands in the south, then boreal forests (taiga) and tundra northward. About half of this region supports agriculture and 75% of Canada's farmland is here. The northern half has too short a growing season

for agriculture. Along with a small part of the adjacent Cordillera, the Plains region is the source of Canada's petroleum. The southern parts are desirable places to live, but more people here would have to live off expanded industry, not agriculture. Larger towns or cities would be situated on agricultural land or on wildlife habitat.

The Cordillera is the mountainous region between the Plains and the Pacific Ocean, about 13% of Canada. Four percent of this region (i.e. 0.5% of Canada) is arable; the remainder is temperate rainforests in the west, boreal forests in the north, alpine tundra, rock and glaciers at high elevations, and mineral deposits throughout. Resource depletion and automation mean fewer and fewer people supported by the economic mainstays: forestry, mining, farming and fishing. More people would be accommodated by secondary industries, but these would undoubtedly locate on productive valley bottoms, which are the sites of the only agricultural land.

SUMMARY

Close analysis belies the idea of Canada as an underdeveloped country with few people and vast areas awaiting more population. Agricultural exports already feed many more than Canada's own population and increasing numbers at home would necessitate decreasing these exports.

The empty spaces available for productive activity do not exist. Only 5% of the

country is arable. Most is too rocky, too steep, covered with water, or too cold to support agriculture or even much forestry. Other economic activities, such as mining, are local due to the nature of the resources. Increasing Canada's population will create problems, rather than solve them. Canada should begin a programme of population stabilization now.

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Canada and the Greenhouse Effect

An Interview With Jim Fulton

by Mary Byrd Davis

Articles appearing in the US media have portrayed Canada as a future beneficiary of global warming. Not so, says New Democrat Jim Fulton, a member of the Standing Committee on the Environment of the Canadian House of Commons.

In March 1991 the committee published "Out of Balance," a report on global warming. The report was based on extensive hearings at which scientists from government, universities, and the private sector testified. The "most staggering conclusion" in the report is that "the entire boreal forest will cease to exist in our lifetime" as a result of warming, Fulton told WILD EARTH. Rising temperatures will have a catastrophic impact on the peat and muskeg

lands of the boreal region. The boreal forest is not programmed genetically and biologically to march northward when the ground in its homeland dries.

Furthermore, the most productive grainlands in Canada, those in southern Alberta and southern Saskatchewan, will face "massive cyclical and surface erosion," i.e., during some periods of the year no matter what is planted on the land, soil will blow away. "Grainland losses are expected to begin to accelerate before the turn of the century," Fulton says. Small pockets of land may produce more food than previously, but the overall impact

*Devastation
in the North*

of warming on Canadian agriculture will be decidedly bad.

Asked whether the impending loss of the boreal forest to warming means that the forest may as well be logged now, Fulton acknowledged that the forest industry has sometimes tried to use the committee's report. He stated, however, that preservation efforts are still necessary. Cutting the forests would displace tens of thousands of aboriginal people and entail enormous losses in wildlife. Furthermore, he is convinced that "mature and semi-mature forests as carbon sinks are the most valuable use" for land at present. At least as long as the boreal forest is left standing, its "bridging CO2 fixing capacity is running full tilt."

The committee believes that the first obvious, serious results of the greenhouse effect will be storms. Fulton hopes that when winds of 70 mph wreck houses situated where only 20 mph winds had previously been experienced, people will wake up and take the drastic steps necessary to save the boreal forest.

The committee recommended a 20% reduction in production of all families of greenhouse gases. Fulton notes this is an all-party committee controlled by the Conservatives.

For further information, obtain a copy of "Out of Balance" by writing to Norm Radford, Clerk of the Standing Committee on the Environment, House of Commons, Ottawa, Ontario K1A 0A6, Canada. Jim Fulton will respond to questions (613-995-1127).

FOR BRIAN DAMIEN

Coyote, running ahead of us

Soil forgives compaction,
slowly it
furthers one to have
somewhere to go—
Young cedar, sweet fern,
flowers and moss
(what feeds them)
bitter sweet along rock walls,
water cuts through, carries away—
old road, turning soft.

I think of other culverts,
other roads,
to take them out,
allow the water its way,
watching the road go back.

—Gary Lawless

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THE LAND

One People, One Earth

Volume 2 Number 1 Jan/Feb 1992

From Human Beginnings to Human Endings

The Hidden Costs of Developing and Exporting Natural Gas Reserves

Impacts On Wildlife, Wildlands and the Democratic Process in Western Canada

This paper is a discussion of the impact on wildlife and wildlands of oil and natural gas exploration, production, and export; and the absence of a democratic process through which the people of Canada can control decisions influencing the quality of their environment. Oil and gas development has decisively affected public land, wildlife populations and habitat, and the lives of all Canadians.

by Dr. Brian L. Horejsi

INTRODUCTION

The natural gas industry identifies them as upstream effects and, in Canada, both the industry and the regulators of that industry consider them to be "insignificant or mitigable with known technology" (National Energy Board 1990a). The upstream part refers to the petroleum and natural gas (PNG) fields in the provinces of Alberta, British Columbia, Saskatchewan, and the Yukon Territory, and the effects referred to are those of exploring for, developing, and transporting natural gas from those fields.

The exploitation of the western provinces' PNG resources, led by American corporations or their Canadian subsidiaries, has intensified in the last 30 years. What amounts to one generation of Canadians and Americans has consumed 51% of the total established marketable conventional natural gas reserves (estimated) in the provinces of Alberta and British Columbia (3598 billion m³ initial, 1837 billion m³ remaining) (National Energy Board 1991). These provinces contain 88% of Canada's estimated remaining conventional gas reserves, with most of the rest found in the arctic and offshore. The Canadian Petroleum

Association estimates that, as of the end of 1989, western Canada had 19.8 years of production left at current rates. Not considered in the estimate are the huge export volumes approved in 1990 (WGM 1991).

Alberta is the heart of the petroleum and natural gas industry in Canada. In that province alone, 174,000 wells have been drilled since the first bit chewed into the ground in 1890 (Beach and Irwin 1939). An average of 2 miles (2.9 km) of access road is built for each well drilled (Horejsi 1987). Seismic exploration precedes drilling and takes place on straight lines bulldozed through the land. Those lines on public land are authorized by the Alberta Forest Service or Public Lands Division and crisscross all but a small fraction of Alberta's wildlands and wildlife habitat.

In addition, unknown thousands of kilometres of pipeline right-of-way have been slashed through Alberta's wildlife habitat. As with seismic lines, the industry has argued successfully that pipeline right-of-ways must be as straight as possible, regardless of terrain or environmental values, presumably to minimize construction and operating costs.

GAS RESERVES AND EXPORTS

Natural gas exports from Canada to the United States, begun in the mid 1960s, are under the jurisdiction of the National Energy

Board (NEB). Its American equivalent is the Federal Energy Regulatory Commission (FERC). Although never with an environmental conscience, the NEB was at one time a powerful regulator. However, in the 1980s, even as environmental issues were beginning to bear heavily on the minds of Canadians, the NEB was hamstrung by industry and politicians working in concert.

Prior to 1985, exports of gas were partially controlled by a 25 year "setback" rule which reserved a 25 year supply of gas for Canadians. In 1985 a two pronged attack by industry—lobbying of federal and provincial politicians and a challenge of the NEB in court—succeeded in eliminating the maintenance of a reserve pool of gas for Canadians. The corporate agenda, to deregulate the industry and increase sales to American consumers, could now be implemented. Industry takeover of Canadian energy policy and regulation was nearing completion.

One other irritant to exporters remained. As of 1989 export applications were subject to a very-superficial cost-benefit analysis—superficial in the sense that environmental costs, social costs, and the cost in terms of the "democratic process," were never considered. Four gas marketing companies challenged the cost-benefit ratio test in court. In March 1990, the NEB, perceived watchdog of the public interest, capitulated to industry and scrapped the cost-benefit test requirement.

The decision put Canadians and the NEB even more at the mercy of largely US controlled industry giants like Amoco and Esso (an Exxon subsidiary), whose intent appears to be to sell Canada's inexpensive gas as quickly as possible. Canadian gas is selling

in the eastern United States for 50 cents less per 1000 ft³ than US produced gas.

In December of 1989, 15 American/Canadian corporations/consortia applied to the NEB to export 45.5 billion m³ of gas, almost all from Alberta and British Columbia, to eastern North America, 80% of it going to New York, Massachusetts, Tennessee, Pennsylvania, New Jersey, and Rhode Island (National Energy Board 1990c). Most of the gas will be burned to generate electricity, a process considered inefficient and wasteful until Ronald Reagan came to power. Applications to export an additional 35.4 billion m³ to Midwestern states and California will be considered in 1991.

It will initially require between 2000 and

environmental screening regulations" (Nelson 1990). The Chairman of the NEB stepped down after it became public knowledge that he had been meeting secretly with the pipeline company that was to transport the gas from west to east along what was to be an expanded TransCanada Pipeline (Fagan 1990). Approval for that expansion was granted in spring of 1991.

The Minister of Energy responsible for the NEB, Jake Epp, on 25 January 1990, told a meeting of the Canadian Petroleum Association, that "greens will not be allowed to set Ottawa's agenda of new environmental policies at the expense of industry and jobs" (Jaremko 1990). Soon after, the National Energy Board rejected the Department of Environment's suggestion

cess was predictable. All applications were approved.

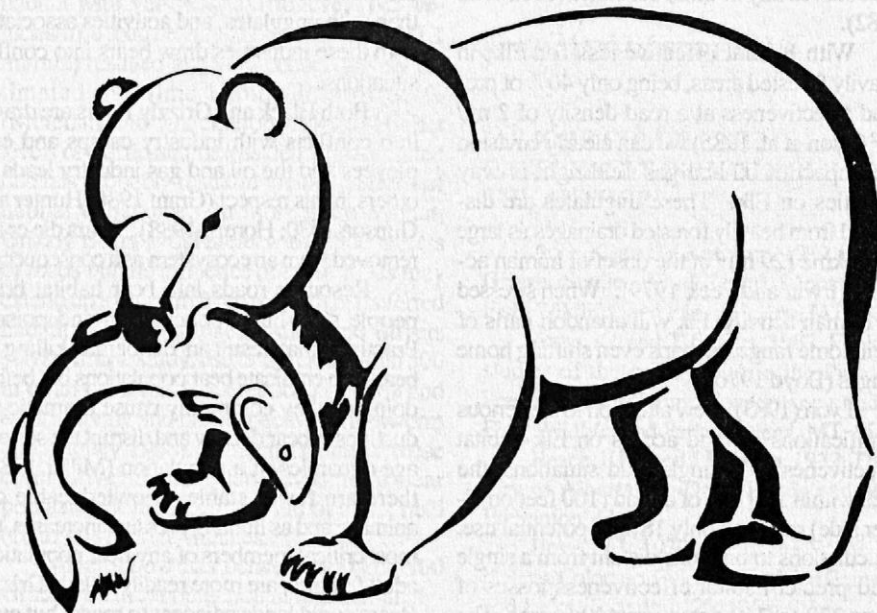
The Alberta Petroleum Marketing Commission (APMC), a provincial government body funded by Alberta taxpayers but dedicated to promoting PNG industry interests, filed an objection to the GBF and SUFW "letters of comment." Representing the government of Alberta, the commission endorsed the provincial regulators' (Energy Resources Conservation Board - ERCB) right to review and license oil and gas drilling applications. Unfortunately, as is common also in the US, applications to drill for oil or gas in Alberta come after a lease has been purchased by a company. With the issuance of a lease come common law rights constituting an irreversible and irretrievable commitment of the resource, hence, leasing guarantees drilling if the lease holder decides to proceed. Unless there is full public involvement and environmental impact assessment prior to leasing, which has not yet happened in Canada but is beginning to take place in the US (US Forest Service 1991), government agencies and boards, such as the Energy Resources Conservation Board, are (knowingly) powerless to prevent roading and drilling of an area, and have never done so in Alberta.

NO ENVIRONMENTAL IMPACT ASSESSMENT

The provincial Department of the Environment does have EIA authority but has never done one. It has restricted itself to reviews of proponents' EIAs. Between July 1973 and January 1990, of 91 EIAs submitted to the department, only 14 related to the conventional oil and gas industry. EIAs DO NOT receive public review.

Further to the ERCB's unwillingness and inability to control the impacts of oil and gas activity in Alberta, is its reliance on the Alberta Forest Service to make determinations regarding surface access. The Alberta Forest Service, which has NO mandate to conduct Environmental Impact Assessments, and has abidingly never done one, is responsible for almost all the lands that support Alberta's Grizzly Bear, Black Bear, Elk, Mountain Goat, Mountain Sheep, and Caribou populations. It is an "old" agency, in the mold (or should I say mould) of the 1950-60s, and simply put, its *modus operandi* is to prevent erosion and protect trees from fire, not from logging. After years of escaping public accountability it has developed a bias favouring the timber and oil and gas industries, a bias far more pronounced than is evident in the US Forest Service (Twight and Lyden 1989). As an agency

continued next page



4000 gas wells to supply these volumes; the high estimate may even be conservative, since companies have already exploited the most productive fields and automatically put high volume wells on production first. In essence, producers have high graded the resource and are now working on the middle to low range reserves.

THE REGULATORY PROCESS??

The 1989 applications to export more gas were never seriously challenged on the basis of environmental impacts. Byron Horner, NEB member, said that federal guidelines allow for automatic exclusion of projects that can immediately be seen to have little or no adverse effects on the environment, concluding that "it's my personal hope that gas exports will fall into this category" (Calgary Sun 1990d). As a Calgary, Alberta, energy commentator summed up, "The National Energy Board has asked the Federal Environment Minister to exempt all future gas pipelines and export sales from Western Canada from absurd federal en-

vironmental screening regulations" (Nelson 1990). The Chairman of the NEB stepped down after it became public knowledge that he had been meeting secretly with the pipeline company that was to transport the gas from west to east along what was to be an expanded TransCanada Pipeline (Fagan 1990). Approval for that expansion was granted in spring of 1991.

that the application be subjected to full hearings under the Federal Environmental Assessment Review Process (EARP). The NEB, relenting somewhat to outside pressure, did agree to an "environmental screening" of the applications. The hearing, held only in the city of Ottawa, Ontario, in mid summer 1990, ostensibly reviewed the environmental documents submitted by the applicants. The only public defenders to submit a position were the Great Bear Foundation (GBF) of Missoula, Montana, and the Speak Up for Wildlife Foundation (SUFW) of Calgary, Alberta, who filed brief positions flagging the significant impact of upstream PNG activity on Grizzly Bear ecosystems in Alberta and Montana. There were no interveners speaking in the public's environmental interest and no government agencies made submissions on environmental matters.

The NEB does not provide intervener costs, effectively stifling public participation, particularly when only one hearing location is scheduled in a country the size of Canada. The outcome of the "environmental screening" pro-

characterized by "group think," it has become increasingly alienated from the public and considers the people to be the "opposition." Yet the Energy Resources Conservation Board relies almost exclusively on Forest Service recommendations in decisions regarding access construction.

The end product of this entire "system" is that wildlife and wilderness have been abandoned in the rush to extract oil and gas. The whole process is a tribute to the art of buck passing - the Alberta Forest Service is not accountable to the public and has no mandate to manage for habitat integrity; the Energy Resources Conservation Board relies on the Alberta Forest Service; the National Energy Board relies on the ERCB; and industry justifies its actions by pointing to these regulators as scrutinizers of its actions.

ALBERTA'S ECOSYSTEMS

The total failure of the system is evident in all of Alberta's ecosystems. For example, in the Northern Continental Divide Ecosystem in far southwest Alberta, including Waterton Lakes National Park, and just north of Glacier National Park in Montana, no valley is without road access. Roads in these narrow mountain valleys destroy shoestring riparian habitats (Horejsi 1989). Once a stronghold of Elk and Grizzly Bears, the area is now a complex of roads, wells, and processing plants, and pipelines. Remnant Elk and bear populations are dependent on the neighbouring relatively uninhabited southeast corner of British Columbia and Glacier National Park, Montana.

In central Alberta, Shell Canada Limited is developing the Caroline gas field. Road and right-of-way densities in parts of this field presently exceed 8 mi/mi² (5km/km²) (Horejsi 1990).

Documented occurrence of Grizzly Bear in the Caroline gas field area is now erratic and infrequent and the changing dynamics of Moose, Elk, and Mule Deer populations reflect the high level of industrial and human activity. Only the White-tailed Deer, the large mammal species that acts as an indicator of badly fractured wildlife ecosystems, is thriving.

Alberta has between 12,000 and 16,000 Elk, yet it is larger in land mass than any Western state, six of which support Elk populations numbering over 50,000 animals (Bryant and Maser 1982). The Alberta Fish and Wildlife Division estimates the province may have two to three times as much Elk "habitat" as any of those six states (Peek et al. 1982).

With habitat effectiveness for Elk, in heavily forested areas, being only 40% of pre-road effectiveness at a road density of 2 mi/mi² (Lyon et al. 1985) we can clearly envision the impact of oil and gas field right-of-way densities on Elk. These ungulates are displaced from heavily forested drainages as large as 75 km² (29 mi²) at the onset of human activity (Irwin and Peek 1979). When stressed by human activity, Elk will abandon parts of their home range, perhaps even shifting home ranges (Boyd 1970).

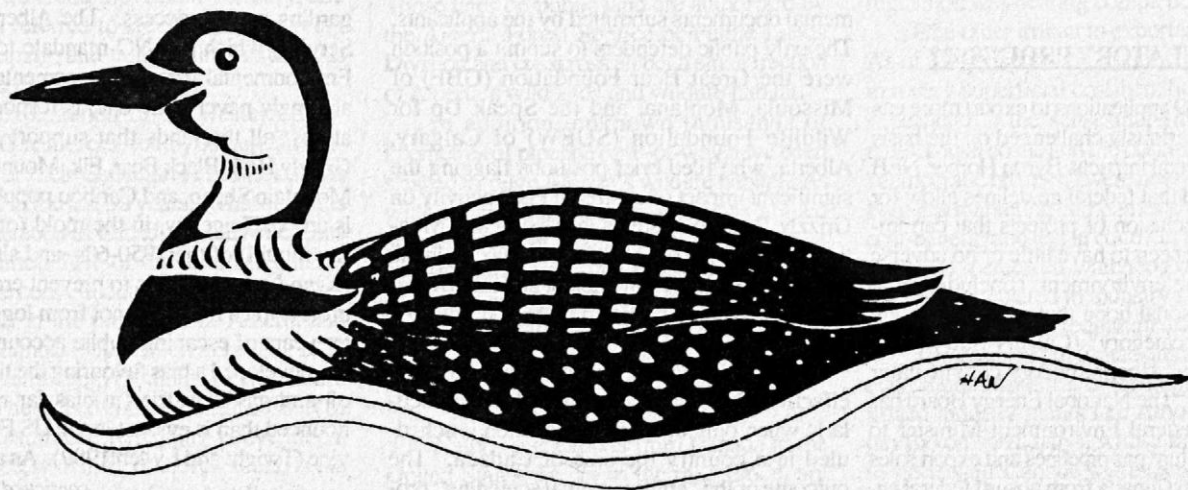
Lyon (1983), drew attention to the serious ramifications of road access on Elk habitat effectiveness. In single road situations, the area within 200 feet of a road (100 feet on either side) received only 18% of potential use. Calculations to one mile distant from a single road predict habitat effectiveness losses of from 220 to 360 acres per 640 acres. The impact of the age of a road on Elk habitat effectiveness has also been measured. In areas with two or more linear miles of road per section of land, habitat effectiveness was only

59% following the year of construction; it declined to half that in three years, and to 20% in five years (Lyon 1983). This indicates that Elk learn to avoid roads and as this awareness is passed from mother to young, the impact on a population after 20 years of extensive roading and human use, as is common to the oil and gas industry, should be obvious.

Grizzly Bears may be even more behaviorally sensitive to habitat fragmentation than Elk, although the two appear to be equally susceptible to direct impacts of human presence (sport/native hunting, poaching). Grizzlies reproduce more slowly than do Elk, people employed in the natural resource industries interact more negatively with bears than with ungulates, and activities associated with these industries draw bears into conflict situations.

Both Black and Grizzly Bears are drawn into conflicts with industry camps and employees and the oil and gas industry leads all others in this respect (Grant 1980; Hunter and Gunson 1980; Horejsi 1988). Bears die or are removed from an ecosystem as a consequence.

Resource roads into bear habitat bring people who hunt, poach, trap and poison. Practices that result in deliberate killing of bears can eradicate bear populations but before doing so they commonly cause dramatic reductions in bear density and disrupt the sex and age dynamics of a population (Miller 1988): there are fewer stable, knowledgeable old animals; and as hunting pressure increases, the most critical members of any bear population, adult females, are more readily killed. Grizzly Bears avoid lands adjacent to roads, but even so, they die at a disproportionate rate near roads. In Montana's Northern Continental Divide Ecosystem, a relatively lightly roaded area, bears killed within 1 km of a road rep-



resented 62.8% of the total kill (Aune and Kasworm 1989). Illegal hunting can take a heavy toll, as it does in the gas fields of northwest Alberta. Known illegal kill is a consistent source of mortality, even in such relatively protected areas as the Yellowstone Ecosystem (Povilitis 1987; Craighead et al. 1988) and known mortality of all forms in Grizzly Bears may only be one-half to two-thirds of actual mortality (Interagency Grizzly Bear Committee 1989).

Habitat fragmentation and loss of security may be even more significant to bears than direct mortality resulting from human activity. For Grizzly Bears in heavy (thick) forest habitat with very low traffic levels (<5 vehicles/h), a road density of only .7 km/km² (1.1 mi/mi²) resulted in a very conservatively estimated day time habitat loss of 8.7% (McClellan and Shackleton 1988). Higher levels of traffic and/or less densely vegetated habitats probably result in greater degrees of habitat avoidance. In more open habitat, Grizzly Bears avoid areas within 500 meters of roads but the influence of those roads may extend up to one km from road edge; preferred habitat will not be used (Aune and Stivers 1987). In one study, use of the area within 500 m of an open road was reduced by 78% and 87% in spring and fall, respectively (Kasworm and Manley 1988). The end result of these cumulative impacts can devastate a bear population long before the life of a gas field (20 to 40 years) terminates.

Alberta now has between 300 and 700 Grizzly Bears. Population simulation analyses suggest that Brown Bear (*Ursus arctos*) populations reduced by half require 40 years to recover if conditions are optimal (Miller 1990), i.e. habitat is unimpaired, reproductive rates are generous, natural mortality is low, and human harvest is at least 25% below sustained yield. The time required by a Black Bear population to recover from a similar position is 17 years.

THE INDUSTRY'S LEGACY

Such is the legacy of the oil and gas industry, and those who claim to regulate it. The industry's impact on Alberta, in terms of wildlife, wilderness, social stability, and the democratic process, has exceeded the impact of the Exxon Valdez on Alaska, but it crept up insidiously, well by well, year by year. As the 20th century winds down, and the industry and regulators begin to worry about the prospects of Canadians questioning where their gas went and what happened to the land, the spectre of a rush to uncontrolled coal bed methane development, with its tight well spacing and high level of roading, looms as the final and fatal

blow to remaining Western ecosystems. Without wholesale changes in the regulation of industry and the legislation of a publicly driven democratic process, including the institutionalization of ecosystem and biodiversity conservation efforts, both in Western Canada and the United States, the oil and gas industry will continue to decimate the West's wildlife and wildlands.

Brian Horejsi is a conservation biologist and the founder of Speak Up for Wildlife Foundation, Box 506, Station G, Calgary, Alberta, Canada T3A 2G4.

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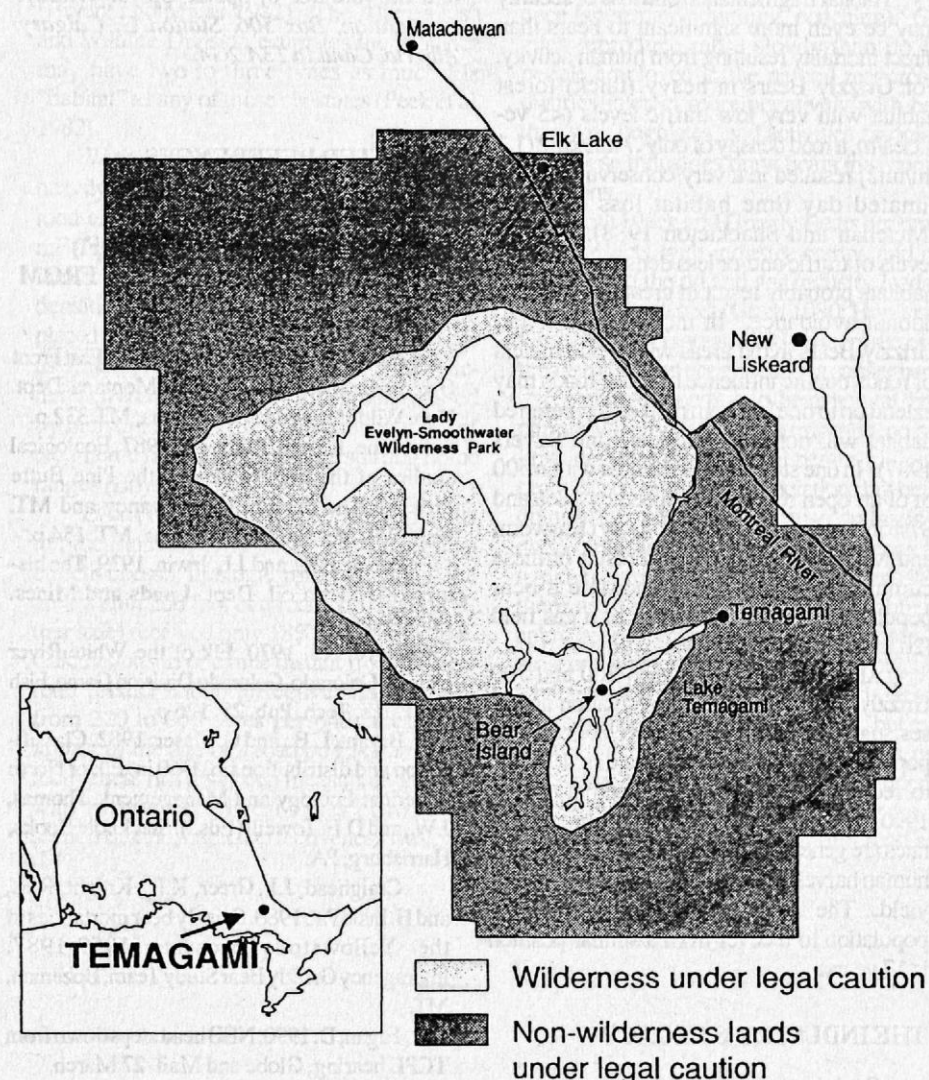
Temagami's Future Still Uncertain

Ontario's Temagami wilderness in 1991 is more environmentally secure than it has been since mechanized logging and clearcutting began in the 1960s. Although some cleanup operations have taken place, no new logging roads have been built. The land caution (i.e., the legal notice that the title of the land is in dispute) filed by the Teme-Augama Anishnabai in 1973 stopped new mining and staking in the area. Tourism to the area has been increasing steadily as people become aware of this old-growth wilderness ecosystem.

Nevertheless, threats remain. This past summer two events once again fueled concern for Temagami's future.

On 15 August 1991 the Supreme Court of Canada ruled against the Teme-Augama Anishnabai land claim appeal. This decision means that the land caution could be lifted at any time. The government has admitted that it is under tremendous pressure to do so. Soon after the Supreme Court decision, the Ontario Ministry of Natural Resources filed public notice that it is creating a new logging plan for the area to be instituted by 1 April 1992. Moreover, the current Ontario Government has implemented no new wilderness protection policies.

Earthroots, a national wilderness preservation group that grew out of the Temagami Wilderness Society, has launched a letter writing campaign aimed at Ontario Premier



Bob Rae, who was elected on a platform that included protection of old-growth ecosystems across the province. They are asking him to permanently protect the Temagami wilderness and the old-growth forest. A specific concern is that the land caution preventing mining not be lifted. Earthroots fears that the government is using the Temagami issue to test public reaction to renewed development. Without sufficient opposition, the government may place the interests of industry ahead of environmental protection.

Officials who will determine the future of Temagami are Hon. Bob Rae, Premier of Ontario, Queen's Park, Toronto, Ontario M7A 1A1 and Don Yarranton, District Manager, Ministry of Natural Resources, Temagami, Ontario P0H 2H0.

For further information, contact Earthroots, 19 Mercer Street, Suite 307, Toronto, Ontario M5V 1H2 (416-599-0152).

EARTHROOTS

A View of James Bay From Quebec

The following is condensed from a tabloid, No Thank You Hydro Quebec, produced by grassroots activists in Canada and the U.S.. The tabloid is available by contacting the clearinghouses listed at the end of the article, for US\$2.50. For background on Hydro-Quebec's past and planned plundering of James Bay, see the article by Elizabeth May and Farley Mowat in Wild Earth #3, as well as the tabloid.

by Philip Raphals and Thomas Holzinger

The end of this summer brought a series of victories for the movement to stop the James Bay II Project, including the New York Power Authority (NYPA) decision to reconsider its Hydro-Quebec (HQ) contract, Quebec Premier Robert Bourassa's announcement of a one-year delay in the construction of Great Whale, and the Rouleau decision setting in motion a federal review under the James Bay and Northern Quebec Agreement. The megaproject is badly wounded, but it is far from dead.

Perhaps the most important development, however, is that the first cracks have begun to appear in the ranks of the Quebec elite concerning further hydro-electric expansion. Important sectors of mainstream Quebec society, including most of the key editorialists in both French- and English-language newspapers, are now arguing for a full, public debate on energy and a moratorium on new construction, a position that, until recently, was held only by the opposition Coalition pour un Debat Public sur l'Energie. Even at the highest levels inside and outside the government, voices are saying that megaprojects, electricity exports, and cheap electricity for energy-intensive industry will not lead Quebec to its long-desired goal of economic autonomy.

The American opposition to the dams has battled for the hearts and minds of New Yorkers and New Englanders with striking success, enough to frighten not only HQ and

the Quebec government, but the entire Quebec establishment. Quebec's leaders know that more than electricity exports are at stake. They fear that if international public opinion turns against Quebec, it will jeopardize the enormous bond issues that must be sold to finance the megaprojects and also Quebec's ability to survive as an independent state.

Public opinion has also begun to change. The leaking of the Norsk-Hydro aluminum contract this spring kept the issue on Quebec's front pages for weeks.

As important as these victories are, they also should raise a serious concern. It is all too clear that popular opinion within Quebec played little part in bringing them about. Despite a widely shared perception that the Great Whale project was being pushed too fast, both business leaders and the public remain attached to the basic premise that more electricity generation and consumption are essential to economic growth and job creation—a crucial issue when the unemployment rate is over 12%.

In the long run, the battle against James Bay II can only be won in Quebec. Delays may be granted, but unless both ordinary people and opinion makers turn decisively against the projects, eventually the dams will be built. New York State cannot kill the project, nor can the Canadian government in Ottawa, nor can the Crees. The final decision will come from Quebecers.

This has important implications for the international movement to protect James Bay. Pressure from outside the province can be effective, but it can also backfire. When the majority aspirations for increased self-determination in Quebec are under sustained attack

by English-speaking Canadians, any criticism that can be read as stemming from ignorance or hostility to Quebec touches a very sensitive nerve. If the stop the dams forces are perceived as aligned with those hostile to Quebec, it can only play into the hands of those who would build the dams.

Quebec media have highlighted aspects of the American opposition movement that many Quebecers find disquieting. The accusation of "genocide," for instance, is perceived as an uninformed exaggeration by most Quebecers, including many who are critical of HQ. Quebec opponents of the Great Whale project are usually either ignored or portrayed as tools of the Crees and their American allies. The underlying message is that the project is so obviously in Quebec's interest that no real Quebecers oppose it, and that Quebec must stand firm against outside interference.

Quebecers may still believe that the province needs the dams, but many are convinced that HQ's haste to build them is unseemly, at best. The task facing the Quebec opposition is twofold: to mobilize the large segment of the population that is already questioning HQ's plan, and turn it into a political force that the government cannot ignore; and to sow doubt in the minds of those who still uncritically support HQ.

Support for HQ is deeply rooted in the unique place the government-owned corporation occupies in Quebec's history. It is just 30 years since Quebec began to emerge as a modern industrial society, and it was HQ that led the way, symbolizing technical prowess much as the Apollo space project did in the U.S. The product of Quebec's nationalization

continued next page

of the (English-Canadian-owned) electric companies in the late 1960s, HQ also represents Quebec's rebellion against British and English-Canadian colonialism, an old and deep resentment. At the same time, HQ is widely seen to have been the motor behind the province's tremendous economic growth in the 1960s and 1970s.

Many activists in and out of Quebec feel frustrated by the unhurried pace of the local opposition movement. Unlike the U.S., where already existing networks have been quickly and effectively activated around James Bay, this kind of citizen activism is still relatively young in Quebec. Nevertheless, opposition is growing. The Coalition pour un Debat Public sur l'Energie now counts 60 member organizations representing almost 500,000 members. Some of the groups include: AQLPA, which is organizing a province-wide concert tour in late October featuring artists who strongly identify with Quebec's cultural identity and the independence movement; Environment Jeunesse, which is carrying an educational campaign to high schools and colleges across the province, to be followed by a province-wide student referendum on the James Bay development; The Mouvement Au Courant and the James Bay Committee, which present detailed briefs at public hearings on energy policy; Action Baie James, which loosely coordinates several grassroots initiatives in the Montreal area, including the "Lights Out" campaign.

The Grand Council of the Crees remains dead-set against the development, as do groups organizing in solidarity with aboriginal peoples. A few radical ecologists and wilderness defenders have also begun to appear. Quebec politics in 1992 will certainly be full of fireworks. Under pressure from the Parti Quebecois, the opposition political party to Bourassa's Liberals and the leading advocates of independence, Premier Bourassa consented to hold a referendum on independence next fall, though he left himself plenty of escape hatches. Such a referendum might well succeed: recent polls show about 59% support for sovereignty, and an only somewhat smaller lead for the PQ in a general election. Even if Bourassa manages to avoid holding a referendum, a heated public debate on Quebec's future will continue, with both provincial and federal elections expected in 1993. The PQ's position is not entirely clear. It demands a full, public debate and stops just short of calling for a moratorium, but important elements remain convinced that further James Bay development is essential to Quebec's prosperity. The ongoing debate within the PQ will seriously affect the future of the project.

The James Bay question and the inde-

pendence question will undoubtedly interact in complicated and unpredictable ways. Bourassa, whose political trademark is maintaining control over the timing of key decisions, had clearly hoped that the Great Whale project would be well under construction before the constitutional question became a preoccupation. But he could yet turn confusion to his advantage, if opposition to James Bay II development can be equated with opposition to a strengthened Quebec. And then there is that wildest of all wild cards, the emerging Cree demand for full self-government and/or sovereignty. To the extent that the question becomes "Who owns the North?" there is no doubt that Quebecers would stand firm against the Crees.

Thanks to the Crees' success in the courts and the American success in Albany and elsewhere, the movement against James Bay II development suddenly finds itself in a better position than it could have hoped for even months ago. By the time all the appeal courts and environmental review boards have been heard from, the political and economic contexts are likely to be quite different from today's—much less favorable to debt-laden megaprojects.

Now the goal is to prepare for the upcoming debate in Quebec. It is essential that strategies undertaken outside the province support and complement those in Quebec. The James Bay II megaproject has been seriously wounded. It is time to give it the coup de grace.

Make your views on James Bay known to your utility, your newspaper, and your government representatives at the local, state, provincial, and federal levels.

Learn about energy; how it is produced and delivered. Join other ratepayers and work with your utility to establish a citizen's advisory board. Support grassroots efforts throughout the northeastern United States, Quebec, and Canada by sending financial contributions and volunteering your skills. Write letters of support to the Crees and Inuit.

Grand Council of the Crees (of Quebec)

24 Bayswater Avenue
Ottawa, Ontario K1Y 2E4 Canada

James Bay Task Force (Crees)

Box 390
Whapmagoostui, Quebec
J0M 1G0 Canada

The Municipal Corporation of Kuujuaaraapik (Inuit)

Box 360
Kuujuaaraapik, Quebec
J0M 1G0 Canada

Grand Council of the Crees of Quebec (Namaska Crees)

2 Lakeshore Road
James Bay, Quebec
J0Y 3B0 Canada

Richard Drouin, Chair

Hydro-Quebec
75 Blvd Rene Levesque Ouest
Montreal, Quebec
H2Z 1A4 Canada

The Right Honourable Brian Mulroney

Prime Minister of Canada
House of Commons, Room 30-S,
Center Block

Ottawa, Ontario

K1A 0A6 Canada

Robert Bourassa

Premier of Quebec
885 Grande-Allee East
Building J Third Floor
Quebec City, Quebec
G1A 1A2 Canada

The Northeast Alliance to Protect James Bay is a network of activists who are encouraging citizen participation in development of regional national energy planning. Contact the following clearinghouses for information, to order copies of this tabloid, and to make donations.

James Bay Action

812 Broadway
New York, NY 10003
(212) 473-2630

PROTECT

Box 82
Campbell Hall, NY 10916
(914)-496-5334

Connecticut Save James Bay

142 S. Whittlesey Avenue
Wallingford, CT 06492
(203) 269-0529

Massachusetts Save James Bay, Inc.

Box 917
Worcester, MA 01610
(617) 491-5531

Vermont Coalition to Save James Bay

21 Church Street
Burlington, VT 05401
(802) 863-2532

No Thank Q Hydro-Quebec

Box 33
Andover, ME 04216

Student Environmental Action Coalition (SEAC)

32 Ossipee Street Apt. 1
Somerville, MA 02144

North America's Biggest Intact Forest Slated for Clearcutting

by Mary Byrd Davis

Canada's boreal forest is slated for destruction—all of it. "Basically every tree is committed to clearcut logging," Colleen McCrory, co-founder of Canada's Future Forest Alliance, says. This is not to say that every tree can be cut immediately. In Canada logging involves two levels of permission. Companies first lease timber rights; and then they apply for authorization to cut. Leases now cover the entire boreal forest, Jim Fulton, a member of the federal parliament from British Columbia explains; but cutting permits, which are good for five years, have been granted for only 25% of the forest so far.

Canada's northern boreal forest is North America's largest remaining intact forest. Boreal forests, or taiga, comprise about one-fourth of the world's remaining forests, or more than 2.5 billion acres. Almost one-fourth of the world's boreal forest is in Canada. There the forest begins in the southern Yukon and, dipping south, sweeps from northern Alberta across the provinces to northern Quebec, Nova Scotia, and Newfoundland, including Labrador.

Canadian environmentalists liken the logging of their boreal forest to the razing of Brazil's rainforest. Statistics support the comparison, as pointed out by Christie McLaren in an article in EQUINOX. The total area of Canada is 9.4 million square kilometers; that of Brazil, 8.5 million. The boreal forest occupies 34% of Canada or 3.3 million square kilometers; the rainforest covered 41% of Brazil or 3.5 million square kilometers. An estimated 100,000 indigenous people inhabit the boreal forest; an estimated 170,000 the Amazon rainforest. Fulton claims that Canada as a whole is losing an acre of forest every five seconds to fires or logging, a rate that he compares to the loss in the tropical rainforest.

In Canada, as in Brazil, the government is virtually giving away the nation's natural heritage to foreign multinationals. During the past two years, the governments of the Canadian provinces, supported, by the federal government, have signed

timber leases for the supposed economic benefits. Actually the benefit is virtually all on the side of the multinationals. Canada not only loses its resource, but often pays to do so.

The government of Alberta, for instance, has granted timber rights covering 15% of the province to two Japanese companies alone, Alberta-Pacific Forest Industries (ALPAC), a subsidiary of Mitsubishi and Honshu Paper, and Daishowa Canada Ltd. Along with the rights to timber the province has provided the companies with \$1 billion in loans, loan guarantees, and infrastructure improvements.

The boreal forest itself has similarities with the tropical rainforest. The nutrient-poor soils of the rainforest make regeneration of a clearcut forest extremely difficult if not impossible. In the boreal forest the subarctic climate allows only a short growing season and thin, sensitive soils. "Once cut, the boreal forest may never return." Any regeneration may take a century or more, McCrory says.

The Brazilian rainforest is being cut before scientists have studied much of it. Canada's boreal forest will, it seems, suffer the same fate. Canadians "are just beginning to learn about our temperate rainforest," Joe Foy of the Western Canada Wilderness Committee says. "On the boreal forest we know next to nothing."

The cutting of the forests will be a disaster for wildlife but the full extent of the impact will not be gauged for lack of baseline data. The forests are home to Moose, Wolverine, Great Gray Owl . . . Red, White, and Jack Pine, Black and White Spruce, aspen, Tamarack, and alder grow amid bogs, marshes, and lakes. Such is obvious, but the finer details may forever escape us.

The inability of the timber industry until recently to use aspen long saved the boreal forest from cutting, except in Ontario. Aspen will make up the bulk of the harvest in northern Alberta.

In Canada as a whole 13.2 billion dollars worth of new pulp mills are being planned or built. With the exception of British Columbia where they will be scattered through the province, the mills will be in the boreal forest. Some of the largest pulp mills in the world are being built on the Peace and Athabasca Rivers in northern Alberta. Since

they will employ chlorine for bleaching, they will discharge toxic organochlorines into the rivers. A government mill at The Pas in Manitoba, which Repap bought from the Canadian government, used to produce unbleached paper; but Repap is converting it to turn out bleached products. No environmental impact assessments for the mills have been made.

Many of the boreal forest rivers drain into the Arctic Ocean. The pulp mills represent the first instance of industries located in North America directly impacting the Arctic Ocean, Foy says.

Cutting the forests will increase erosion and flooding. It will also accelerate the greenhouse effect. Peat and humus in the forest lock up huge amounts of carbon. When logging exposes them to air and sunlight, they release carbon dioxide, the primary greenhouse gas. Furthermore, clearcutting may modify climate by removing trees that take moisture from the air and by increasing albedo.

Some one million Canadians in 110 groups that are fighting the logging of the boreal and other Canadian forests have formed Canada's Future Forest Alliance. The alliance is seeking full protection from industrial use of "12%-30% of the forest land."

A "major international effort" will be necessary to save Canadian forests, McCrory says. Needed immediately are letters to the Canadian government, articles in the foreign press, and financial support. Canada's forestry industry is dependent on overseas markets. The nation produces about 16% of the world's supply of pulp and about 31% of its supply of newsprint, David Orton notes. Therefore, what people outside Canada say and do can have a direct impact on the industry.

For more information contact Colleen McCrory, Canada's Future Forest Alliance c/o Valhalla Society, Box 224, New Denver, British Columbia VOG 1S0 (604-358-2333). The Saskatchewan Environmental Society, Box 1372, Saskatoon, Saskatchewan S7K 3N9, produced *Exploring the Boreal Forest: Understanding an Ecosystem*. (\$10 Canadian). Sixth-level classes throughout the province will study the book; it is also worthwhile for adults.

Canada: Will The Wild Survive?

by *Trudy Frisk*

"Canada"; the very name evokes visions of a vast country renowned for its natural beauty, embracing a variety of biogeoclimatic zones, home to an abundance of species. This, the largest nation in the world, is also portrayed as rich in "resources," welcoming immigrants to augment its small (zero growth apart from immigration) population. Surely this spacious country provides ample room for humans to coexist with Gray Wolves, Boreal Owls, Grizzly Bears, Tundra Swans, Moose, Sandhill Cranes and Wolverines? Wilderness is still within a few hours drive for most urban dwellers. Space, distance, solitude and the self-reliance these compel are daily experiences. The Canadian character and image have been shaped and defined by the land itself.

That identity and image are undergoing serious alterations as Canadians struggle to redefine their internal political boundaries and alliances, preserve their autonomy against trans-national corporate pressures, and protect the wilderness integral to their country. Ours is the last generation to have the luxury of deciding to set aside land as wilderness. Already, back-country travelers know just how deceptive is the vision of large, untouched landscapes. My exhilaration during the first ascent of Cupola Mountain in the Monashees of British Columbia was diminished by the number of clearcuts visible from its summit. Doug Sherriff, ecosystem mapper in Lillooet, BC, tells of a trip to the Arctic during which seismic lines were visible every minute of his flight. Almost every hectare of Canada's "wilderness" has been surveyed, mapped, explored and slated for resource extraction or development.

Sadly, neither the government industriously selling Canada's wilderness nor the activists defending it have a vision of the future that includes intact, functioning ecosystems. Neither appears to know they are necessary.

CONSUMERS & CORPORATIONS

Small though it is, Canada's human population (under 27 million), has occupied most arable land along the 49th parallel. Settlement in river

valleys and estuaries has effectively denied their use as corridors to migrating species. Draining and paving of wetlands and marshes continues. As human numbers increase through immigration, the roads and structures to accommodate them take more habitat from other species. A larger population of consumers is welcomed as contributing to economic growth. That it also contributes to ecological destruction is a topic both government and wilderness activists prefer, for their own reasons, to avoid.

Exploitation of Canadian "resources" fuels the economies of other countries. Japan (Daishowa and Mitsubishi), New Zealand (Fletcher-Challenge), U.S. (Stone Container and Weyerhaeuser) and the government of Mainland China are only a few benefitting from despoliation of Canadian ecosystems. Activists generally focus on the local mill or mine, reluctant to challenge the foreign corporation behind it, as though to do so would be xenophobic, somehow "unCanadian." Only Dr. David Suzuki, Canadian geneticist and environmentalist, has had the courage, opposing their companies' influence, to call the Japanese the "pirates of the Earth."

The malevolent influence of trans-national corporations on Canada's wilderness cannot be overstated. John Kenneth Galbraith wrote "The modern large corporation ... functions increasingly as an independent force -- as an instrument for the exercise of power in which there is responsibility primarily to itself. And this power is independent of, perhaps even above, the modern state."² So it is in Canada. BC has been characterized as a "wholly owned subsidiary of the multinational forest companies," so strongly do they dictate its forest policy and management.³ The Alberta Government's action in conceding much of the northern part of the province to the pulp mills of Daishowa and Mitsubishi is as shameful as the Government of Quebec subsidizing power from James Bay. Governments at all levels are complicit in selling out the ecosystems of Canada.

GOVERNMENTS AND WHY WE CAN'T TRUST THEM

Canada's lack of wilderness legislation compounds the difficulty of persuading governments to protect species and habitat. Governments

at all levels have blatantly disregarded their responsibility to enforce existing environmental legislation; preferring instead to issue variances of permits, or allow companies to do their own monitoring and reporting. Proposed Constitutional revisions giving more power to the Provinces would make this deplorable situation worse. Under the Canadian Constitution, natural resources are a Provincial responsibility. Occasionally (e.g., the Alberta pulp mills), an appeal to the Federal government has resulted in a mandatory Environmental Impact Statement, when the Province had refused to require one prior to the project proceeding. But, one cannot count on the Feds.

When the Rivers Defence Coalition of BC fought construction of Kemano Dam #2 on the Skeena River, demanding a thorough environmental review, opposing them was the mighty Aluminum Company of Canada and the Federal government, the very one charged with protecting waterways. On 16 May 1991, Justice Walsh of the Federal Court ordered an environmental review process because "it was patently obvious that construction of the Kemano II dam would have an environmental impact." In doing so, he struck down a federal order in Council, agreed to by the Federal Ministers of Fisheries, Transport and Environment, to exempt Alcan from such a review. The order in Council had been passed under the Environmental Act. Justice Walsh pointed out that the Act gives Cabinet only the power to set up a comprehensive review process to determine the environmental impacts of projects the Federal government is involved with, not to exempt them. In this precedent-setting decision Justice Walsh awarded costs to the Rivers Defense Coalition and the Carrier-Sekani Tribal Council.

ECOLOGY VS. ECONOMICS

When ecology meets economics, ecology loses. The emphasis on quick economic return rather than ecological sustainability is especially evident in the Free Trade Agreement. The original agreement, signed in 1988 by Canada and the United States, effectively put the resources of Canada, particularly water, at the disposal of US consumers and corporations. When inexpensive Mexican labour costs are factored into the continental market promoted by the pending Trilateral

Free Trade Agreement, the prospects for either ecological or economic stability in Canada are grim.

The Free Trade Agreement is an instrument of the Federal Conservative government. Environmentalists have trusted that a government run by the socialist New Democratic Party would be more responsive to their cause. On such topics as recycling and toxics they may be right. But when it comes to wilderness, both parties favour the continued economic growth which, inevitably will destroy it. They merely disagree over whether business or labour should profit most from that destruction.

In Ontario the newly elected NDP, despite a pre-election commitment to protect old-growth forests, has opened an ancient pine stand to loggers. In the first conflict under NDP between wilderness and jobs, wilderness lost. The fledging Green Party has, as yet, no elected members in either Provincial or Federal governments.

HOW MUCH IS ENOUGH?

Across the country well organized groups have formed to protect watersheds or such special places as the Temagami forest in Ontario or the Stein River in British Columbia. Some, such as the Alliance for the Wild Rockies (AWR), opponents of the James Bay project, the Green Web, and the Greater Ecosystem Alliance (GEA), work in concert with activists in the US. Of these, AWR and GEA are US initiatives. Most Canadian groups focus on local issues and actions without considering the implications for the larger landscape or ecosystem. It's understandable: these are dedicated volunteers, lacking money and time, desperately fighting to preserve areas they love.

Less understandable, and less easily forgiven, are major regional and national organizations which do have funds, staff, and access to scientific research but which have decided to lobby for the minimum, the 12% wilderness specified by the Brundtland Report, rather than the intact, complex ecosystems connected by broad corridors, necessary to protect biodiversity in Canada. [The Brundtland Report recommended that each nation protect at least 12% of its land.]

It is no consolation to anyone familiar with studies in island biogeography and species extinction to read that the NDP and the International Woodworkers of America support the Western Canada Wilderness Committee and the Valhalla Society map of the 13% of BC they ask to be set aside (13% of the province with the greatest diversity of ecosystems in Canada — containing at least 14 different biogeoclimatic zones!); or that the Mining Association of Canada “does not oppose” the World Wildlife Fund’s “Endangered Spaces” proposal delineating the 12% of Canadian landscapes required to meet the criteria of the Brundtland Commission. Canadians should not be

bound by what was recommended as a minimum.

We must ask, not for what we think we can get, but for the amount other species need. The biological diversity of North America is being decimated by conversion of natural ecosystems to human-modified landscapes. Habitat fragmentation and destruction combine to isolate flora and fauna to the point where populations are no longer large enough or genetically diverse enough to survive. Wilderness and park designations must be based on ecosystem requirements, not political expediency. They must not only preserve the existing gene pool; they must be large enough to allow for evolution and speciation. They must consider long-term climate change. Fragmented islands only delay the inevitable extinctions. Parks must preserve processes. Ecosystems and their wild inhabitants know nothing of human boundaries. We cannot map Canada as though it were an ecological island. “The conservation of biodiversity,” states conservation biologist Dr. Reed Noss, “demands that we deal with the whole Earth as one system.”

Canada is home to globally significant populations within that system. These are not our property to dispose of as we will. Unfortunately conservation in Canada is, mostly, at the pharmaceutical/recreational/scenic postcard level. Concepts of ecosystem and landscape preservation are unfamiliar to the public. The Deep Ecological proclamation that humans have a duty to ensure that other species continue to thrive is only faintly heard.

ABORIGINAL CLAIMS

No allocation of land in Canada can occur without consideration of aboriginal land claims. In BC only two treaties have been signed. Native people are contemplating re-opening those already negotiated elsewhere in Canada. The help of aboriginal people has been crucial in protecting Temagami, the Stein, Meares Island, BC; and the Old Man River in Alberta. In fact, most wilderness proposals have been joined with a land claim as though the two were indistinguishable. As native people achieve sovereignty over their land and emphasize economic stability for their people, that situation may change.

THE FUTURE?

The future for Canadian wilderness seems bleak. Few Canadians have the courage to defy the multi-national corporations and their tame politicians. Of those, fewer still realize that 12% is not enough; that true wilderness requires core conservation areas, buffer zones, and corridors. Nor do they understand that humans must live differently—ecologically—that “multiple use” should be replaced by designations of “dominant use” and that the dominant user may be a Grizzly

Bear or a family of Winter Wrens.

Still, we should not surrender. Canada is the country where Greenpeace was founded. Paul Watson and Sea Shepherd were born here. The first Green Party on the continent began in BC. Among a people cynical toward charismatic “stars,” David Suzuki is a national hero.

Campaigns for wilderness have heightened public awareness of what's at stake. When asked which group they most trusted, Canadians answered “Environmentalists.” And the voices for ecosystems are growing stronger. Canadians are a tenacious people. Preceding all human claims to the land is the claim of that land, itself, upon us.

Trudy Fisk is a leader of the British Columbia Green Party and of the Greater Ecosystem Alliance.

NOTES

1. Dr David Suzuki, public meeting, New Denver, BC, 24 August 1991.

2. John Kenneth Galbraith: “Annals of An Abiding Liberal” Houghton Mifflin Co. 1979, p.74.

3. John Weinard, (retired) Operations Manager, Kamloops Forest District, personal communication, 4 October 1991.

4. Dr. Reed Noss, personal communication, March 1991.

SCIENCE EDITOR'S NOTE: CONSERVATION BIOLOGY CANNOT SAY WITH CERTAINTY HOW MUCH LAND OR WHAT PERCENTAGE OF A COUNTRY'S LAND AREA IS NEEDED TO MAINTAIN NATIVE BIODIVERSITY. I HAVE ESTIMATED THAT PERHAPS 50% OR MORE MUST BE STRICTLY PROTECTED, BASED ON A ROUGH IDEA OF THE LAND NEEDED TO MAINTAIN VIABLE POPULATIONS OF LARGE CARNIVORES AND NATURAL DISTURBANCE REGIMES IN EACH MAJOR VEGETATION TYPE IN NORTH AMERICA. FOR THIS TO WORK, THE REMAINING 50% WOULD HAVE TO BE MANAGED ALSO WITH THE OBJECTIVE OF MAINTAINING BIODIVERSITY, BUT WITH COMPATIBLE HUMAN USES PERMITTED.

—R.N.



CANADA'S GREEN PLAN

ACCESS TO THE NORTH

by Mary Byrd Davis

In this issue, we look in depth at only a few of the many giant threats looming over the wilds of Canada. Our pages simply serve as an invitation to everyone to join the overworked wilderness defenders in Canada trying to halt the onslaught on what may be the wildest but most imperiled industrialized nation on Earth. Below are listed some of the key issues, groups, and publications, for those ready to become more involved.

ANCIENT FOREST FELLING

In British Columbia, MacMillan Bloedel, Fletcher Challenge, and other multinational timber companies are destroying old-growth forest at the rate of about 75 to 91 million cubic meters a year. Only about 2.6 percent of the ancient temperate rainforest has been permanently protected, and virtually all the unprotected, usable timber has been leased to logging companies. Pollution from pulp mills has put an end to commercial shellfishing in bays along Vancouver Island and in Howe Sound near the city of Vancouver.

Nevertheless, environmentalists and natives are fighting valiantly to save the remaining forest. British Columbia's new premier, Mike Harcourt of the New Democratic Party, was elected on a pro-environment platform; and the whole BC forest issue seems to be approaching a climax. Two of the environmental groups in the thick of the struggle are Friends of the Clayoquot Sound, POB 489, Tofino, British Columbia VOR 2Z0 (604-725-4218), which is trying to protect the largest remnant of temperate rainforest left on Vancouver Island, and Friends of the Tsitika, 479 4th Street, Upstairs, Courtenay, British Columbia V9N 1G9; 604-338-9242), which is working on the area around the Tsitika River and Robson Bite into which it flows.

Also to be contacted for information are the Sierra Club of Western Canada, 314-626 View Street, Victoria, British Columbia V8W 1J4 (604-386-5255) and the Western Canada Wilderness Committee, 20 Water Street, Vancouver, British Columbia V6B 1A4 (604-669-9453).

EASTERN CANADA FOREST ABUSE

Across Canada from BC, in New Brunswick, almost all the forest was cut long ago, primarily for ship building. Much of the land has been reforested with plantations of single species of softwood. Foresters spray pesticides to try to keep the resulting insects and disease under control. Pulp mills pour pollution into the Bay of Fundy. Nevertheless, amid the havoc, small areas of old-growth forest remain. The Conservation Council of New Brunswick is trying to locate these old-growth areas and also to determine who in the province owns land and what owners are doing with their holdings. The Council is mapping the details with the assistance of satellite photography and hopes to release a report in the spring.

The Council is also working on another resource problem concerning plants—the collection of rockweed, a kind of seaweed. It was harvested sustainably in Nova Scotia for 20 years, but the supply there became exhausted after big companies came in. These companies are now seeking licenses to control harvesting in the Bay of Fundy. The Council is trying to convince local communities to assert control of resources in their areas.

For further information on New Brunswick contact David Coon, Conservation Council of New Brunswick, 180 St John St., Fredericton, New Brunswick E3B 4A9 (506-458-8747). On tree plantations, the use of pesticides, and marine resources in neighboring Nova Scotia, contact Green Web, RR #3, Saltsprings, Pictou County, Nova Scotia B0K 1P0.

HYDRO-POWER

As far as Canadian dams are concerned, US activists are focusing on the James Bay development, but unfortunately this project is only one of many issues centering in dams. Hydro Quebec has additional projects in the offing, and utilities in other provinces are also fond of killing rivers. In Saskatchewan the Rafferty-Alameda Dam, designed to provide cooling water for a power plant, is the subject of protests. The dam has been constructed, but it is not yet clear that sufficient water will ever be available to fill the reservoir, according to Larry Morris of the Saskatchewan Environmental Society (Box 1372, Saskatoon, Saskatchewan S7K 3N9; 306-665-1915). British Columbia Hydro proposes to build a series of dams on the Stikine River in northern BC, the Western Canada Wilderness Committee reports (address

above under BC forests). Projects in three other provinces are sampled below.

In response to a question about hydroelectric projects in Ontario, Thomas Adams, a utility analyst with Energy Probe, told WILD EARTH that we "have been flooding native peoples off their land for a hundred years." Ontario Hydro has proposed a large number of new facilities, all but three above 50 degrees latitude and all except two on disputed aboriginal territory. The utility would like to build a dam on the Little Jackfish River in northwest Ontario. Past human activity has already resulted in severe degradation of the river, because of erosion and mercury contamination, and a new dam would exacerbate the situation, Adams says. In the northeast proposed dams would be in the Moose River drainage basin. Ontario Hydro now allows the Mattagami River to flow between 9am and 5pm, five days a week, but would like to reduce this flow.

Most of the proposed dams may never be built, but the provincial government has instructed Ontario Hydro to construct Patten Post, one of the proposed facilities in the south. Adams characterizes this dam as the "most stupid" of the proposed projects, from the point of view of economics as well as the environment. The site has the misfortune of being near uranium mines in Ontario that are closing. There "will be unemployment so the government's solution is to kill a river."

For further information contact Energy Probe, 225 Brunswick Avenue, Toronto, Ontario M5S 2M6 (416-978-7014).

Manitoba has several big dams, and Manitoba Hydro is planning up to six more, according to Anne Lindsey of the Environment Coalition on Conawapa. Diversion of 75% of the flow of the Churchill River into the Nelson River basin flooded an enormous area.

Conawapa is the most likely of Manitoba's proposed dams to be built. Manitoba Hydro has signed a contract to supply electricity from this dam to Ontario. No environmental assessment has been undertaken, yet Manitoba Hydro has received a permit to construct a road to the dam site and has built a highway providing access to the Lower Nelson, until then remote, because of large rapids on the Nelson, thick boreal forest, and the scarcity of trails. The Nelson enters Hudson Bay, and its estuary is an important calving ground for Beluga Whales.

Among the many negative aspects of constructing Conawapa would be the closeness of the facility to Polar Bear denning territory. Last year a bear was shot in the community built for workers constructing the Limestone Dam, also close to denning territory. The bears seem to be attracted to the communities by the smells.

For further information on the dams and on other issues in Manitoba, contact the Manitoba Eco-Network Resource Center, PO Box 3125, Winnipeg, Manitoba R3C 4E6 (204-956-1468).

In Alberta the Three Rivers Dam will be the subject of a Supreme Court decision that could affect new environmentally damaging projects across Canada, Martha Kostuch, vice president of Friends of the Old Man River reports. Construction of the dam is virtually complete, and 65% of the 5800 acres that the dam will inundate were temporarily flooded during construction. Nevertheless, the dam's fate depends on federal court and panel decisions, expected to be handed down in February. The Supreme Court will rule on whether the federal government has the constitutional authority to conduct environmental impact studies of provincial projects.

Friends of the Old Man River, as well as Milton Born-With-A-Tooth and other members of the Lone Fighter group of the Peigan Nation, have lead opposition to the dam. The Friends seek financial support, and letters about the dam to the Canadian prime minister. They can be contacted through Martha Kostuch (403-845-4667) and Cliff Wallis (403-271-1408) at Box 1288, Rocky Mountain House, Alberta T0M 1T0.

Transmission lines are among the environmental problems associated with large hydroelectric facilities. One of the worst on the drawing boards is a line that would run from Conawapa Dam in northern Manitoba, down the east side of Lake Winnipeg. Just short of Winnipeg it would join a connector line that would send current to Sudbury and, through an additional connector, to Toronto. The 500 kilovolt line would run through a pristine area. Only in the southern part of the terrain that the line would cross are there roads or powerlines of any sort. Caribou herds migrate through the wild area, and humans live in remote villages. For further information contact Energy Probe or the Manitoba Eco-Network (addresses above).

GREAT LAKES POLLUTION

The Great Lakes and the Saint Lawrence Seaway are areas on which environmentalists from Canada work alongside US activists. The inflows of toxic chemicals and untreated sewage are of immediate concern. Unlike the United States, Canada has no toxic release inventory. The federal agency, Environment Canada, is scheduled to publish the first in 1994. Meanwhile, nobody knows how much toxic material Canada is putting into lakes and rivers, although the results of poi-

soning are evident. In the Saint Lawrence, the Beluga Whale suffers from tumors, growth defects, and a decline in population, Burkhard Mausberg of Pollution Probe warns. To help keep chemicals out of the lakes, Pollution Probe is putting together a scientifically based list of chemicals that should never be generated.

The Union Quebeoise pour la Conservation de la Nature, a network of 110 environmental organizations in Quebec, is making the Saint Lawrence Seaway a top priority. Members are working community by community in public committees to facilitate implementation of federal and provincial programs. In part because of the efforts of activists, more than 40% of used water flowing into the Saint Lawrence River is now clean, Christian Simard of the federation reports. Among the concerns of various member groups are buying wetlands, cleaning beaches, and making the river safe for transportation. Each year some 16,000 ships, many of them carrying petroleum and other hazardous materials, use the seaway. "We want to prevent an Exxon Valdez-type accident here," Simard says.

Mausberg predicts that land use in the Great Lakes basin will be an important issue in the 1990s. People will begin to realize the relationship between deforestation and the condition of the lakes, particularly Lake Superior.

For further information on Great Lakes issues, contact Pollution Probe, 12 Madison Ave., Toronto, Ontario M5R 2S1 (416-926-1907) and Center for the Great Lakes, 35 East Wacker Drive, Suite 1807, Chicago, IL 60601 (312-263-0708). Pollution Probe puts out the environmental periodical *Probe Post*, but publication has been temporarily suspended because of the recession. The Center for the Great Lakes publishes the *Great Lakes Reporter*, which concerns the relationship between economics and the environment.

For information on the Saint Lawrence River and other issues pertaining to Quebec, contact the Union Quebeoise pour la Conservation de la Nature, 160 76th Street East, Charlesbourg, Quebec G1W 2G5 (418-628-9600). Its periodical is *Franc Vert*.

URANIUM MINING

Uranium mining is a hot issue in northern Saskatchewan, which has not been affected by the dimming fortunes of the nuclear industry worldwide. Deposits in Saskatchewan are unusually rich, and the inhabitants of the area are mostly indigenous people with little political clout. Mills at Key Lake, Cluff Lake, and Rabbit Lake continue to contaminate land, air, and water with radionuclides, heavy metals, and chemicals used in processing; but no studies of the cumulative impact of the mills and mines on the environment have been made. Four new mills and eight new mines are in the process of being licensed. Two panels picked by the federal and provincial governments

are reviewing the environmental, health, safety, and socio-economic impacts of the proposed facilities. They need input. For information or to help, contact Phillip Penna of the Inter-Church Uranium Committee Educational Co-operative, Box 7724, Saskatoon, Saskatchewan S7K 4R4 (306-244-5387); Pokebusters Citizen's Coalition, same address (306-242-3138) or Jim Harding, International Uranium Congress, 2138 McIntyre Street, Regina, Saskatchewan S4P 2R7 (306-585-4034).

The Canadian nuclear industry as a whole refuses to die. Ontario Hydro is proposing additional nuclear power plants; and the Saskatchewan power authority is discussing with Atomic Energy of Canada Ltd. construction of a model Candu-300 reactor in Saskatchewan. Nuclear waste is in Canada, as elsewhere, an issue. For more information on Saskatchewan contact the Saskatchewan Environmental Society (address above, under dams) and on Ontario, the Nuclear Awareness Project, Box 2331, Oshawa, Ontario L1H 7V4 (416-725-1565). The latter sells a Great Lakes Nuclear Hot-Spots [Poster] Map for \$5 Canadian.

GRAY WOLF KILLING

Canada has a relatively stable Gray Wolf population of 50,000 to 65,000 animals, but even in Canada wolves do need protection. The government of Alberta operates a wolf control program using lethal means; and, though at present the government of British Columbia is not killing wolves, farmers poison, trap, and shoot wolves illegally and are pressing the BC government to commence an official program of poisoning. For information, contact the educational organization Northwest Wildlife Preservation Society, PO Box 34129, Station D, Vancouver, British Columbia V6J 4N3 (604-736-8750) or Trudy Frisk, 6009 Dallas Drive, Kamloops, British Columbia V2C 5Z9 (604-573-5196).

MILITARY INVASIONS

Low-altitude and/or supersonic military flights shatter the silence of what should be "acoustic wilderness" in many areas of Canada. The notorious low-level NATO training flights from Goose Bay in Labrador, Newfoundland, continue, although plans for enlarging the base were not realized. For 1992, according to Peter Armitage, the military plans 8,400 sorties, with 60 planes per sortie, up from 45. The flights disrupt the traditional hunting of the Innu and severely impact wildlife. Another indigenous people, the Dene, must endure military overflights through Alberta.

Most of the military flight routes through Canada are dedicated to planes of the US Strategic Air Command (SAC), which requests them for training in the name of the North American Aerospace Defense Command (NORAD), according to

continued next page

Richard Bergen, a physician and pilot who studied military flight patterns. A recently established SAC route passes from the Dakotas, up through Manitoba, angles through Saskatchewan, and goes into the Cold Lake installation in Alberta, which is used for air force training and testing missiles. The flight route became operational without any public announcement or environmental impact study, Bergen charges.

One of many examples of military encroachment on natural areas is Tweedsmuir Park in British Columbia. According to Bergen, the military has gradually encircled the park with the Comox MOA (military operations area) for air combat training.

Bergen anticipates that in the future, civilian flights across Canada will become "as noxious or worse than the military." Three types of civilian supersonic planes are under development. The largest of these, the High Speed Civilian Transport, a second generation Concord, will fly between Europe and North America over the Arctic. The other two, a supersonic business jet and a small supersonic aircraft for private civilian pilots, are also likely to cross otherwise quiet areas. Industry is avoiding media coverage until the planes near completion so as not to share the fate of the Supersonic Transport (the SST), Bergen says.

For further information contact Richard Bergen, 50 Fifth Ave., Pointe Claire, Quebec H9S 5E1 (514-695-3297).

Another military issue that impacts wildlife is the Canadian Forces Maritime Experimental and Test Ranges at Nanoose Bay in British Columbia, the site of nuclear submarines and anti-submarine warfare tests. For information contact Laurie MacBride, RR #2, Arlington Rd., Box 6, Nanoose Bay, British Columbia VO4 1T0 (604-468-7335).

LAND DISPUTES

In all of Canada's provinces and territories the native human residents have been robbed of land, but not so thoroughly as in the United States. Numerous native land claims remain unsettled, and these claims often become interwoven with wilderness issues. Two organizations that can put readers in touch with indigenous peoples to learn their point of view are Cultural Survival, Suite 420, 1 Nicholas Street Ottawa K1N 7B7 (613-233-4653); and the Mother Earth Healing Society, 8631—109 Street, Suite 211, Edmonton, Alberta T6G 1E8 (403-439-6132), which is working to make connections between aboriginal rights and environmental issues.

WOOD BUFFALO KILLING

Wood Buffalo National Park in Alberta and the Northwest Territories epitomizes the devastation occurring in Canada. Though a national park, the area suffers from logging and an upstream dam, and may soon experience a huge wildlife slaughter.

In the past the park had harmful connections with the military and with the nuclear industry.

According to Stephen Woodley of Environment Canada's Parks Service, logging, which is contrary to the National Parks Act, began in Wood Buffalo in the 1940s before it became a national park (letter of 10-11-91 to Green Web). The logging was to provide wood for the construction of Uranium City, a matter of "national security." A revised agreement allowing lumbering to continue on the 50,000 hectare lease until the year 2002 was signed in 1957, Woodley says. According to the Canadian Parks and Wilderness Society (CPWS), the agreement could have been withdrawn when it came up for review in 1982, but it was not. The Japanese multinational Daishowa now has the lease. A document obtained by CPWS under the Access to Information Act indicates that logging will end by 1995 because all harvestable timber will likely be cut by then. It is boreal forest with stands of old-growth White Spruce.

The dam in question is British Columbia Hydro and Power Authority's Bennett Dam, constructed in the late 1960s on the Peace River. The delta of this river was the largest fresh water delta system in the world, according to Foy of the Western Canada Wilderness Committee. The dam put an end to ice jams and the resulting flooding that provided nutrients to adjacent wetlands; now the wetlands themselves are drying up. An unpublished satellite study by the Canadian Parks Service says that if present conditions continue, the Peace Athabasca delta will be completely dry within 50 years. CPWS says that the area is a key nesting and staging area for half a million migratory birds.

The wildlife that may be slaughtered are the thousands of Wood Bison in the park. In the 1940s Prairie Bison were moved to Wood Buffalo Park, when a southern park was turned into a military base, Foy says. The Prairie Bison brought with them brucellosis, and they bred with the Wood Bison. Ranchers want the Bison in the park killed to prevent the spread of brucellosis to cattle; and the Park Service speaks of the need to kill the bison to keep the brucellosis from contaminating pure Wood Bison north of the park. The Western Canada Wilderness Committee and the Canadian Parks and Wilderness Society oppose the slaughter. The herd in the park seems to be doing well, despite the brucellosis, Foy says.

For more information contact Canadian Parks and Wilderness Society, Suite 1150, 160 Bloor Street East, Toronto, Ontario M4W 1B9 (416-972-0868) or the Western Canada Wilderness Committee (address under dams above). The Parks and Wilderness Society publishes *Borealis*.

PUBLICATIONS

Several publications are listed above with the organizations that produce them. Here we give a sampling of other Canadian magazines of interest to environmentalists. Opinions on their respective merit vary from Canadian to Canadian, but all have been praised by some.

Alternatives (Faculty of Environmental Studies, University of Waterloo, Waterloo, Ontario N2L 3G1), not for all as it prints articles on sustainable development and alternate technologies.

B C Environmental Report (B C Environmental Network, 2150 Maple Street, Vancouver, British Columbia V6J 3T3; 604-733-2400), good on BC issues.

Earthkeeper (99 Edinburgh Rd. South, Guelph, Ontario N1H 5P5).

Endangered Spaces Newsletter (World Wildlife Fund, 90 Eglinton Ave. East, Suite 504, Toronto M4P 2Z7; 416-489-8800).

Equinox (Telemedia Publishing, 7 Queen Victoria Rd., Camden East, Ontario K0K 1J0).

Forest Planning Canada (PO Box 6234, Stn C, Victoria, British Columbia V8P 5L5), purports to cover all of Canada but mostly British Columbia, good source of statistics.

Greenpeace Canada Action (published quarterly by Greenpeace, 185 Spadina Ave., Toronto, Ontario, M5T2C6) covers Canadian Greenpeace issues/campaigns.

Milieu (Environnement Canada, CP 6060, Quebec, Canada G1R 4V7), published in French and in English.

Seasons (Federation of Ontario Naturalists, 355 Lesmill Rd., Don Mills, Ontario M3B 2W8).

The New Catalyst (Catalyst Education Society, PO Box 99, Lillooet, British Columbia V0K 1V0), shows connections between environmental and social issues.

The Trumpeter (POB 5853 Stn B, Victoria, British Columbia V8R 6S8), publishes North America's premier deep ecology theorists.

Wilderness Alberta (Alberta Wilderness Association, Box 6398, Station D, Calgary, Alberta T2P 2E1; 403-283-2025).

Wildflower (Canadian Wildflower Society, 90 Wolfrey Ave., Toronto, Ontario M4K 1K8).

The Media Foundation uses its quarterly magazine, *Adbusters*, to launch media campaigns which can assist activists in the United States as well as in Canada. Among the issues on which it is working are protection of the rainforest of the Pacific Northwest and excessive consumption in North America (the High on the Hog campaign). The foundation offers free of charge, broadcast quality, 30-second, three-fourths or one inch tapes to people who can get the spots onto television (1243 West 7th Ave., Vancouver, British Columbia V6H 1B7; 604-736-9401).

The Green List: A Guide to Canadian Organizations and Agencies lists some 2700 addresses. It was published in the spring of 1991 and is available from the Canadian Environmental Network, PO Box 1289, Station B, Ottawa, Ontario, Canada K1P 5R3 (613-563-2078) for \$50 Canadian plus 7% tax.

The Canadian Periodical Index, published monthly by the Canadian Library Association in Ottawa, indexes some Canadian environmental periodicals. The *Canadian News Index*, published by Micromedia in Toronto, also monthly, indexes many Canadian newspapers. Large libraries may subscribe to microfiche that reproduce a selection of the indexed articles.

MACAQUES IN THE SKY

Walking the trail with Wang Ch'ing-hua, Red Pine, Lo Ch'ing, and Carole from Nanren lake, we see a clear spot in the jungle canopy of leaves—a high point arch of heavy limbs, a lookout on the forest slope—

A mother monkey sits and nurses,

A couple perching side by side,

A face peeks from another leaf-screen, pink cheeks,
shining eyes.

An old male, silver belly, furrowed face,
laid back in a crotch

harsh little cough-calls echo

faces among the leaves,
being ears and eyes of trees
soft hands and haunches pressed on boughs and vines

Then—*wha!*—she leaps out in the air
the baby dangling from her belly,

they float there,

—she fetches up along another limb—
and settles in.

Her
arching like the milky way,
mother of the heavens,
crossing realm to realm
full of stars

as we hang on beneath with all we have

and drink her light.
enjoy her flight.

Rhesus macaque.

From *Mountains and Rivers Without end*
South Taiwan, September '90

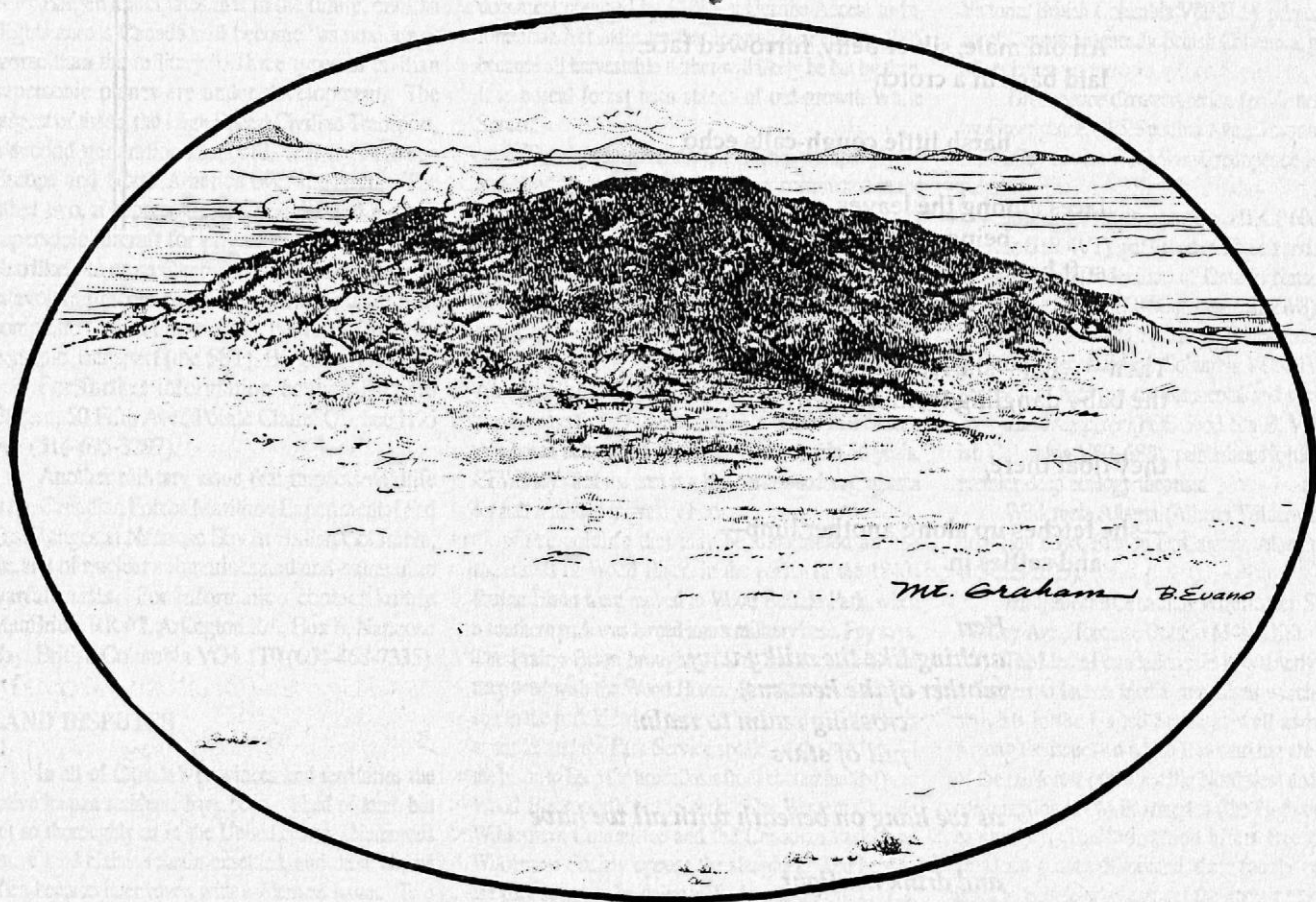
—Gary Snyder

BIODIVERSITY REPORTS

Biodiversity

Mt. Graham Saga: Part XXVIII

editor's note: For background information on efforts to stop the proposed astrophysical project atop southeast Arizona's Mt. Graham, in the Coronado National Forest, see Wild Earth #2 and most issues of Earth First! Journal from 1985 to 1990.



Sunday morning, November 3: Slept under the stars on the Tribe's holy ground in Bylas, Arizona. Woke to a cold sky, pale blue. There will be weather today. Yesterday the San Carlos Apache spiritual leader conducted a holy ceremony on the mountain-top. We all danced. If it didn't snow on top last night, it will today. A cold stiff wind blows across the plain toward us. Winter has begun; the mountain has spoken.

The fight for the preservation of Mt. Graham has taken a new twist. Mike D'Amico likes to welcome folks to the Mt. Graham rollercoaster. Up and down and all around, the

effort to keep the top of Mt. Graham free and wild spins and weaves and changes daily. This time around there's definitely woo-woo involved. Good woo-woo, as Peg Millet would say. The mountain is speaking and folks are coming to her aid. The University of Arizona is pouring the concrete for the foundations of the first two telescopes, but as Robin Silver (a long time Mt. Graham activist) says, "what goes in can come back out."

The Apache Survival Coalition filed a lawsuit in August against the Forest Service contending that the Forest Service did not adequately look at the cultural and religious

importance of the mountain to the tribe. The suit is a response to failure by the Forest Service to abide by the Indian Religious Freedom Act, the Constitution, the National Environmental Policy Act and the National Forest Management Act. In short, the Forest Service should have known the religious significance the mountain has to the San Carlos Apache Tribe and the Zuni Nation. The University of Arizona had proof of the significance of the mountain to the Apache tribe. Back in 1968, a fellow by the name of Goodwin, who had studied the tribe for years, donated his collection of papers to the U of A. They docu-

ment clearly that the mountain was most holy to the Apache. Yet now, as the case gets closer to trial, the U of A has threatened to intervene on the side of the government. If this happens, it will be the first time an American university uses public money to block a tribe from practicing its religion.

The U of A now has no American partners in the project. On September 7, Ohio State University pulled out. This victory was brought about by many folks; the final coup de grace was administered by the Ohio SEAC [Student Environmental Action Coalition] and a few outside agitators from Arizona. Ohio State's official reason for pulling out was financial. They claimed they couldn't raise the money. The real reason may have been the endless pressure many people applied.

The U of A is scrambling to find other partners since it can barely afford its own financial commitments. With the school in financial hot water and endless unexpected legal and other bills appearing, even the overly generous AZ Board of Regents are becoming nervous about the U of A throwing money down a telescope hole. The U of A is negotiating with the University of Toronto, which is interested in the Columbus telescope. The U of T was hit with a demonstration against the project before even having a chance to announce the idea! A student coalition fighting racism at U of T has joined the effort to save Mt. Graham. The U of A claims to be negotiating with four more possible partners. Anyone know who they are?

The foreign partners in the project have been the hardest for us to reach. We've long suspected that the U of A has not been telling them the whole truth. As with Smithsonian Institute, we've had to send a messenger with the truth about what a university is doing to a mountain. Now, Max Plank Institute in Germany is being barraged with calls and letters, asking them what the hell they are doing. Arcetri Observatory in Florence, Italy, is also starting to feel the heat. It doesn't help them to be the only other partner involved in the Columbus project, and to be in Italy, on the eve of the hoopla about Columbus. The Vatican has had over a thousand years to develop an impenetrable bureaucracy, but we are finding the weak links. We have been meeting with the Tucson bishop and other Church officials. Bob Witzeman, a party to a meeting with the bishop, notes, "it's a strange feeling to be talking to a bishop about being ethical." Several folks are preparing for another educational blitz on the Catholic churches to ask the parishioners to help stop their church's errant behavior.

The University of Arizona keeps hoping for us to go away, so they can scheme in peace.

We keep coming back stronger. SEAC is becoming more involved and the university faculty are starting to speak out. A few weeks ago, the Faculty Senate passed a unanimous resolution asking for a forum to discuss the issue. The university PR people are earning their money these days. Mr. Pacheco, the new university president, is facing particular heat. As a member of a minority group, he talks a good line about the minority position, but as proclaimed by a banner raised behind him at the opening of Native American Awareness Week, "Pacheco still speaks with forked tongue."

The Forest Service has (reluctantly) released the annual monitoring report on the Mount Graham Red Squirrel. It has evidence that the squirrel population is being disturbed by construction. This would hardly seem a surprise, but the U of A biologists who wrote the report are falling all over each other trying to explain away their own research. In perusing their document it is evident that they are looking for no impact. With biostitute Paul Young in charge of the monitoring, even the Forest Service is asking (quietly) for a new monitoring report. If the project continues, UA biostitutes will find it harder and harder to cloak the damage done to the squirrels and their habit. The cone crop on the mountain has failed again, and it will be a tough winter for the Red Squirrel population. Remember, the U of A promised to quit if they discovered any evidence of negative impact on the squirrel population.

Crews on the mountain have stopped construction for the winter. This gives us until spring to stop the project. "Endless pressure, applied endlessly" on all the collaborators is the key. Several new lawsuits are in the works. We can also look for new legislation to be introduced to repeal title six of the Arizona-Idaho Conservation Act. This legislation (which we hope to see introduced by the time you read this) will propose the mountain-top as a Wilderness Recovery Area and the mountain as a Native American Sacred Site.

In closing, I wish to announce a new fund-raising drive for the restoration of Mt. Graham. It won't take a lot of money, just enough to buy four wheelbarrows, four sledge hammers, four star-drills and four hacksaws. One set each for Cusonovich, Beigel, Emerine and Buddy Powell. If we raise enough, we can also provide a bullhorn for Pacheco to sing chain gang songs to the crew as they chip out those foundations and wheel the concrete back down the mountain. That's all the mitigation we need.

WHAT CAN YOU DO BESIDES BUYING WHEELBARROWS?

WRITE LETTERS:

Max Plank University: President, Max Plank Institute, Residenz Strasse #1A, 8 0 0 Munich 2, Germany 089-21

Arcetri Observatory: Franco Pacini, Director, Arcetri Astrophysical Observatory, Largo E Fermi 5, I-50125 Firenze, Florence, Italy

The Vatican: Archbishop Popio Laghi, apostolic Nunciature, 3339 Massachusetts Ave NW, Washington, DC 20009 (202-333-7121)

Bishop Moreno: Bishop Manuel Moreno, Roman Catholic Diocese of Tucson, 1 9 2 South Stone Ave, Tucson, AZ 85701 (602-792-3410)

Office of the President, University of Toronto, Toronto, Ontario M5S 1A3 Canada

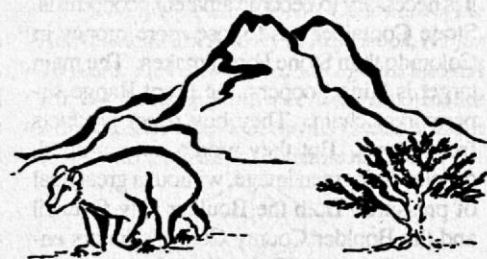
AZ Board of Regents: Donald Pitt, President, Arizona Board of Regents, 3030 N. Central, Phoenix, AZ 85102

Governor Rose Mofford, State Capitol, 1700 W Washington, Phoenix, AZ 85007

Supervisor, Coronado National Forest, 300 W Congress, Tucson, AZ 85701

Call some of these folks, especially Bishop Moreno, with specific questions about the Vatican's involvement. Students, get involved in the SEAC committee working on Mt. Graham.

—Roger Featherstone, GreenFire Project



BUT THE TREES KEEP FALLING

Thirty eight arrests. The logging continues. By the first of the year, at this rate, the courts in Durango will be full and the forests empty. Over the past three months, Ancient Forest Rescue activists and other concerned residents of Colorado have been arrested in Forest Service office occupations and in the forest. Some say that the old-growth issue in Colorado will never be the same again. But the trees keep falling.

Although Sandbench, in the San Juan National Forest, is one of the few ancient ecosystems that has been studied, industry forester Sam Scanga chose to ignore the report filed by plant ecologists Bill Romme and David Jamieson because, in Scanga's opinion, "our biologists tell me that there are similar benches on the next ridge and the next ridge and the one beyond."

Support for our claims that the National Forests are grossly mismanaged comes now even from mainstream sources. The New York Times, Newsweek and The Atlantic Monthly have recently run articles exposing Forest Service mismanagement. Yet the logging continues. Senator Tim Wirth questions the San Juan Forest Management Plan Amendment and refutes the claims by the Forest Service that its roads are for recreation. And the logging continues.

The grassroots group, Ancient Forest Rescue grows impatient. Reforming the Forest Service, though necessary, is too slow. The politicians may come around...eventually. Meanwhile Stone Forest Industries appeals the reduction in the annual allowable cut in the Rio Grande National Forest (well on its way to becoming a desert). Ancient Forest Rescue decides that the only way to STOP STONE COLD, before they bid successfully (they are often the sole bidder) on the rest of Colorado's last 1% of commercially viable old-growth forests, is to hit them where they hurt. They log the National Forest because it is given to them. Ancient Forest Rescue is determined to take away their profits through a boycott of sales from their parent company, the multinational, Stone Container.

Although picketing and office take-overs remain a part of the agenda, to play hard ball, it is necessary to become amateur economists. Stone Container has to lose more money in Colorado than Stone Forest makes. The main target is King Soopers, the Front Range supermarket chain. They buy paper products from Stone. But they won't come around, despite their green image, without a great deal of pressure. Both the Boulder City Council and the Boulder County Commissioners endorsed a boycott of Stone Container products.

It is a start. But such a campaign must spread beyond the bolder People's Republic of Boulder. Patagonia has joined up; REI is considering.

As always, letters and calls are needed. Region 2 Forester Gary Carghill could stop the logging of Sandbench and he could approve reducing the annual allowable cut. Tell him what you think about giving these priceless ecosystems to Stone. His number is 303-236-9427. Tell the President of King Soopers that ancient forests are more important than paper bags. Call Don Gallegos at 303-778-3292.

—Naomi Rachel, AFR, Box 1309, Lyons, CO 80540

PROTECTION IS CONSIDERED FOR AMERICA'S LARGEST PARK

The Adirondack Park is an embattled region of upstate New York covering more than 6,000,000 acres of mountains, lakes, rivers and wildlife. The largest Park in the lower 48 states, Adirondack Park contains approximately 130,000 permanent residents, over 100 local governments, and of course, the accompanying business and industries. Ironically the State Park's tremendous acreage, which allows for its wealth of diversity, is also a source of seemingly unresolvable political controversy.

Conflicts exist among Park residents: owners of private property—58% of the Park's acreage—often do not want the government's "heavy handed" Adirondack Park Agency (APA) dictating allowable construction and lot division for personal property; environmental advocates want protection for areas not already protected by the State (i.e. private holdings); local governments crave more year-round industries in their towns to provide jobs for seasonally unemployed residents. With such diverse demands on Park land-use, a comprehensive, long-term land-use proposal has yet to make it to a negotiable form. At present, progress for the Park would entail a simple but crucial commitment by officials (local, state and federal) and residents (permanent and seasonal) to preserve the Adirondack Park's biological integrity.

In the past few years, New Yorkers have sent mixed messages about their concerns for the Park to elected officials. Last year's rejection of the Environmental Quality Bond Act said, in effect, that further state land acquisition in the Park is not worth the cost. The rejection, however, must not be taken out of context. The intent of the Bond Act became incredibly clouded after the release of suggestions by the Governor's Commission on the Adirondacks in the 21st Century. Park residents reacted angrily to the Commission's report, fearing eminent domain and severe land restrictions. Whether these fears were justified or not, New

York Governor Mario Cuomo later admitted that it was untimely to reveal the Commission's controversial proposals six months before the state-wide vote on the Bond Act, even though the report was non-binding. While different regions of New York voted down the Bond Act for different financial reasons, it seems obvious that the high Adirondack voter turn-out was to condemn the Commission's report; nine out of ten Adirondack voters rejected the Bond Act intended to help *their* region.

Now, more than a year after defeat of the Bond Act, common ground for the Adirondacks is still being sought. In early October, Governor Cuomo released his latest *Proposals for the Adirondacks*. The stated purpose of the Governor's proposals is to "encourage and provide for the protection of the unique resources of the Adirondack Park at the State and local level; to provide for more local representation on the Adirondack Park Agency; and to promote compatible development in the Park." The final form of the proposals will be submitted to the legislature in January. If any or all of the proposals are enacted, they will go into effect 1 June 1993. The proposals would offer landowners tax incentives to preserve their back-country holdings. Conservation groups fear that the proposals are not strong enough to save the privately owned back-country.

In general, the proposals look like very timid compromises, begging to sneak by New York State Senator Ron Stafford (R-Peru). Senator Stafford long ago stated that he would not consider legislation that in any way *might* impede economic growth in Adirondack Park. The Governor is obviously trying to avoid ruffling Stafford's conservative feathers. A "no" from Stafford on Adirondack legislation usually means a "no" from the Senate. In a sense, Cuomo's proposals simply reiterate the fact that there is no general consensus to preserve the Adirondacks. Once again, environmentalists are trying to strengthen Adirondack proposals while pro-development advocates are trying to weaken them.

According to Assemblyman Chris Ortloff (R-Plattsburg), the proposals will probably not make it through the Senate or Assembly. Ortloff objects to the proposals, suggesting that: (1) they shift the responsibility from the APA to prove a new construction project would have an environmental impact, to the private land owner who must prove it would *not*; (2) they have vague terminology such as "biodiversity" and "land bridges"; and (3) they have no guarantees for existing business and industries. It does not appear, then, that help for the Adirondacks will come from elected officials, who do not understand the concept,

much less the importance, of biodiversity.

If indeed Adirondack Park's integrity is to be preserved, sacrifices will have to be made. It appears, as usual, that the Adirondack issue boils down to money. A fund needs to be established for the State to purchase parcels of land when they are put up for sale. Environmental groups have suggested imposing a "users fee" on boat launchings, parking and the like to create such a fund. Another idea is to include on the New York State tax forms a donation option earmarked for the Park.

Over half of the Adirondack Park, much of this open space, is private property which is not protected. While the APA has some degree of control over land use, there is currently no economic or political guarantee to prevent hundreds of thousands of acres of roadless backcountry from being devastated. Now is a pivotal time for the Adirondack Park. While Gov. Cuomo's proposals are not strong enough, they are a small step in the right direction. The question remains whether the proposals will be strengthened, or dragged down by pro-development legislators.

Comments regarding the Adirondacks can be sent to: Gov. Mario Cuomo, Executive Chamber, State Capitol, Albany, NY 12224. Hopefully the Governor will not have such a hard time making a decision for Adirondack Park.

—Andrea Freeman

ADIRONDACK PARK AGENCY: WHY IT DOESN'T WORK

It is purely by political accident that here in New York State the creation of the Adirondack Park and its wilderness occurred at all. In a modest manner, certain wild lands of northern New York were put beyond the immediate use of self-interest groups that wanted to get at its timber. A group of insightful thinkers in New York State were able to get a Forever Wild clause placed in the State's highest government document, namely its Constitution. "Forever Wild" meant that there was to be no human intrusion, building or cutting on any of the lands so designated. The reasons for this, at least in my reading of the facts, were highly commercial. The folks in charge of running the Erie Canal, in trying to protect the watersheds that supplied the canal, feared that the clearcutting of the forests in the Adirondacks (the source of five or six watersheds, depending on how you count) would dry up the transportation spine that nineteenth century New York State commerce depended upon. Over the years, more lands were added to the Forever Wild lands, some by falling off the tax rolls, some by gift and acquisition, and over the course of time the Adirondack Park grew to its current six mil-

lion acre size, 46% of which land is deemed Forever Wild.

In our time, some of us have come to terms with an important science—the science of ecology. This includes systems, population, hierarchical, and evolutionary ecology. Under the testable hypotheses of these sciences, land can no longer simply be viewed as a commodity—as a distributive good. Wild lands are the very source of life, rich geobiological habitats containing not only species, but important geochemical and meteorological cycles, vital energy cycling complexes that are important as ends in themselves or for their own sake. What ecology has taught is that the biotic environment, ranging all the way from niche, to ecosystem, to biome, to biosphere, is of inherent ethical worth, containing as it does the very source (not resource) of the life-giving and sustaining ingredients that enable this planet to be "alive." Land is not simply useful or instrumental to some lesser good; it belongs on a plane essential to the very sustenance of the planet and to bios itself as a higher good. To put it another way, land should no longer be considered simply a resource for various human uses, but instead should be known as a source—as the very confluence of processes eons old which has enabled the evolution of all species, including *Homo sapiens*, to even be present on planet Earth.

It has been my learning experience over the years that all levels of government, including State Government, even with a marvel like the Forever Wild clause in its Constitution, cannot deal with preserving inherent ethical values or higher goods. Because of the dominance of a liberalism which exiles inherent worth from politics, and because of the political priority given to the market place, to the production and sale of commodities, and because of the perceived prime function of government as providing for "the common good" or the equitable and fair distribution of such goods to citizens, agencies such as the Adirondack Park Agency are doomed to fail.

Government, which is the creature of politics, has to deal with constituencies in the private lands sector of the Park. The Adirondack Park Agency deals with individual home builders, with project developers, and even with those who purchase land as a means of profit as they do with corporate stock. The Agency currently does not look at the land in any other way than its diverse human uses. Restrictions are placed on some kinds of building, but these are primarily for landscape reasons rather than as a result of a direct interest in the inherent biotic value of the lands themselves. Even in its policy-making regarding nearly three million acres of State lands, the State Land Master Plan simply

outlines or parcels out lands based on various kinds of recreational uses, ranging all the way from the so-called pure wilderness lands—which are for hunting, hiking, camping, and aesthetic inspiration to people—to very intensive uses such as State Government facilities, public camp grounds, and ski centers. The waterbodies and rivers are also available for a range of uses from fishing, swimming, canoeing, to speed boats, jet skis and pontoon airplanes. The key words in all of this are "human uses" of the land. The Adirondack Park Agency, even though it has had some success in preventing larger monstrosities from appearing in the Park, such as large theme parks, fails in its task because it has no control over the constant and ever growing stream of small development which accumulates month by month and year by year. The Agency does not really deal with Adirondack land as ecological habitats or ecosystems, and it is easy to see why. Ecosystems have no political status. Transpiration, photosynthesis, trees, and loons don't vote. Unfortunately, even the Forever Wild lands in the Adirondack Park suffer greatly each year from human misuse and overuse. I will never forget my first impression of Mount Marcy on the Fourth of July with its campers and hikers. Flying over Mount Marcy, the highest peak in New York, reminded a friend of the crowds that visit Coney Island. Currently there is interest in finding out how the limited alpine vegetation on such mountain peaks in the Park can even survive under such human pressures.

So the major problem we face for any government land use program is how to deal with citizen prioritizing of commercial value on wild lands, on seeing only distributive good rather than inherent good in the land's complex biotic systems which are so important for their own sake, and.... for our planet's sake.

Can this view be turned around? Is a "land ethic" such as Aldo Leopold's even possible? Not as I see it. Human consumers neither learn from the past nor prepare for the future. We do not even take the time to wisely comprehend the inherent values in nature. Let's hope we can change before all of Earth's wild biomes are lost.

by Herman "Woody" Cole, APA Chairman

Woody Cole has been the Chairman of the Adirondack Park Agency in Ray Brook, NY for 16 years. He recently filed suit against the APA for conducting pond reclamations in the Adirondack Park. Woody has announced his resignation, effective sometime next year.



LAST CHANCE TO SAVE THE YELLOWSTONE ECOSYSTEM

by Bill Willers and Jasper Carlton

As land management agencies and mainstream environmental groups fail to protect Yellowstone's biological diversity, it's time to ask: If not Yellowstone, where?

In the northwestern corner of Wyoming, and extending into Idaho and Montana, is an area known as the Greater Yellowstone Ecosystem. It encompasses the rugged Teton Mountains, Wind River Mountains, Absaroka Mountains, alpine meadows, deep canyons, blasting geysers, plateaus, forests, lakes, crystal clear rivers, and one of the most dazzling arrays of megafauna left on Earth.

Greater Yellowstone supports the largest Elk herds and provides the major wilderness stronghold for free-roaming Bison in the United States. Grizzly and Black Bears, Mountain Lions, Bighorn Sheep, Mule and White-tailed Deer, River Otters, Bald and Golden Eagles, Trumpeter Swans, Peregrine Falcons, and Whooping Cranes are among the "popular" species of the area; while many less known species such as the Wolverine, Lynx, Boreal Owl, Fluvial Arctic Grayling, Yellowstone Cutthroat Trout, Preble's Shrew, and Ross Bentgrass are among the growing number of sensitive and biologically threatened species. North America's smallest mammal, the Dwarf Shrew, and largest land mammal, the Moose, are both found within the Ecosystem. Almost a full complement of native carnivores survives there, the exception being the Gray Wolf which was exterminated by the 1940s.

When seen on a contour map, the Greater Yellowstone Ecosystem (GYE) stands out from the rest of the Rocky Mountain chain. Its outline is obvious; it is a raised volcanic pla-

teau with a number of mountain ranges radiating outward. It covers roughly 18-19 million acres, within which—in total disregard of its natural flows and rhythms—we have drawn a 2 million acre rectangle called Yellowstone National Park. Yellowstone Park is simply a chunk of the Ecosystem's center. The rest of the Ecosystem is broken down, patchwork quilt fashion, into another National Park (Grand Teton), seven National Forests, three National Wildlife Refuges, BLM land, and private holdings. The parks are overseen by the National Park Service (Department of Interior), while the National Forests are under the control of the U.S. Forest Service (Department of Agriculture). BLM land, of course, is administered by the Bureau of Land Management, and Refuges by the Fish and Wildlife Service (both in the Interior Department). Bureaucratically speaking, then, Greater Yellowstone has been divided, each part tended according to the agenda of its administration. Although state and federal agency rhetoric would lead us to believe otherwise, the Ecosystem is not being cared for as a single unit.

Because the seven National Forests compose roughly three-fourths of the GYE, Forest Service (FS) policy is a primary concern of environmentalists. The FS employs a "multiple use" philosophy (often referred to as "multiple abuse" by environmentalists) which allows a forest to be used for mining, timber harvest, grazing, a wide range of recreational activities—and for wilderness. Herein lies a problem, for although commercial activities may exist together, biologically intact wilderness can coexist with none of them. Wilderness, by definition, is free of

industrial and commercial enterprise and operates solely according to the dictates of natural processes.

Although certain areas in some National Forests (usually high elevation terrain of little or no commercial value) have been "protected" as Wilderness, domestic livestock graze in much of that Wilderness. Livestock graze in every National Forest of the GYE, competing with and displacing native fauna. For example, the Targhee National Forest, just west of Yellowstone Park, sponsors sheep grazing in critical, occupied Grizzly Bear habitat.

Commercial timbering has been especially destructive. When viewed from the air the Targhee and Gallatin National Forests appear as patchworks of clearcuts, so many of which about Yellowstone Park that it looks like the Park's western boundary was drawn with a giant ruler—trees to the east, ruin to the west.

The administrations of Greater Yellowstone have come together in recent years in an attempt to produce a coherent management plan for the Ecosystem. Their joint working group, the Greater Yellowstone Coordinating Committee (GYCC), produced *Vision for the Future*, a draft of which, released in 1990, generated a huge negative reaction from regional industrial resource users. This so-called "Vision Plan," industry could see, placed the multiple-use philosophy in jeopardy and, by extension, their "access" to public lands. Powerful resource extraction industries were the dominant voices at public hearings held in Wyoming, Montana, and Idaho. This small minority influences the future of Greater Yellowstone to a degree way out of proportion to its size, for it is the collective voice of industry that the managers of our public lands hear on a daily basis.

A principle fear of the industrial "multiple-use groups" is that the boundaries of Yellowstone Park may be extended (as clearly they should be). This would make a sizable

chunk of land unavailable for commercial ventures, which prospect prompted letter writing campaigns to combat what industry called, ironically, a "land grab." One industrial group, the Yellowstone Regional Citizen's Coalition, circulated a statement that the Vision Plan would lead to "...anti-development land use..." and would hamper citizens' rights to "snowmobiling...off highway vehicle use...mining, grazing and timber harvesting." [Apparently as a result of interference from Bush's Chief of Staff John Sununu and several western Congressmen, the "Vision" was completely rewritten, to uphold the interests of the resource extraction industries. The firing of the Regional Director of the National Park Service, Lorraine Mintzmyer, was in part due to her work on the Draft Vision.—ed.]

There is an odd inconsistency in the psychological make up of Western "resource users." Although they see themselves as highly independent holdovers from the frontier, they are among the country's principal welfare recipients. The logging industry in Yellowstone, for example, exists only because of taxpayer support. A 1986 accounting by an independent firm revealed that loggers' jobs in Yellowstone cost the government (read taxpayers) from \$5000 to \$70,000 per job. The

Western livestock industry, its romantic cowboy imagery notwithstanding, exists in its present form only because it is able to lease millions of acres—the bulk of our BLM lands—for a small fraction of market value. Cattle and sheep displace native game species in much of Greater Yellowstone—even in some areas designated as Wilderness. All the John Wayne look-alikes out there who complain endlessly about government intervention are living in a dream world, but they make up enough of a voting majority in the Yellowstone area: that they can elect D.C. congressional delegations who will fight to keep the public lands open to them. So Americans continue to fund the destruction of their premier wilderness.

A 1989 listing of rare, sensitive, and threatened species in the GYE, published by a coalition of independent conservation organizations, indicates that certainly dozens, perhaps hundreds, are in serious trouble and many should be listed and protected under the Endangered Species Act, including the Trumpeter Swan, the Fluvial Arctic Grayling and a number of rare plants. No comprehensive floral and faunal survey has ever been undertaken in any of the GYE's seven National Forests.

There are pressures on the US Fish and Wildlife Service to refrain from listing, not

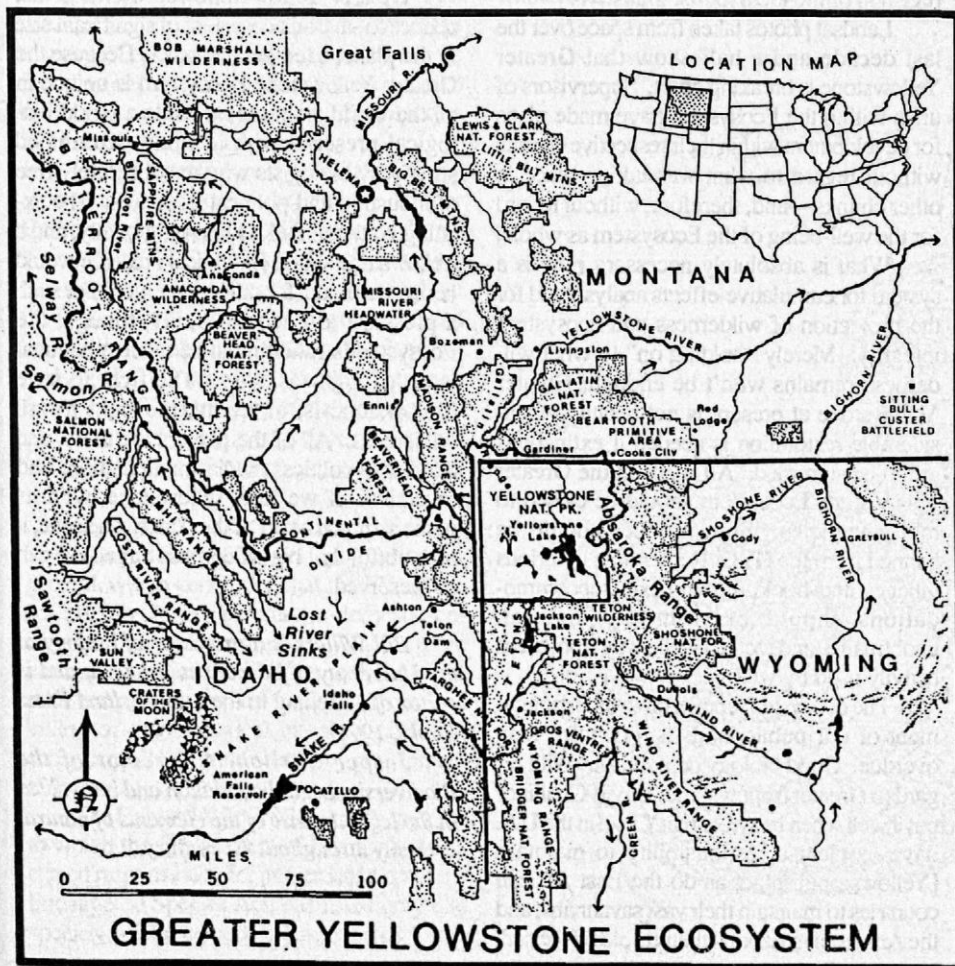
only because each new listing would require time and resources for a recovery program, but also because any resultant habitat protection would restrict access for industry. [See article on ESA lawsuit, this issue.—ed.] As a result of this bureaucratic foot-dragging, the number of native species managed by the Forest Service as sensitive, threatened or endangered is seriously understated.

The Grizzly Bear, being a symbol of American wilderness, has high visibility in the public mind and was listed as Threatened in 1974, though with fewer than 1000 remaining in the lower 48 states, it clearly should be classified as Endangered. That same year the Interagency Grizzly Bear Committee (IGBC) was established with members from the Forest Service, the Park Service, the Fish and Wildlife Service, and from the states of Wyoming, Montana, and Idaho. The IGBC coordinates Grizzly research in the lower 48, but it has never really functioned as an advocate for the full recovery of the Grizzly Bear in the wild. It's just too stacked with economic interests.

In 1986 a very telling article was published by Wyoming's then representative to the IGBC in a magazine distributed by the Wyoming Department of Fish and Game. In it the author, Dale Strickland, an administrator, wrote that "...the days of naivete when I considered the bear as an interesting and integral part of a natural ecosystem have passed..." that "...the bear has often become an obstacle to managers of other natural resources..." and that "...setting aside vast wilderness for nothing but the bear is simply not feasible nor desirable." In Strickland's view, the key to the survival of the Grizzly Bear "...is not protection, but management."

The point of any recovery program for an Endangered or Threatened species is to create a situation in which habitat quality and population size are sufficient to allow the species to sustain itself in perpetuity. Only when those conditions are met is "delisting" of the species in order. In 1990, the IGBC released its first revisions of the Grizzly Bear Recovery Plan, in which it stated that "...remaining reserves will become small isolated fragments." Nevertheless—and incredibly—the Committee stated that its intention was to make "...livestock grazing...timber harvest...road building...mineral and oil and gas exploration...compatible with grizzly bear habitat requirements." The plan is bell-clear in its revelation that a biological problem is being dealt with not by independent biologists but by a complex of economic and political interests, and that the fragmentation, degradation and destruction of Grizzly Bear habitat will be allowed to continue.

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In 1987 a young biologist named William Newmark published a paper in which, by tracing the extinctions of mammalian species in national parks, he concluded that virtually all parks, isolated as they are in seas of development, are too small to maintain "an intact mammalian fauna." Newmark's paper has done much to generate awareness of island biogeography, which concerns the relationship between the size of an area and the number of species it can support.

This field of study is very relevant to the Grizzly Bear, with roughly 800 individuals presently in the lower 48 states divided among seven geographically separated populations, one of which is the Yellowstone population of perhaps 200-250. And although the phenomenon of inbreeding is well understood in biological circles, the IGBC recovery plan fails to acknowledge that inbreeding, in the long haul, would ensure the genetic deterioration of the isolated populations and the eventual extinction of the Grizzly in the lower 48.

A population of 2000 Grizzly Bears, which is a biologically realistic estimate of what would be required to inhibit genetic decline through inbreeding, would need roughly forty million acres, given the range requirements of Grizzlies. This would necessitate preserving multiple and connected ecosystems. Protecting the GYE, then, is necessary but not sufficient. For the sake of the Grizzly Bear, Gray Wolf, and other wide-ranging species, broad wildlife corridors must be established between the GYE, the Northern Continental Divide Ecosystem, the Central Idaho Wildlands Complex, and other intact ecosystems.

The IGBC is composed not of independent biologists but of bureaucrats being pressured by resource-using industries to delist the Grizzly Bear prematurely. Those industries, knowing that an effective recovery program for the bear would mean the loss of their access to thousands of square miles of public lands, are using all means at their disposal to achieve their ends, including political help from the congressional delegations of Wyoming, Montana, and Idaho, whose election campaigns they generously support. Decisions of biological importance, then, are being made by officials under the control of regional economic interests. And now, fuel is being added to the fires of conflict as advocates for the re-establishment of the Gray Wolf in Greater Yellowstone grow in numbers and strength, much to the chagrin of the livestock industry there.

Any adequate plan for an intact Greater Yellowstone Ecosystem would include an active program of acquiring private lands that come up for sale. So far, there has been inadequate protection of valleys and low eleva-

tion lands, which are particularly important wildlife habitats but are typically sold to developers.

Also needed are road closures, since roads are among the most destructive of human disturbances. Roads are barriers to the movements of wildlife, and they encourage the introduction of the motorized crowds and the pollution and development the crowds inevitably bring. Roads create "edge effects" and allow the entry of generalist (weed) species, which then compete with natives.

Even now Greater Yellowstone has more people and more industrial activity than can be tolerated by wilderness dependent species. The Park itself has over 300 miles of roads, villages built in prime Grizzly Bear habitat, dumps, powerline corridors, sewage lagoons, and God knows how many hookups for those gigantic recreational vehicles. Although most Americans don't know it, snowmobiles now frolic through the Park each winter. In the ten years or so since they gained access to Yellowstone Park, their numbers have skyrocketed. In the winter of 1990-91, about 100,000 snowmobilers invaded Yellowstone Park, producing noise and fumes during what until recently was a period of rest for wildlife. All of this, of course, has been filling the cash registers of the local tourist industry.

Landsat photos taken from space over the last decade and a half show that Greater Yellowstone is breaking apart. Supervisors of units within the Ecosystem have made plans for development within their respective chunks without regard to what was taking place in other chunks—and, therefore, without regard for the well-being of the Ecosystem as whole.

What is absolutely necessary now is a system for cumulative-effects analysis and for the protection of wilderness and ecosystem integrity. Merely "holding on" to what wilderness remains won't be enough; Greater Yellowstone at present is not healthy. Considerable restoration is needed if extinctions are to be stemmed. All roads in the Greater Yellowstone Ecosystem should be closed to motor vehicles. Snowmobiles should be banned from the GYE. Rather than luxurious villages and hookup complexes, accommodations should be primitive, natural, unobtrusive, and located well away from areas heavily used by wildlife.

The ecosystem approach to the management of our public lands is a concept long overdue. Good biology demands it. With regard to Greater Yellowstone, David Challinor put it well when he wrote that "...we in the U.S. have as clear a responsibility to maintain [Yellowstone] intact as do the East African countries to maintain their vast savannahs, and the Amazonian nations their tropical forests."

As it is, though—and despite the fact that the Endangered Species Act places biological considerations above all others for agencies making decisions that may affect Threatened or Endangered species—conservation in Greater Yellowstone is taking a back seat to development. And, oddly, the big-name and well-heeled Washington and New York-based environmental organizations are failing to use the full force of environmental law. Only a fraction of destructive Forest Service activities are being challenged in court. Moreover, the Park Service has failed to sue the administrations of neighboring National Forests whose policies have been damaging to Yellowstone Park.

It is well-known that the Forest Service is under the control of resource-using industries and that it has betrayed public trust. The agency's image is so tarnished that it has resorted to Madison Avenue public relations programs to make itself appear respectable. Its personnel are not biologists with a broad and deep understanding of ecosystems. Wilderness as repository of genetic diversity and natural processes is foreign to their training. All National Forests within the Greater Yellowstone Ecosystem, therefore, should be removed from the land base of the Forest Service.

Greater Yellowstone represents a last chance to save an ecosystem of significant size in the planet's temperate zones. Because the Greater Yellowstone Ecosystem is unique in all the world it should be made a world biological preserve with a future determined strictly by biologists who are absolutely free of industrial and political pressures. The existing National Park is known globally, and a Yellowstone World Biological Preserve would become a model for other preserves. For such a preserve to become reality, though, the Ecosystem's future must be made a national issue of high visibility. The fight to save Yellowstone is, in reality, the fight for all wilderness. All of the players are there, and all of the politics, media manipulation, and invective. If we lose Yellowstone, with its name so much a part of the American scene, it is doubtful that big wilderness anywhere can be preserved.

Bill Willers is a professor of biology at the University of Wisconsin/Oshkosh, and is editor of Listening to the Land (Island Press Books, 1991).

Jasper Carlton is Director of the Biodiversity Legal Foundation and is involved in the legal defense of the elements of natural diversity throughout the country.

Biodiversity Proponents Prepare Multiple-Species Suit

by Mary Byrd Davis

November 4 Jasper Carlton, the Fund for Animals, and eight grassroots conservation activists provided notice of intent to sue the US Fish and Wildlife Service (FWS) for failing to adequately implement the Endangered Species Act (ESA). Their suit will be "the first broad-based generic lawsuit, involving hundreds, if not thousands of species across the country," Carlton says. Up until now suits on failure to implement the ESA have concerned only single species or, rarely, multiple species in a narrow geographic region.

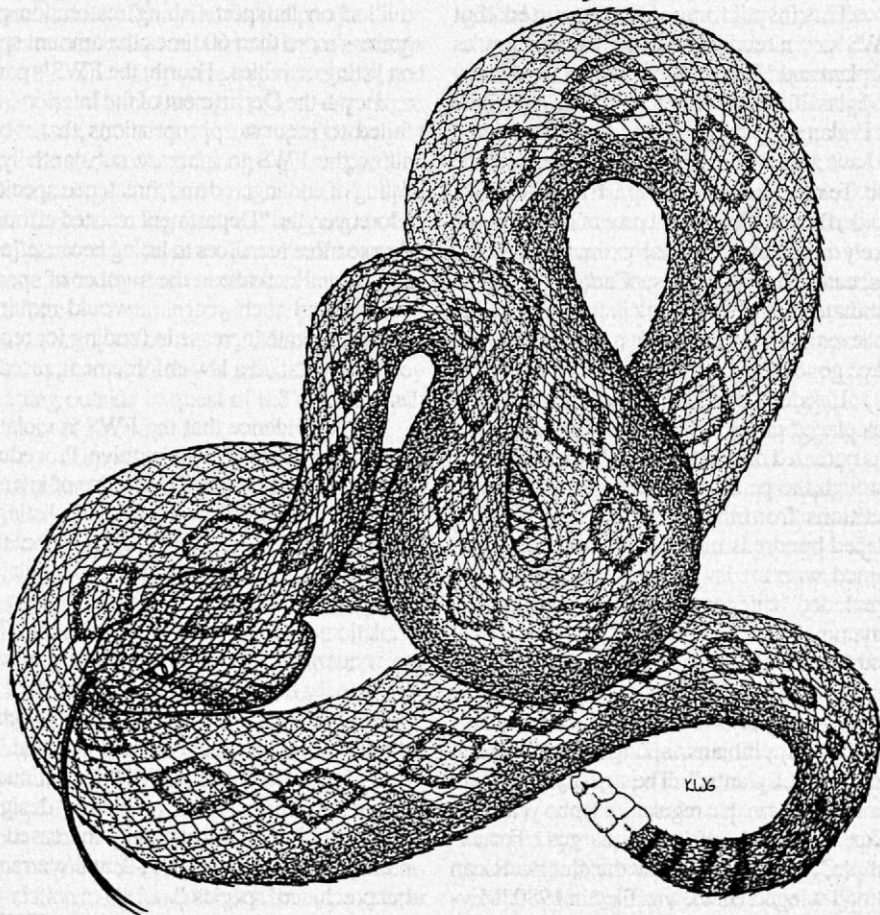
The grassroots conservationists fittingly represent all regions of the country. Jasper Carlton is director of the Biodiversity Legal Foundation (BLF), a non-profit organization that monitors habitat degradation throughout the United States and advocates protection and restoration of habitat for the benefit of species in danger. BLF developed the legal strategy for the case. The Fund for Animals is a national non-profit membership organization committed to preserving animal species in their natural habitats.

They base their charges on a 1990 report by the Department of Interior's own inspector general, which concluded that the FWS "has not effectively implemented a domestic endangered species program."¹ What we are witnessing under the Reagan and Bush administrations, according to Carlton, is "the killing of the biological integrity of native ecosystems," aided and abetted by government officials.

The Fish and Wildlife Service, the agency to which the Department of Interior has delegated responsibility for implementation of the Endangered Species Act, has listed only 620 species as Threatened or Endangered in the

United States. "This is about one tenth the number that should be listed," Carlton says. Under the ESA, the FWS must list imperiled species as Threatened or Endangered "solely on the basis of the best scientific and commercial data." Once species have been listed, the FWS must prevent their "taking," designate "critical habitat" for them, develop recovery plans for their conservation, and consult with other federal agencies whose activities may jeopardize their continued existence. By delaying the listing of species, the agency minimizes its work on these crucial tasks.

The FWS maintains lists of "candidate" species from which it draws the species it lists as Endangered or Threatened. The agency places in category C-1 those species "for which the Service has substantial information to support the proposal to list." It places in C-2 those species "for which the Service has information indicating the possible appropriateness of listing, but for which further information is still needed."² Designation as a candidate affords a species no special protection. It may still be shot or trapped, and its habitat destroyed.



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Currently at least 600 species are designated C-1 and at least 3000, C-2. FWS staff told the inspector general that 1300 to 1800 of the C-2 species will eventually qualify for listing. At current rates of listing the FWS will spend 38 to 48 years listing just the present C-1 species and those C-2 species that it now thinks merit protection. Meanwhile, many of these species will go extinct.

Moreover, these numbers greatly underestimate the severity of species decline in this country, BLF research suggests, in part because invertebrates, microorganisms, and plants have been relatively neglected. As invertebrate animals, which comprise some 97% of animal species, come under closer scrutiny, hundreds will likely qualify for listing. Carlton warns that each one represents a lawsuit to clog the courts still more.

BLF offers a way to avoid this proliferation of suits. A logical alternative to considering each of an ecosystem's myriad species in isolation is to consider the ecosystem itself as an integral unit. Many independent biologists support this alternative. Species are not isolated entities but interacting parts of a larger unit, the ecosystem, such biologists say; and when one or more species in an ecosystem become endangered, it is a sign that the ecosystem itself is in trouble.

The inspector general reported that FWS's own records indicate that as many as 17 plant and 17 animal species that the agency had classified as C-1 or C-2 but had not listed as Endangered or Threatened, are considered to have already become extinct. They include the Texas Henslow's Sparrow and Wild Spiderflower. The present pace of listing "could likely result in additional extinction[s]," the inspector general admits. Carlton thinks the estimate of 34 extinctions is far too low. He believes some ten times that number of species have gone extinct while awaiting listing.

Besides failing to protect species that it has placed on its C-1 and C-2 lists, the FWS has not acted on species brought to its attention through the petition process. In response to petitions from the public, the agency has placed hundreds of species that it has determined warrant listing in a "warranted but precluded" category. These species include "mammals (such as the Louisiana Black Bear and Sherman's Fox Squirrel), birds (such as the Puerto Rican Broad-winged Hawk and the Appalachian Bewick's Wren), crustaceans, reptiles, amphibians, sponges, insects, and hundreds of plants." The agency "has kept those species in that regulatory limbo year after year," the notice of intent charges. For example, "a petition to list the Puerto Rican Broad-winged Hawk was filed in 1980." Every year since then the FWS has designated it

as "warranted but precluded."

The ESA requires the FWS to implement an effective system for monitoring the status of "warranted but precluded" species. FWS fails in this as well, the inspector general found. Nor does FWS conduct a required annual review of species in the "warranted but precluded" category.

The FWS cannot honestly excuse itself for the violations by stating, as it repeatedly does, that it lacks funds, the inspector general's report shows. "First, a major part of the problem [has] nothing to do with the agency's resource capabilities, but [is] due to 'major internal control weaknesses' at the FWS, including the fact that employee time is not tracked, internal management reviews are not conducted consistently, and management information systems are inadequate."³ Second, "the FWS could ameliorate the problem substantially by revamping its approach to listing. For example, the FWS could 'significantly reduce' the expense of listing 'by either employing 'maximum usage of multispecies listings,' or considering the possibility of 'listing en masse all plants and animals it currently believes warrant official listing.'" Third, the FWS should make the listing of species a priority. "According to 1989 [FWS] budget documents, the agency spent \$192 million on its sport fishing restoration program—more than 60 times the amount spent on listing activities. Fourth, the FWS's parent agency—the Department of the Interior—has failed to request appropriations that would allow the FWS to increase substantially its listing of endangered and threatened species." Moreover, the "Department resisted efforts to devote more resources to listing because '[a]ny significant increase in the number of species being listed each year . . . would require a commensurate increase in funding for recovery, consultations, law enforcement, research and related.'"

The evidence that the FWS is violating the ESA and the Administrative Procedures Act is "overwhelming," the notice of intent to sue states. In addition to delaying listing in general, FWS "consistently allows" "political and economic factors" "to guide its regulatory decisions and agenda." Responding to the violations, the notice of intent asks the FWS to "undertake, within a reasonable period of time, to list all current C-1 and 'warranted but precluded' species," and to decide which of the "current C-2 species should be listed." It further requests that the FWS "discontinue its use of the 'warranted but precluded' designation" until it has "substantially increased the number of listings of C-1, C-2, and 'warranted but precluded' species."

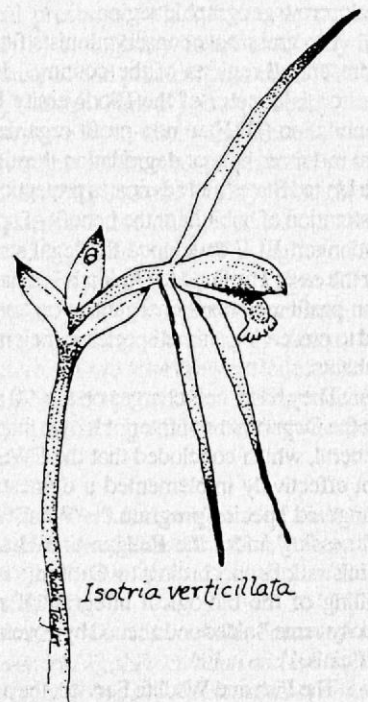
The plaintiffs do not expect the FWS to

mend its ways within the 60 days that must elapse between the filing of a notice of intent to sue and the suit itself. They are prepared to sue, and hope their suit will awaken the public to the fact that the ESA as now implemented is not preventing extinctions within the United States. Such an awakening is past due, Carlton says. "While people worry about the loss of species in the tropics, we face an enormous biological crisis at home in the United States—and the Bush Administration is thwarting implementation of conservation laws intended to protect natural diversity."

To support the legal expenses of grassroots activist plaintiffs in this important case please send financial contributions to the Biodiversity Legal Foundation, POB 18327, Boulder, CO 80308-8327.

REFERENCES

- (1) Audit Report: *The Endangered Species Program. US Fish and Wildlife Service* (September 1990).
- (2) FWS Memorandum, *The Endangered Species Act of 1973: A Summary of the Act, and Fish and Wildlife Service Activities* (July 5, 1991).
- (3) In this and the following paragraph quoted phrases are taken from the notice of intent to sue. Quotes within these quotes are from the inspector general's report.



Isotria verticillata

Sauntering Back the Tallgrass Prairie

by George F. Frazier

The ultimate irony in the environmental preservation movement is that wilderness has become a cultivated product. Pristine ecosystems no longer survive because they deserve to, rather these biotic islands have been saved only because a small but growing group of humans have glimpsed the sublime magnificence they extend to those of us trapped in industrialized society's artificial, sterile environs. But protecting these islands can only be a temporary fix if our planet's natural heritage is to survive permanently. At least in North America, wilderness will remain only if humankind en masse cultivates in itself that which it longs to save. From within we must rediscover and then use that wild element — that natural essence we all possess — to help those who are developing, deforesting, and perniciously whittling away this country's remaining wild areas, to see that they are in the process destroying themselves.

As the much overused, yet meaningful cliché suggests, we need to think globally but act locally. Many of us, though, don't live near a wilderness at all. Supporting wilderness from outside a wilderness setting begins with perceiving that your home region once was pristine. Stomping through your home watershed and showing others its subtle, if not virgin, jeweled secrets, can do more to further the cause of your local ecological movement than spending months writing letters and lobbying the city commission. You don't need a Yellowstone or Yosemite to turn someone on to wilderness. Every place, no matter how tame, has its wild spaces. I live in eastern Kansas, an area devoid of true wilderness. Yet the wildness from which wilderness evolves is all around.

We are dulled by so-called "modern"

life—television, microwaves, automobiles, and conveniences of all sorts which prohibit us from directly experiencing our surroundings. Still we can't escape our earth origins, our spirits born of the wild places. Some events kindle that awareness more than others. This is the premise of all meditative traditions. Certain times of the year also help to facilitate a clear visualization of what our home environs were like when they were true wilderness, and what they will be like again some day. Here in Kansas, the seasonal extremes occur just after the solstices and during winter especially, when things modern retreat into heated buildings, cowering from the long nights and weak, low solstice sun. Time itself seems to freeze, slowing down and allowing the past and future to commingle with the present. This time, shortly after the icy Moon When the Wolves Run in Packs, is when I most enjoy heading outside in quest of the dormant wilderness of Kansas.

In deep winter, when my watershed is frozen hard beneath a thick blanket of snow, I encounter imagery analogically related to the great Ice Age, when mile-deep glaciers covered much of North America and came to a slow, literally grinding halt near here. It is difficult for humans to empathize with the time and events before the coming of the ice sheets. The Pleistocene epoch (the age, beginning over 2 million years ago, of repeated widespread glacial advances and retreats) encompasses our evolution as a species and the heroic, paleolithic underpinnings of our mythology and collective consciousness.

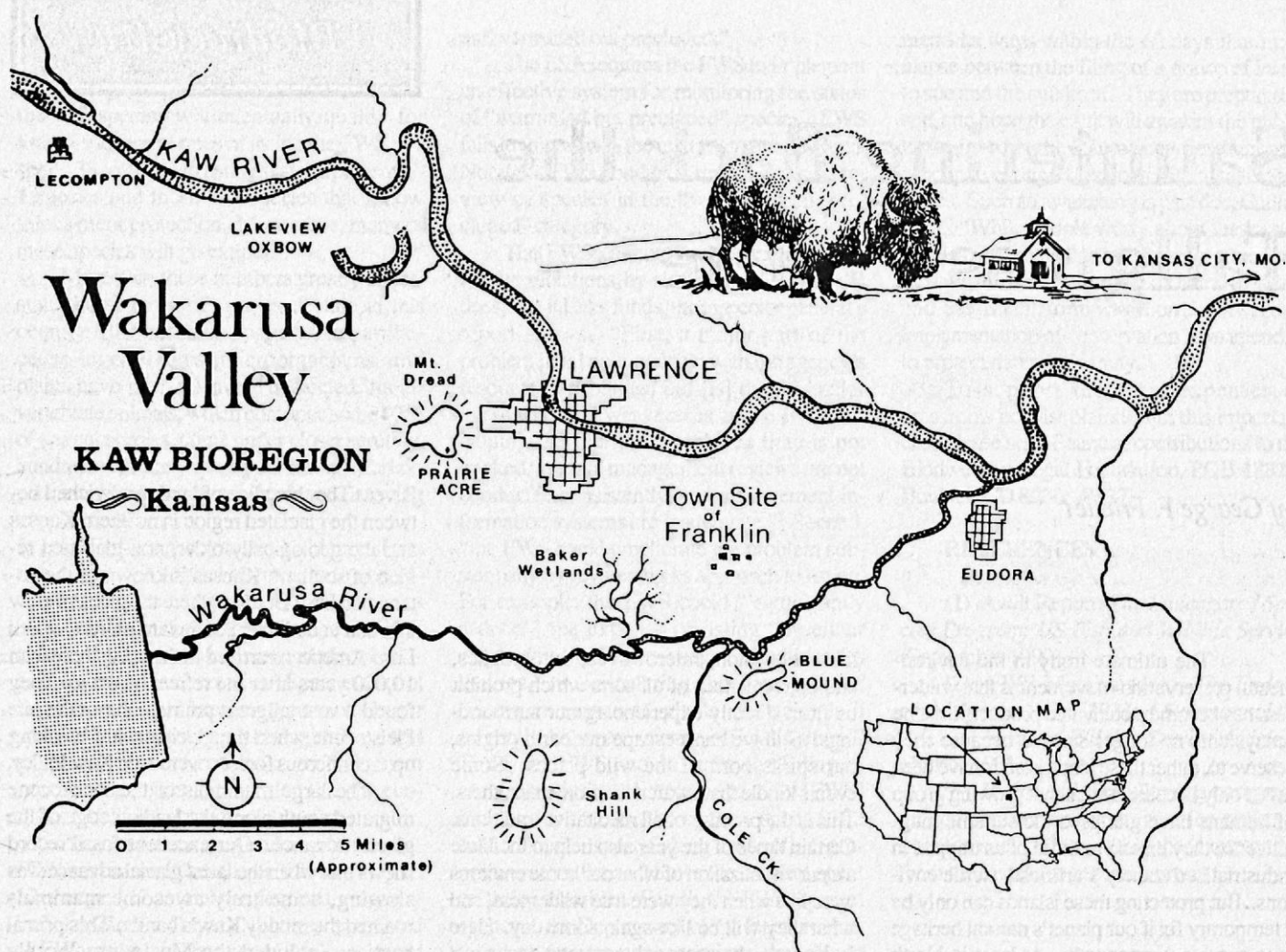
About one million years ago the Kansas glaciation made its southern terminus at or near the present location of the Kaw (or Kansas)

River. The thin slice of land sandwiched between the glaciated region in northern Kansas and the geologically older, non-glaciated region of southern Kansas is known as the Attenuated Drift Border, where the glaciers grew thin and ended their southward march. When Euro-Americans arrived in this area, more than 10,000 years after the retreat of the ice, they found a vast tallgrass prairie. But in the late Pleistocene when the glaciers were breaking up, a coniferous forest covered the Kaw Valley.

The large mammals of the Pleistocene migrated south along the leading edge of the glacial advance. Our excellent fossil record shows that when the latest glacial advance was slowing, some truly awesome mammals roamed the muddy Kaw's banks. This primal bestiary included the Mastodon, Woolly Mammoth, Giant Beaver, Giant Sloth, Dire Wolf, Saber-toothed Tiger, several extinct species of bison and horse, and humans. Most were Northern species, adapted to an Arctic climate. When the glaciers retreated and the climate warmed, the great Pleistocene die-off of large mammals began. Though temperature increase probably triggered the first period of significant species loss since the fall of the dinosaurs, many scientists now believe that the archaic human hunters also had a hand in it.

The scope of this mass extinction, however, pales when compared to the scale of species elimination occurring today. At its peak, the Pleistocene mass extinction claimed a species every 250 years. Today, according to Harvard biologist E.O. Wilson, we are losing 18,000 per year without the help of major climatic change—at least not yet. Still, when I wander the loess bluffs north of the river and the winds blow fierce and icy, I wonder whether some lone mammoth still waits nervously in a wind break, hoping not to be discovered by a passing pack of Dire Wolves. The mammoth inhabited this region for 25 million years whereas Euro-American settlement

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started only in 1854. A mere 137 years is not enough to exorcise such massive spirits from a place.

Some of the large mammals of eastern Kansas did survive into historic times. My house sits on the east slope of a peculiar limestone ridge christened Mount Oread by settlers. The mound rises at the divide between the watersheds of the Kansas and Wakarusa Rivers. Before conquest of the area, Mount Oread was a haunt of the American Bison, Gray Wolf, Mountain Lion, Wapiti (American Elk), Pronghorn, Grizzly Bear, and Black Bear. Today, all of these animals are gone (*probably*; I'll get to the probably in a bit). In the late winter of 1844, when Kansas was still a pristine grassland wilderness inhabited by the most colossal mammal herds ever to assemble on this planet (the Bison population of the Great Plains was once estimated at 60 million!), a great flood joined the two rivers and Mount Oread became a lone island. Pioneers traveling on the Oregon Trail were stranded on the mound for a week. But it seems they were not the only ones stranded by the deluge, as one distraught pioneer documented refugee Bison,

Bobcats, and even two albino Grizzlies!

Mount Oread retained vestiges of its prairie essence well into this century. Before the Civil War, the newly arrived residents of Lawrence—rightfully wary of pro-slavery raiding parties from Missouri—held lookouts from atop the mound. Trenches were dug on Mount Oread's southeast summit. After the Civil War, the University of Kansas built its campus on the mound, where long ago Big Bluestem, Indian Grass, Switchgrass, Prairie Cordgrass, Little Bluestem, and the whole roster of other prairie grasses and forbs had usurped the Pleistocene conifers. In 1933 a group of students and faculty recognized that soon no part of the mound would survive as prairie. So they cordoned off a small holding of university land on the steepest southern slope and named it the "Prairie Acre."

I often wander to this native sanctuary on cold winter mornings. Looking to the south, the deep Wakarusa Valley opens up against the terminal moraine of the ancient glaciers. The Prairie Acre, like most grassland relicts, faces a nebulous future. Human encroachment is no longer a problem; no condominiums threaten.

But humanity's vegetative sidekicks, the invading exotics, do. The more fragile prairie plants no longer grow in the Prairie Acre—no Rattlesnake Master, Compass Plant, Prairie Gentian, or Mountain Mint. But Big Bluestem doggedly persists. So does the Western Meadowlark, a true prairie original. Once as I sat on the prairie's enclosing limestone wall on a frigid February morning, an Eastern Bluebird landed in front of me in the branches of a Green Ash tree. For a split second, the vivid blue of its little body dominated the morning against the background of white snow. Several days later, warm winds blew up from the south, the snows melted, and I found a single Prairie Violet, the vanguard of the prairies. Getting a headstart on the invading dandelions, wild garlic, and bluegrass, the tallgrass prairie had returned to Mount Oread, if only for a moment. Lovers of prairie soon realize that its wonders are subtle and small. I'd go so far as to wager that in terms of magical discoveries to be made in its midst, an acre of prairie can hold its own against a quarter section of forest. But we must be

careful in making this point; small is beautiful, but too small is not beautiful for long. An acre is not enough.

South and east of the Prairie Acre, I live on a slope of the mound almost too steep for a dwelling. My house is in a small grove of Black Walnut, American Elm, and Honey Locust, inhabited by Opossums, Raccoons, skunks, and Red-bellied Woodpeckers. The common undergrowth is honeysuckle, Buckbrush, and aptly enough in Kansas, feral wheat. Scattered around the house are gnarled old cedars.

Throughout eastern Kansas the early settlers planted these trees which after a time gained notoriety as the quintessential pine of Midwestern cemeteries. Most of these pioneers came to Kansas to better themselves economically and were essentially forest dwellers, some descending from families that for generations scarcely saw the light of day. So it is not surprising that many of them wrote home telling stories of feeling profoundly ill at ease in the vast open spaces of the tallgrass prairie. Beyond any symbolic connection between evergreens and eternal life, they planted the cemetery trees as reminders of the civilized, comforting forests from whence they originated. Ironically, cedars and feral wheat now live wildly on the periphery of civilized lawns, often providing a buffer zone between manicured Kentucky Bluegrass carpets and the unyielding relicts of bluestem prairie. It seems that the pioneers are trying to make amends from the grave for the decimation of the grasslands.

The slope my house leans into was farmed in wheat before the turn of the century. Left fallow, the wheat field quickly succeeded into forest. However, the early settlers brought another friend with them from the forested East, the Trumpet Creeper. This vine produces a bright orange trumpet-shaped bloom in July which invited hummingbirds and butterflies to the settlers' yards. Now the creeper vines proliferate in the forest around my house. Many of the Black Walnut trees have been choked to death by the woody vine of the creeper which is as thick as my forearm. With woody arms of creeper, the pioneers cull their forests back into the earth.

Not all of my home watershed was dominated by Big Bluestem and Indian Grass, however. Spanning eastward eight miles from Mount Oread is the joint floodplain of the Wakarusa and Kaw Rivers. It was in moist bottomland such as this that most trees native to the area flourished in historical times. Where agriculture has not yet claimed the river banks themselves, remnants of these bottomland forests persist. The Wakarusa's steep banks are bordered by cottonwood, sycamore,

and willow. There are also Black Locusts, Pecan Trees, Paw Paws, Persimmons, and Burr Oaks. Before Euro-American settlement and the subsequent landscape rearrangement, groves of Burr Oak sometimes grew in pure stands on north-facing hill slopes—*islands in the tallgrass sea*. Some believe that by the mid 19th century, the tallgrass prairie ecosystem in eastern Kansas was succeeding into an oak-hickory biotope due to climatic forces. Though the human interruption of natural process in the area made that mystery into an eternal one, Fox Squirrels and Gray Squirrels still relish the giant Burr Oak acorns in the winter. Almost the size of walnuts, these acorns are the largest nuts of any oak.

But Mount Oread apparently did not support such groves. Nor did its cousins, Blue Mound and Shank Hill. These three geological formations, along with the valleys of the rivers which carved them, constitute the principle relief in my part of the Kaw watershed. Each hill is a place of power and a source of stories and folklore.

Blue Mound was named by the famous explorer John C. Fremont during his first expedition out West with Kit Carson. Before Euro-American settlement, it was a burial ground first for the native Konza and later for the Shawnee, who had been deported by the federal government to Kansas from their native lands in the East. In the 1970s a commercial skiing facility on Blue Mound allowed university students to practice on the relatively gentle incline of "Mount Bleu" before heading to Aspen or Vail. Rising more than 150 feet above the Wakarusa, Blue Mound is now covered with cedars, oaks, and sycamores. I once climbed it on an unseasonably warm January afternoon, the low winter sun seducing impatient young Redbuds and Pussy Willows into opening their spring buds only to later face a stark February kill. Vestiges of the ski slope remain at the summit—a little board outbuilding and a rusted cable spanning the north slope. From the top, my eyes followed the winding Kaw, the uniform gray-brown skeletons of willow and cottonwood gracefully witnessing the whims of its ever-curving path toward the Missouri and Mississippi Rivers and ultimately the Gulf of Mexico. Blue Mound, Mount Oread, and Shank Hill once were part of a single land formation, before water, time's *agent provocateur*, gradually infiltrated the softer soils separating them. Like Michelangelo uncovering his stony David from within a pillar of marble, the Wakarusa River and Coal Creek slowly revealed the three mounds. They owe their unique identity to the special building material they share, the hard Oread limestone which resisted the water's erosive force over the ages.

The Wakarusa River is a gently flowing stream, hardly deserving the title of river; but it has an abnormally wide floodplain. The Wakarusa's ratio of floodplain to stream width is in fact the largest of any river in the United States. This attests to the river's turbulent beginnings during the Pleistocene. When the southern tip of the ice, during the most recent glacial advance, reached the Kaw River and pushed it a bit south of its previous location, the Kaw either froze for a while or due to some impediment temporarily became unable to drain its basin. A subsequent diversion of water from the Kaw turned the Wakarusa into a site of frequent violent floods. When the glacier retreated, the Wakarusa diminished to the clear blue stream pioneers found in the 1820s, but its floodplain remained enormous. The river's inordinately wide valley is an example of a phenomenon shared by a class of rivers called misfit streams by fluvial morphologists.

The Pleistocene floods apparently trapped many of the great mammals. Professor Francis Snow, who dabbled in a mishmash of pseudo-scientific studies at the University of Kansas in the late 19th century, found such an unlucky beast once while fishing the Wakarusa. Snow was fishing for Blue Catfish, a species which weighed in as heavy as 200 pounds in the early days of Euro-American habitation of the valley. With three of his students, Snow was a mile up from the river's mouth when he stepped onto a log in the river. The log shifted and sent him sprawling into the muck of the riverbank. Grabbing it for balance, he saw that it was no log at all, but instead the mandible of a great Mastodon! Snow and his students spent the week exhuming the remains, which for years could be viewed in the university's natural history museum.

On a dark note, however, the Wakarusa Valley was also the scene of one of the saddest events in this area's history. Gone now, Franklin, Kansas, was once a pro-slavery stronghold two miles north of Blue Mound. After the Civil War, with the Indians finagled out of the lands the government promised and most of the large herbivores and predators of the area relegated to history, a lone Buffalo inhabited the Wakarusa floodplain. It was often seen in the Franklin vicinity and actually would look in the window at the local school, much to the amusement of the pupils. But one cold January afternoon, Franklin's butcher, of all people, killed the last Bison in the eastern Kaw Valley.

Is this then the sole legacy handed down to us from 137 years of Euro-American inhabitation of the Kaw Valley, the last Bison just

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so much meat in the window of history? Is there no hope that at least a few modern people can be true residents of the land? Like the Satori of Zen Buddhism, those who would save the planet should begin at home with themselves, striving to find that kernel of inherent wildness inextricably linking them to all that is pristine, undisturbed, terra firma, wilderness as vast emptiness.

There are humans who practice such an ecologically correct life in the Kaw Valley, like Edwin Smith of Baldwin. Smith lives with a vision of our watershed as habitat for the Cougar, which it once and perhaps still is. Officially, the last Cougar in the state was killed in western Kansas a few years after the turn of the century. Cougars were observed here in Douglas County into the 1890s. Smith, however, knows in his heart they are still here. His theory that Cougars hung on in relatively uninhabited areas like the Coal Creek and Wakarusa River valleys, and are only now regaining a population large enough to be noticed by humans, is not popular with local biologists. I was once told by a biologist with the Kansas Department of Wildlife and Parks that a lack of wilderness corridors, which the highly mobile but shy predators would need, and the high human population density in eastern Kansas preclude the possibility of their continued presence in the state. There have been no road-kills, no Mountain Lions taken by hunters ... but there have been sightings. Numerous sightings. Smith is presently trying to assess the population in Douglas County. A wildlife artist specializing in big cats, Smith has done a series of drawings based on eyewitness accounts of the Cougars. He walks the forested areas south of the Wakarusa in winter, hoping to photograph tracks of a wild eastern Kansas Cougar. Whether the cats exist or not, his vision of the Kaw Valley as a home for the Cougar will help heal the ecosystems of the area.

Another local person rooted deeply here, wilderness photographer Daniel Dancer, is doing the very sad but vital work of visually documenting wilderness destruction, both here in North America and in the rainforests far to the south. But he is also a champion of the tallgrass prairie. Dancer writes articles in local magazines and national environmental journals about the art of healing the land and the place of Native American ceremony in that healing. He builds prayer wheels on plowed prairies and polluted beaches, focusing on the primal relationships between Earth and sky, time and space, death and rebirth.

Dancer also spreads the vision of another champion of the Kaw Valley, so-called crop artist Stan Herd. Dancer photographs Herd's multi-acre works, constructed from materials

like wheat, sunflowers, native grasses, glacial boulders, and indigenous soils. Herd believes that agriculture and wilderness need not conflict.

These three as a group wonderfully exhibit the transcendence of dualisms necessary if humans are ever to bring about the permanent restoration of our ailing grasslands. For now, though, my treks through the Kaw Valley's prairies and forests are marked by as many signs of our modern culture—so tragically lethal to the environment that supports it—as by wild beauty. Roads, power lines, and cars are everywhere within visible or audible range.

Ah, but on some rare winter mornings it seems these trappings of the modern world dissolve for a little while. Omens of wilderness rush in to fill the void left by their temporary retreat. Winter is marked by an expansion of the ranges of certain things distinctly antagonistic to the American mall culture. Animals who breed in the frantic, fleeting summers of the Arctic follow ancient migration routes south. Arctic air expands to the warmer climates in the south, chasing humans indoors where they can do less damage.

In winter I regularly trek the 14 miles from my house along the south bank of the Kaw to Lecompton. Lecompton, which had a rich pioneer history as the pro-slavery capital of the state, was once named Bald Eagle, Kansas, due to the large populations of the birds which annually wintered there on the Kaw. My route is not a proper trail but a combined bushwhacked-trespass, deer path, and Beaver-chewed obstacle course graciously demanding a slow, sane pace. As I found out long after I started following it, this is the same path used by John C. Fremont when he named Blue Mound, got trapped by a winter storm in the mountains of Colorado, and was forced to eat human flesh to survive. When I'm lucky the Kaw is frozen up enough to make the entire journey on ice; this is the best way to see Bald Eagles. They perch high in the cottonwoods waiting for dead fish to float down the river and provide a easy meal. These walks also bring me into contact with other winter migrants such as Canada and Snow Geese, little flitting Dark-eyed Juncos, and low-gliding Northern Harriers. As it gets colder, I see more eagles on the Kaw, while the deepest freezes bring out the frozen heart itself of my slumbering wilderness. On the coldest of January days I find myself looking for bison and mammoth.

Many human societies preceding the Dark Ages spent post-solstice weeks pursuing the mystic bison and mammoth of the spirit. Almost all of the major world religions have important holidays closely associated with the winter solstice—vestiges of the high solstice festivals of earlier animistic and pagan tradi-

tions. While religions like Buddhism, Taoism, and Hinduism openly embrace these older spiritual roots, Christianity has a long history of denying them. But the solstice traditions, being too strong to repress completely, got changed so that ancient winter sacraments taken in the sacred grove were brought inside and redirected instead into decorations on the family Christmas tree and trimmings of sacred holly and mistletoe (a forb used in Druid fertility rituals). Early Christianity as an institution may have shunned the pagan solstices, but individual Christians, having started as pagans themselves, weren't about to let a great party like the winter solstice get sacked to further the cause of advancing Christianity. To save both their heads and the celebrations, cool-headed, crafty souls throughout time have mainstreamed the solstice hoedowns into Christmas, Hanukkah, Rohatsu (the celebration of Buddha's enlightenment), and even (for summer solstice) the Fourth of July.

The ancient rites have particular meaning for today's environmental movement because they were practiced in a time when people still recognized their relationships with the earth, the animals they lived with, and the crops they planted. These festivals arose from hunting and gathering and horticultural peoples, civilizations that had not yet wholly disassociated themselves from wilderness. If winter is a special time for those who would save the wild places, perhaps it is because of the energy still resounding from hundreds of thousands of years of cold, silent winter nights spent making paeans with the extended clan under moon, stars, and the Aurora Borealis, giving thanks to the goodness of the Earth Mother.

Unfortunately though, no matter how hard I may work to become an integral part of the Kaw watershed, no matter how many times I mourn the absence of Cougar, Grizzly, and Bison in the winter hills south of the Wakarusa, I am ultimately taken back to the cold reality of life in the 1990s. How is a rejuvenated sense of place, a recultivated appreciation of prairies and streams and birds and the wild, pulsating life all around me going to stop the monsters of our time—Exxon, Dow, General Motors, the U.S. Forest Service, George Bush—from pulling the plug on the last wildernesses of North America? By what mechanism will the creative visualizations of modern day wilderness heroes like Edwin Smith, Daniel Dancer, and Stan Herd stop the great tide of history from engulfing the fragile vestiges of that which allowed humankind to evolve in the first place? Can we reach out to the millions of our fellow wanderers in this mysterious, cosmic journey, who do not yet see why wilderness must be saved at all costs? It has been over a

century since Thoreau prophesied that, "in wilderness is the preservation of the world." But look at what has happened to wilderness since that greatest of all transcendentalists passed from his Concord home over mystical Mount Katadhin into the Walden Pond of eternity.

All I can suggest is that we remain courageous and work steadfastly in the knowledge that the decisions being made today about the future of wilderness will mean the difference between existence and oblivion for ourselves and the millions of wonderful beings and as yet undreamed-of species that share our common future. Edward Abbey said that though it was likely that the wilderness of the American West could not be saved, efforts to save it, being worthwhile in and of themselves, should continue until the last Cougar screams and the final Desert Tortoise slowly ambles into the purple sunset.

There are only two paths we can choose to follow. One leads to the Silicon Prairie, where the heritage of the land finds its last refuge in computer terrariums, where networks of rhizomes, roots, corollas, and biomass—which can grow, mold themselves, mutate, and joyously commingle in the glorious dance of life—are replaced by static information, words, bits, magnetism, seed banks mapped into data banks, the whole legacy of the wild held interminably in an immutable database where the old programs can be examined but the biological software cannot be "run." Wilderness is not just so much information you can download onto a floppy disk, as rainforests are not great pharmacological candy shops existing so that some Harvard researcher can find a cure for cancer. The Silicon Prairie at best can only be a dry shadow of the only acceptable path we can choose, the well-worn deer trail which leads to the organic, rich, wet, dirty, sexy prairie of this old yet eternally new planet each of us woke up to find ourselves on one day not long ago.

So ... work for the smallest morsel of wilderness; it is important no matter what its size. Remember, we are saving these fragments of forest, stream, and prairie for a later time, which is a past time, we are holding the door of the present moment open with all our strength. When we are finally united and strong, that door, pulled on the other side by the Bison, Grizzly, and ourselves (we're on both sides) will fly open. But it won't come easy; we've done a great deal of damage. Relearning the ancient art of cultivating wilderness and truly taking to heart the mystic teachings of winter may be our penance for the centuries of destruction. Our reward perchance is to catch a glimpse of the Mastodon.

A CONVERSATION WITH EDWARD ABBEY

I heard about your death
and thought you'd be pleased to know
the news passed
from hiker to hiker
at the bottom of the world
with the roar of Hermit Rapids
(a suitable dirge)
in our ears
and the foaming brown Colorado
numbing our blistered feet.
You would have liked it too,
I suppose,
that on the way down
the canyon threatened
to consume me,
swallow me into its bedrock
first at Supai
then Red Rock,
Blue Angel,
and finally even at
the Vishnu Zhist,
but, I think, you'd also like
how I fought back, Abbey,
in spite of unmistakable
profanities hurled at the earth and tears which evaporated
before they reached the ground.
And you would have answered
my repeated question:
How in the hell am I ever going to get out of here?
quite simply.
Don't, you'd say.
Stay.

—Janet Lowe

BIOLOGISTS, BIOPHILES, AND WARRIORS

Note: This paper was presented at the annual meeting of the Oregon chapter of the American Fisheries society, Gleneden Beach, Oregon, 1-30-91.

by Reed F. Noss

For the biological scientist who cares about the Earth, these are not easy times. The science of biology and the planet Earth are both suffering. The professional demands on scientists are probably more intense today than at any time in history. The field of biology is becoming more technical, more complex, less understandable to the general public—and to biologists themselves—each day. Well-paying jobs for field oriented biologists are scarce. Although environmental problems are growing exponentially, funding for studying and fighting them is stagnant. Ecology, systematics, organismic and field biology courses are being removed from many university curricula, reflecting a possible downturn in student interest in these subjects and, probably more importantly, a reluctance on the part of university administrators to support research areas that bring in little grant money (Ehrenfeld 1989). Perhaps most perplexing, whereas public opinion polls seem to show increased concern for the environment, election results indicate precisely the opposite: environmental initiatives and candidates are, for the most part, being soundly defeated.

The environmental biologist faces a personal and professional dilemma. The Earth is going to hell and we who are ostensibly the best equipped to do something about it are failing miserably. What can we do? What *should* we do? If we want to keep our jobs and professional credibility through these

trying times, the best strategy probably is to keep quiet. Don't make waves. Keep your head low, nose to the grindstone, and eschew controversial issues. Stick to the facts. Strive to be fully objective and dispassionate at all times—in other words, become the model scientist about which we learned in school.

Some of us, however, are cursed (or blessed) with an ecological conscience. There is the nagging feeling that, maybe, if we were to speak out and act in defense of the "resource" that we are paid to study (or to "manage"), we might make a difference.

My major premise in this paper is that environmental policy is too important to be left to the policy-makers, most of whom know little and care little about all that ecologists do and love. Those individuals who know and care about the biota have a moral obligation to act in its behalf. Familiarity with Nature includes both rational, scientific knowledge and the intuitions that all good field biologists develop through experience. The latter type of knowledge is what tends to be lost when field biologists become bureaucrats and spend too many years behind a desk. Intuitive knowledge depends on an emotional bonding and is renewed and strengthened by regular, direct contact with wild Nature. Defending wild Nature and biological diversity, in my view, is the highest calling for biologists.

THE BIOLOGIST AS WARRIOR

I am a conservation biologist and I consider conservation biology to be science in the service of conservation. But conservation biology is broader than most sciences. It has been described as a "metadiscipline" that en-

compasses the natural resource fields (including fisheries, wildlife, range, and forestry), the basic biological sciences, the social sciences, philosophy, and various aspects of law, planning, and other fields, as they apply to conservation problems (see Soule 1985, Jacobson 1990). Environmental problems are inherently multidisciplinary; although biology is the heart of the subject, biologists have no exclusive claim to conservation biology.

A conservation biologist may choose to specialize and address only a small piece of a complex problem, such as the population biology of an endangered fish or the disturbance ecology of coastal headlands, but perhaps most needed today are true generalists. If you are a general conservation biologist, biological science, strictly speaking, is only part of your job. You must also be conversant with law, philosophy, sociology, and politics, in order to make sure that conservation biology is well represented in those fields and that insights from those fields are applied to conservation policy without doing violence to biology. Above all, a conservation biologist must be committed to confronting the biological diversity crisis, the greatest global catastrophe we have ever faced.

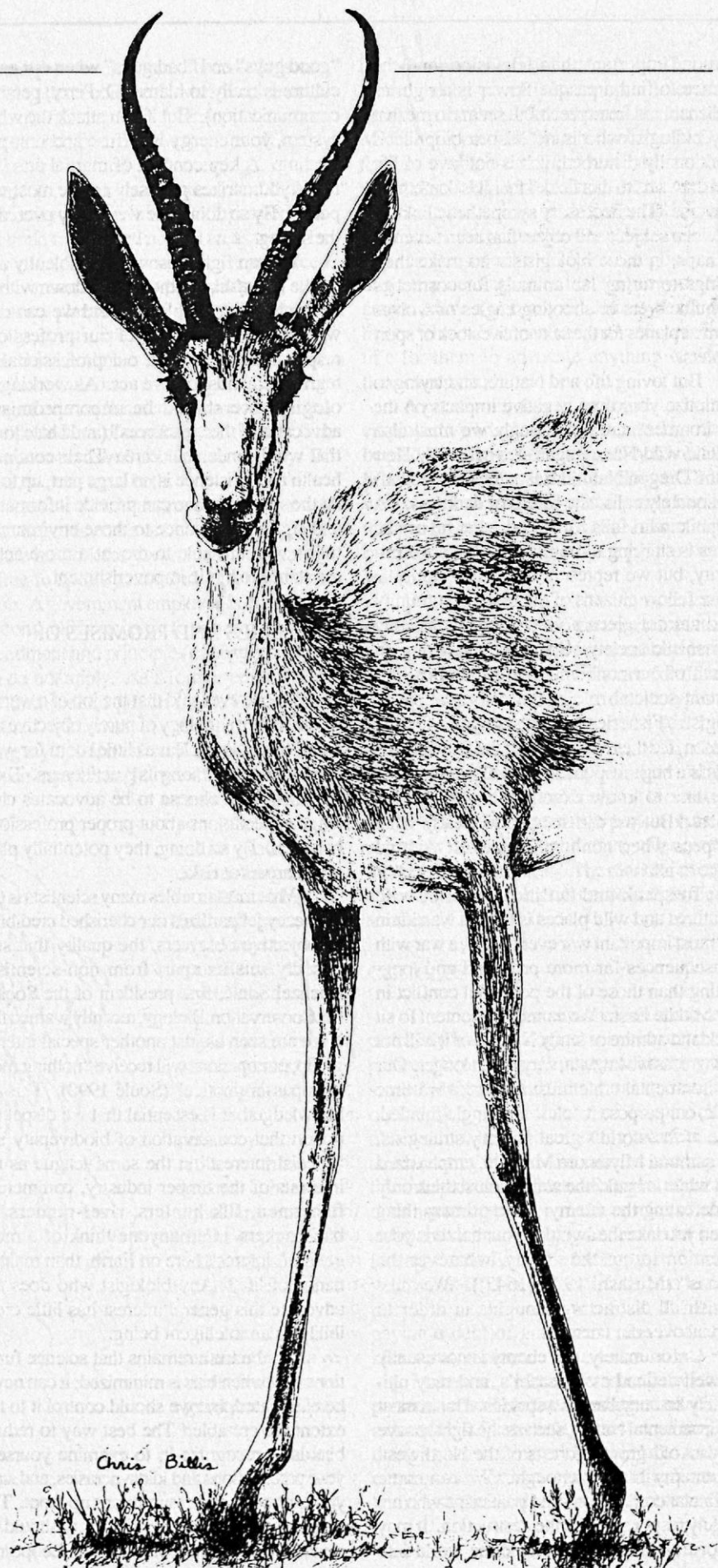
Conservation biologists and other applied scientists are problem-solvers. I contend that the role of the problem-solving scientist in society differs from the role of the basic researcher and is far more crucial today. This is not to belittle basic research, but in a time of crisis—indeed, a time of war—problem-solving must take precedence over knowledge for its own sake. Basic researchers, of course, can choose to devote a portion of their work to problem-solving, to saving the Earth. Many

basic researchers in ecology became interested in conservation when they saw their study areas destroyed. Perhaps their interest was largely selfish; they did not want their research disrupted. Or, perhaps unconsciously, they became emotionally attached to their study areas and organisms, and could not bear to see them destroyed. Few scientists want to admit this sin of subjectivity. But to me, and to many psychologists and sociologists who have studied this problem, emotional attachment to living things and places is no sin; it is a normal, healthy, and necessary response of a moral being. To reject such feelings is to be less than fully human.

I would guess that most biologists grew up fascinated by life, ecstatic about contact with living things and wild places. As John Steinbeck wrote in *Log from the Sea of Cortez*, "The true biologist deals with life, with teeming boisterous life, and learns something from it" (Steinbeck 1951). As natural resource biologists, we became concerned at some point in our lives about how these resources are managed. Traditional natural resource management has been thoroughly anthropocentric, directed toward a continued supply of trees for logging, fish for catching, furbearers for trapping, and game for shooting. But a deeper, less selfish interest has motivated many professional resource biologists, despite the orientations of the agencies for which they work or even the public that they serve. Let's admit it; we got into this field because we love Nature.

We love Nature; we love life. Ed Wilson calls this love "biophilia" and suggests that it is inherent in all humans, although stronger in some individuals than in others (Wilson 1984). Unfortunately, our culture does not encourage biophilia. The reason is obvious: biophilia conflicts with money and power. From my work in environmental education and my experience as a parent, I've become convinced that children are born with, or develop very early, a fascination with Nature, what Rachel Carson called "the sense of wonder" (Carson 1965, Cobb 1977). This wonder is subsequently suppressed by teachers and parents, in most cases. Children are bombarded by human-made toys and television, discouraged from going outside and "getting dirty," and told that wild animals are slimy or dangerous. As the child grows older, biophilia is smothered by technocracy and consumerism. Video games replace snakes and salamanders.

Perhaps children who grew up to become biologists simply had a biophilia too strong to suppress. We are clearly a minority among humans. As Aldo Leopold (1949) wrote in the Foreword to *A Sand County Almanac*, "For us of the minority, the opportunity to see geese



is more important than television, and the chance to find a pasque-flower is a right as inalienable as free speech." It seems to me that any biologist who is not also a biophile is emotionally disturbed; if it is not love of life that draws us to this field, I fear it is something perverse. The necessary sympathetic linkage between subject and object has been severed, perhaps, in those biologists who make their livings torturing lab animals for cosmetics manufacturers or shooting eagles or wolves from airplanes for the sake of livestock or sport hunters.

But loving life and Nature, and trying to minimize your own negative impacts on the environment, are not enough; we must also defend wild Nature against what Andy Kerr of the Oregon Natural Resources Council affectionately calls "the forces of darkness." A biophile who fails to defend what he or she loves is shirking a moral duty. We are a minority, but we represent the vast majority—those fellow citizens of the biotic community who are not given a vote in our thoroughly humanistic society. Speaking and acting on behalf of our nonhuman kin is the most important societal role of the conservation biologist. Fisheries biologists speak for the salmon, for the rivers, and for the watersheds. This is a huge responsibility, and we can never presume to know exactly what is best for others. But we can see all too clearly what happens when nonhumans are left with no voice at all.

To speak and act in defense of wild creatures and wild places is to be a warrior in the most important war ever fought, a war with consequences far more profound and long-lasting than those of the perennial conflict in the Middle East. We cannot be content to sit back and admire or study Nature, or it will not be there, as we know it, very much longer. Our environmental ethic must now be a wartime ethic, our purpose resolute and single-minded. One of the world's great military strategists, the samurai Miyamoto Musashi, emphasized that while in battle, the warrior must think only of defeating the enemy: "The primary thing when you take the sword in your hands is your intention to cut the enemy, whatever the means" (Musashi 1974 (1645)). We must banish all distracting thoughts in order to prevail over our enemy.

Unfortunately, our enemy is not usually as well-defined as Musashi's, and may ultimately be ourselves as a species. But in most environmental battles, such as the fight to save the last old-growth forests of the Northwest, the enemy is clear enough. We can name particular corporations and politicians who are largely responsible for the destruction. It may be overly simplistic to divide the world into

"good guys" and "bad guys" when our entire culture is really to blame (D. Perry, personal communication). But if you attack the whole system, your energy is diffuse and non-penetrating. A key concept of martial arts is to focus your strikes precisely on the most vital points. By so doing, the weak may overcome the strong.

We can fight this war nonviolently and, unlike Musashi, cut the enemy down without drawing a drop of blood. And we can do it well within the bounds of our professional responsibilities; in fact, our professional integrity demands that we act. As working biologists, we should be uncompromising advocates of the "resources" (and I hate to use that word) under our care. Their continued health and existence is, in large part, up to us. At the very least, we can provide information and strategic guidance to those environmentalists who are able to mount a more active resistance to biotic impoverishment.

THE PERILS AND PROMISES OF ADVOCACY

No one ever said that the job of a warrior is safe. The mythology of purely objective and value-free science leaves little room for wild-eyed advocates among its practitioners. Those scientists who choose to be advocates challenge expectations about proper professional behavior. By so doing, they potentially place their careers at risk.

What most troubles many scientists is that advocacy jeopardizes our cherished credibility as objective observers, the quality that supposedly sets us apart from non-scientists. Michael Soulé, first president of the Society for Conservation Biology, recently warned that if we are seen as just another special interest group, our opinions will receive "nothing more than passing notice" (Soulé 1990). This acknowledged, it is essential that we dispel the notion that conservation of biodiversity is a "special interest" in the same league as the interests of the timber industry, commercial fishermen, Elk hunters, river-runners, or backpackers. Can anyone think of a more *general* interest, here on Earth, than maintenance of life? Any biologist who does not advocate this general interest has little credibility as an intelligent being.

Yet, the truth remains that science functions best when bias is minimized; it can never be eliminated, but we should control it to the extent we are able. The best way to reduce bias is to recognize it; to examine yourself, your predilections and idiosyncrasies, and state your premises and assumptions up-front. The proposition that biological diversity should be maintained is not a bias. Aldo Leopold's

(1949) famous maxim from "The Land Ethic" ("A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.") is a statement of moral principle, not an expression of bias. It does reflect a point of view, of course. People who disagree with Leopold's land ethic, such as apparently the vast majority of our elected officials, should state their own "moral" principles and points of view just as clearly and honestly.

Real bias is displayed when we consciously or unconsciously distort the truth or manipulate facts to support a pre-conceived notion. We might, for example, overstate the biological significance of a certain roadless watershed or the dangers to salmonid populations associated with logging it, because we find the area attractive or spiritually inspiring. If, in fact, the logging was done in a way that posed little danger to the ecosystem, we were then guilty of committing a Type I error by claiming an effect when none exists (i.e., rejecting a true null hypothesis of no significant effect). But esthetic and spiritual values are important in their own right; there is no need to hide them behind scientific arguments, whether correct or dubious. Our bias toward rationality, for left brain over right brain, persuades us that emotion is unimportant and leads us into deception (Ehrenfeld 1978).

There are plenty of good reasons for protecting all remaining roadless areas, given the premise that these areas have existence value as the last wild, unmanipulated landscapes of North America, augmented by the general and factual argument that road-building contributes to deterioration of natural ecosystems. In applied ecology, Type II errors of falsely claiming no detrimental effects of various developments are more dangerous than Type I errors of claiming effects when none exists (Noss 1986, Shrader-Frechette and McCoy in press). Natural areas are precious beyond estimation. Recognizing our fallibility as scientists and as humans, it is far better to err on the side of preservation than on the side of development.

All questions of bias aside, I acknowledge that unless we at least try to be objective when we wear our scientific hats, we might not be taken seriously by the public or by decision makers. There are pragmatic reasons why scientists should moderate their statements in public. The most radical of advocates probably cannot function effectively as scientists in environmental policy debates. For example, I would not state my deepest feelings about certain Oregon politicians while testifying before Congress, nor would I wear a monkeywrench T-shirt when appearing as an

expert witness in a timber sale appeal hearing (I might even wear a coat and tie). Pragmatism, though, should not lead to dishonesty. If we believe that an area should be protected from timber harvest or other insults, we should say so to anyone at any time, even if we lack hard data confirming its ecological value. But we can make our statements without screaming hysterically.

Despite the perils of advocacy, I believe that it is an honest and ethical behavior on the part of environmental scientists, and, most importantly, that it can actually do some good. Remember that we are not just scientists, we are also citizens and players in a complex socio-political drama. In a recent exchange in the pages of *Conservation Biology*, David Orr (1990) noted that conservation biology must not only be responsive to social settings and political priorities, it must also "broadly inform those priorities." We have a role to play in environmental policy debates: to speak for the speechless, our nonhuman kin and the wild places they inhabit.

How many biologists regularly attend public hearings, commission meetings, or other forums on environmentally controversial projects? Environmentalists usually attend, but cannot be counted on to address ecological issues accurately and are usually outnumbered

by local pro-development forces. It is not surprising that ecological issues receive inadequate attention in forest plans, public works projects, and county land-use plans. If biologists were to attend such meetings, review documents, speak to the press, and defend biodiversity with facts and with passion, our nonhuman friends and natural areas would be better off. I have personally experienced success in such matters, previously at a state and county planning level in Florida and most recently as an expert witness in appeals of Forest Service timber sales in roadless areas in northern California and Oregon. It is a true feeling of accomplishment to have contributed to the protection of a wild area; give me that over a peer-reviewed publication any day. Of course, we can have both.

The risk a biologist runs in being an advocate depends on his or her employer. Those of you who work for government are probably not free to speak your mind either on or off the job. A government employee is considered a second-class citizen, to whom the First Amendment and principles of academic freedom do not apply. As a former employee of state and federal government, I have been censured, admonished, and reprimanded for stating my opinion on environmental matters, even on my personal time. If your employer

cannot reprimand you formally, because you have done nothing illegal or unethical, he can find all sorts of subtle ways to make your life miserable. If you have a supervisor who can shield you from bureaucratic attacks, you might contribute most to the cause by working from within the system. Otherwise, consider what you might accomplish without the shackles of a government job.*

Academics seemingly have more freedom to speak out, but it can be risky for non-tenured faculty. Wildlife, fisheries, range, and forestry departments at land-grant universities

are often part of agricultural schools that are controlled by powerful economic interests, including the timber and chemical industries. Michael Frome (1990) in his column in *Defenders* magazine provides several examples of faculty being denied tenure because they were outspoken on environmental issues. Aside from the tenure problem, many university scientists want to keep on the good side of government agencies that they rely on for grants. Moreover, many academics genuinely believe that it is unprofessional and unscientific for them to advocate anything besides their own promotions.

A greater number of biologists is being employed by private enterprise, and they may be paid to be advocates. What they advocate, however, depends on their employer. Those who work for the timber industry may be paid to argue for continued high rates of clearcutting on public lands. Others may be paid to argue just the opposite.

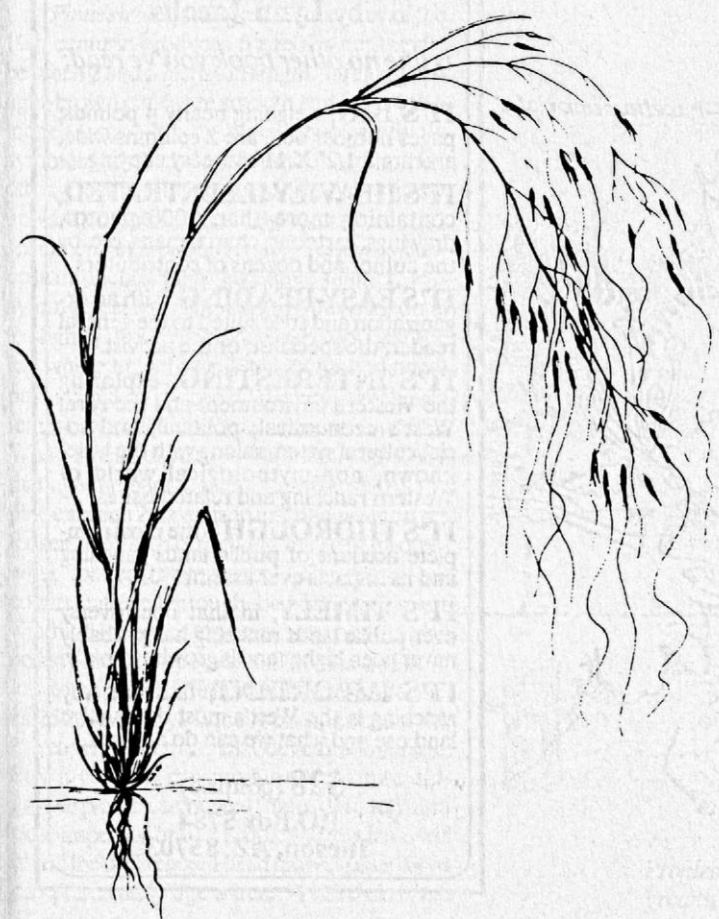
Biologists who work as environmental consultants may face the greatest temptation to be dishonest. If you want to make a lot of money as a consultant, you work for developers, and developers require certain types of findings in order to get permits for their projects. What they need to be told by their consultants, in many cases, is that no endangered species or wetlands exist on the project site, or that the impacts of their project on these elements will be insignificant. Hence the market for "biostitutes." The market for consultants with an ecological conscience is much smaller.

CONCLUSION

The message I want to impart most emphatically is that biological scientists can help protect Nature through reasoned and impassioned advocacy, and that we can do so without sacrificing the basic tenets of science: clear observation, honesty in stating assumptions and reporting results, and rational and objective interpretations of data. Being an advocate does not mean being a zealot or a liar. Being an advocate means being honest about your feelings for the Earth, the feelings that attracted you to this field in the first place, and letting people know the way you feel. It means paying a debt of gratitude to the biota that keeps you employed.

Moreover, a rational interpretation of the present status of biodiversity suggests that only a dramatic departure from our usual way of doing business can save what is left. As scientists, we enter this fray reluctantly. It would be far less stressful to simply "do science" in

continued next page



the traditional, academic way. Most biologists do not think of themselves as soldiers. But war has been declared against wild Nature, and we best acquainted with that marvelous web of life have no moral choice but to defend our nonhuman friends and relatives, the innocent victims of human greed, ignorance, and arrogance. Our defense is not contingent on probabilities of winning or losing; it is an absolute obligation.

Aldo Leopold, speaking about the field of wildlife management, said that "there seem to be few fields of research where the means are so largely of the brain, but the ends so largely of the heart" (Leopold 1990 (1936)). Surely this observation applies to all of conservation biology. It is time to follow our hearts and apply our brains to the most important war ever fought.

ACKNOWLEDGEMENTS

I am grateful to Dan Bottom, President of the Oregon Chapter of the American Fisheries Society, for inviting me to share my views at this important symposium. The comments of Dan Bottom, Ed Grumbine, Bryan Norton, and Dave Perry on an earlier draft of this manuscript helped me improve it.

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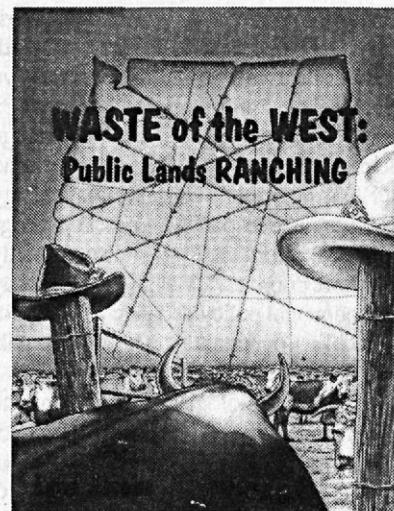
*ed. note: The Association of Forest Service Employees for Environmental Ethics recently devoted an issue of its journal, *Inner Voice*, to whistle blowing and free speech for agency employees. Biologists working for the government should read this issue. For a copy, send a small donation to AFSEEE, POB 11615, Eugene, OR 97440.



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The White Pine

by Robert T. Leverett

This is the second article on identification of Eastern old-growth forest. In this and succeeding articles, we will examine individual species. Our focus will be on describing visual characteristics, discussing superlative specimens, and providing guidance on recognizing mature trees through visual inspection. *Pinus strobus*, the White Pine, is the subject of this article.

DESCRIPTION

Not all trees lend themselves to easy age identification through visual observation. The White Pine, though, is almost an ideal choice to apply the basic criteria: (1) bark appearance, (2) root mass, (3) crown shape, (4) foliage distribution, and (5) bole contour.

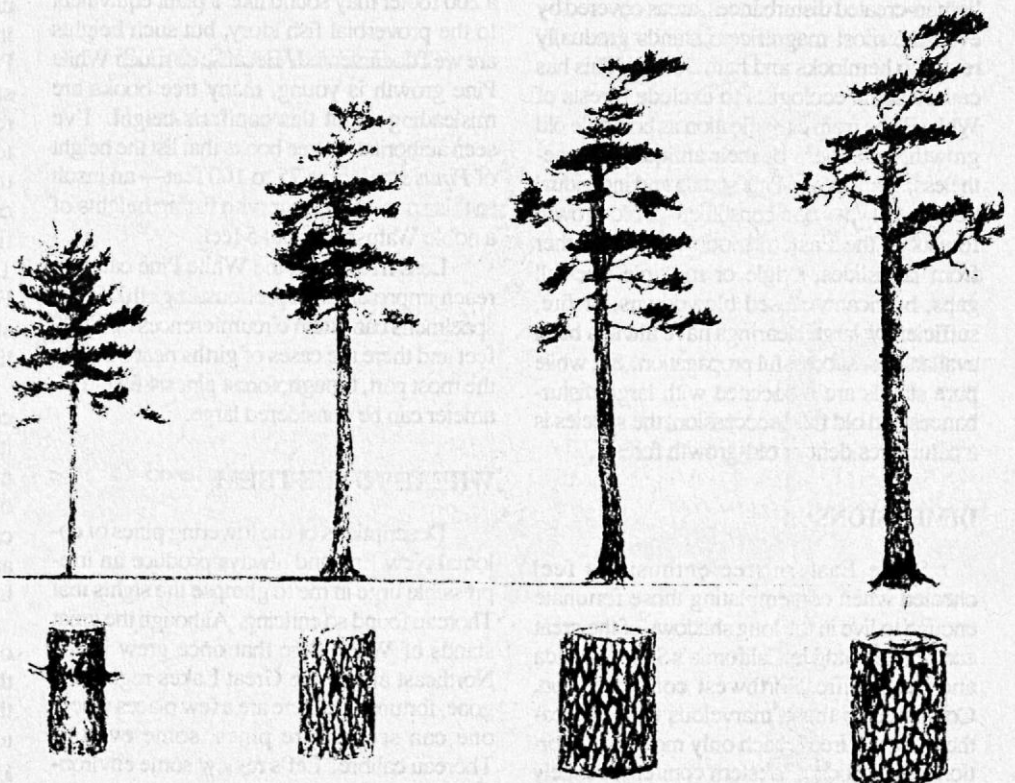
Pinus strobus, the great lumber tree of the 19th century, produces 5 needles per bundle between 2 and 5 inches in length. Its elongated light-brown cones are smooth and from 4 to 6 inches long. Young pines have relatively symmetrical thick foliage and smooth, thin, often greenish tinged bark. Branches grow upward on young trees. By contrast, mature specimens exhibit moderately furrowed bark up to 2 inches thick and have thinner, less symmetrical foliage growing from horizontal to slightly drooping branches except near the top where branches still angle upward on all but the oldest pines. Old-growth status in terms of visual characteristics is achieved for White Pines between 150 and 200 years. By that age the bark is deeply furrowed. As the pine exceeds 200 years in age, the outer ridges loosen and flake off, giving the bark a somewhat "plated" appearance. The crown becomes flattened through the pruning effect of wind and ice on the top branches when the pine no longer sends up leaders. The pine will have lost perhaps 25-50% of its foliage as it reaches its 250th birthday. Equally conspicuous is the increasing root mass that develops with age. Storm damage can produce premature old-growth profiles, as viewed from a distance, but a close inspection of bark texture and root mass will reveal the difference. Harsh growing conditions can prematurely age a tree. I have observed

stunted 125-year-old White Pines growing in cliff environments that exhibit most of the old-growth characteristics described above.

A LITTLE HISTORY

With the above description to guide us, a

brief digression into yesteryear is in order. *Pinus strobus* has a history both rich and tragic... tragic due to human greed, ignorance, and wastefulness. With its long bole of straight grained wood, the White Pine proved an ideal tree for building stationary structures of all types. Its utility for other purposes, such as



Profiles and bark appearance of young, middle aged, and old-growth White Pines at ages 75, 150, 225, and 300 years. *continued next page*

ship building, was equally recognized. In 1688, the King of England issued a decree reserving for the Royal Navy all White Pines possessing trunk diameters of 24 inches or more. As recently as 15 years ago, at least one place in New Hampshire retained skeletons of dead pines that purportedly were remnants of the "King's Pines."

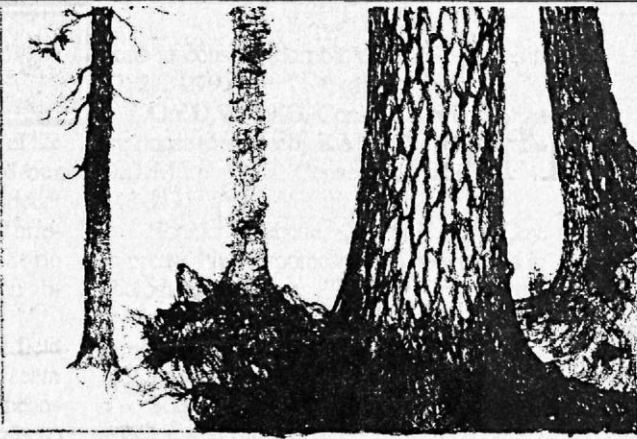
ECOLOGICAL NICHE

The role of the White Pine as a permanent resident of an old-growth forest is debatable. White Pines are a shade intolerant species. They succeed in openings where mineral soil has been exposed and are particularly fond of fields, in which they may dominate for a period of time. Colonial-aged pines that sprouted from what had been cleared fields provided a lumber bonanza throughout much of New England around the turn of the century. Today open field pines often suffer damage from the White Pine Weevil which attacks their terminal leader causing forked trunks and contorted shapes. Additionally, the White Pine Blister Rust attacks and kills pines, though this scourge does not threaten the existence of the species.

Pinus strobus does not reproduce under a closed canopy. Without periodic natural or human-created disturbances, areas covered by even the most magnificent stands gradually revert to hemlocks and hardwoods. This has caused some ecologists to exclude forests of White Pines from classification as bonafide old growth, regardless of their antiquity. Nonetheless, small White Pine stands and individual trees will always be a constituent of old-growth forests in the Eastern mountains. Whether from landslides, single or multiple tree-fall gaps, hurricane-caused blowdowns, or fire, sufficiently large clearings have always been available for successful propagation. So, while pure stands are associated with large disturbances and old field succession, the species is a natural resident of old-growth forests.

DIMENSIONS

Some Eastern tree enthusiasts feel cheated when contemplating those fortunate enough to live in the long shadows of the great conifers growing in California's Sierra Nevada and the Pacific Northwest coastal region. Compared to those marvelous cellulose cathedrals, our trees reach only modest proportions. A number of Western conifers routinely reach heights over 200 feet; and the Giant Sequoia, Coast Redwood, Douglas-fir and Sitka Spruce record measurements over 300



feet. Alas, our Eastern trees are considered tall at 100 feet. However, the East had and still has some forest monarchs. Tulip Poplars in the Appalachian cove forests, Eastern Sycamores in the Ohio River Valley, and Bald Cypress in the Southern swamps can still all exceed 150 feet in height, as can Pecan trees. A few exceptionally tall specimens of each species remain, and tall Tulip Poplars are common in rich coves of the Southern Appalachians. Some residents of Smoky Mountain coves reportedly make the 200 foot mark. But the overall champion of height in the East has always been the White Pine. Authoritative sources place the limiting height of this superlative species at between 220 and 230 feet. To those accustomed to 60-90 foot tall shade trees lining the sides of a neighborhood street, a 200 footer may sound like a plant equivalent to the proverbial fish story, but such heights are well documented. Because so much White Pine growth is young, many tree books are misleading about this conifer's height. I've seen authoritative tree books that list the height of *Pinus strobus* as 75 to 100 feet—an insult to this species on a par with listing heights of a noble Watusi as about 5 feet.

Less frequently, the White Pine can also reach impressive proportions in girth. Older specimens can attain circumferences of 15-20 feet and there are cases of girths near 30'. For the most part, though, forest pines 4 feet in diameter can be considered large.

WHERE TO SEE THEM

Descriptions of the towering pines of colonial New England always produce an irrefragable urge in me to glimpse the sights that Thoreau found so enticing. Although the great stands of White Pine that once grew in the Northeast and in the Great Lakes region are gone, fortunately, there are a few places where one can see mature pines, some even of Thoreau calibre. Let's review some environments and specific locations.

One frequently can find small stands of ancient specimens on the sides of river gorges.

Kaaterskill Falls in New York's Catskills has some fine old-growth pines growing from the sides of the gorge. Some lake shores where sunlight is plentiful still harbor old-growth White Pine. New York's Adirondacks have many scatterings of impressive old-growth White Pines deserving cataloging and measurement. The lake boundaries provide ample opportunity for pines to grow unhampered by shade. Oddly enough wetlands can harbor worthy specimens. Catlin Woods in Connecticut has a few old-growth pines.

Most stands in New England date from colonial times and represent old field succession. The Fisher-Scott Memorial Pines of Vermont may be the state's finest, reaching 120 to 130 feet in height and up to 40 inches in diameter. A few of Massachusetts's giant Carlisle Pines still stand. These pines also date from colonial times. The tallest is a respectable 136 feet and the largest are on the order of 4 feet in diameter. Though the tallest pines in the Bay State may be gone, there is at least one place where one can stand in the shadows of specimens that might have caught the eye of Thoreau. Jack Sobon, a pioneer old-growth in western Massachusetts, and I measured a colossal White Pine in the Dunbar Brook watershed of the Berkshire region: nearly 12 feet in circumference and 152 feet in height. I fondly call this tree "The Great Pine of Dunbar Valley". A second pine stretched the tape to 147 feet and a third reaches 140. Before they were toppled by a tornado-like weather phenomenon, the Cathedral Pines of Cornwall, Connecticut were considered by many to be New England's finest. Jack measured many of these pines at 150-160 feet, with the tallest at 172 feet. Fortunately, a few of the Cathedral Pines still stand to provide a taste of what helped advertise Cornwall until that fateful day in 1988.

Other places around New England, accessible to those who do not mind roughing it, have small stands of colonial-aged specimens. Those reluctant to bushwhack can see old-growth White Pines on some college campuses and in city parks. Great Barrington and Sheffield, Massachusetts, are towns with large old specimens.

Pennsylvania is a rich hunting ground for old-growth White Pine. Cook State Forest in the western part of the state may well harbor the best stand of all. A few pines reach close to 200 feet, and prior to a blowdown some years ago, there were many trees between 150 and 200' in height.

Further south, Linville Gorge in North

Carolina's Blue Ridge Mountains and Cooper's Creek Scenic Area in Georgia's Chattahoochee National Forest have some 150 footers. Linville Gorge may harbor a few considerably taller specimens. From a distance, I have studied them through binoculars and believe several exceed 160 feet. I measured one trail-side specimen at 150 feet, and other less accessible trees within a quarter of a mile look taller.

Two small areas in the Smoky Mountains of North Carolina and Tennessee show promise. I have seen no official measurements of any Smoky Mountain specimens, and have made none of my own, but I have spotted White Pines at two locations that I believe exceed 150 feet. Further south, the state champion White Pine of South Carolina is a colossus at 168 feet in height and 28 feet in girth.

MEASUREMENTS—GOOD AND BAD

Before leaving the topic of height, I should point out that obtaining accurate measurements can be tricky, particularly in inhospitable, mountainous terrain. Spreading

crowns, leaning stems, obscured tops, and inaccurate baselines can produce substantial measurement errors. There is also the understandable wish on the part of some of us to knight new champions. I confess that I have been inclined to give more than one tree the benefit of the doubt, but after I initially made some egregious errors, Jack Sobon helped me discipline my measurements. To my chagrin and embarrassment, Jack's transit shrunk several measurements I had sworn to be "on the money." I am now careful to locate where a plumb line from a tree's highest point would intersect the ground.

PAYING DUE RESPECT

I am an unabashed White Pine fan. This noble conifer is the closest thing we have to rival the "lessers" of the Pacific Northwest. Many sing its praises, but more White Pine enthusiasts are needed to generate interest in finding worthy specimens. As a case in point, *The Audubon Society Field Guide to Natural Places of the Northeast Inland*, a highly useful source of information, lists a 125 foot specimen on New Hampshire's Pine River Esker as possibly the tallest in the state, yet I measured a 121 foot pine on a casual outing one day without half looking. I would be ex-

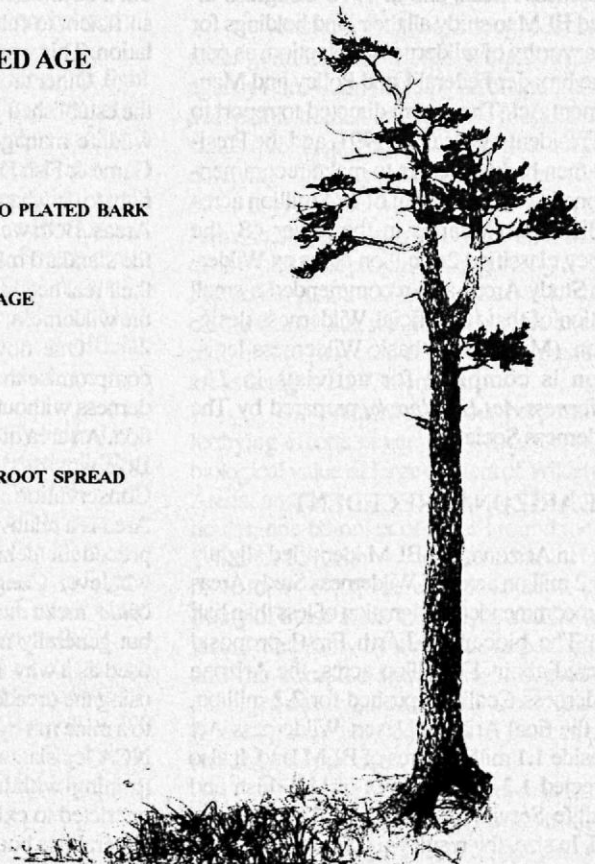
tremely surprised if the Granite State doesn't harbor taller specimens. Accordingly, I would appreciate hearing from anyone knowing of or suspecting pines in the 150 foot and over class anywhere in the East. These relicts deserve special attention and protection. Other trees are honored. Why not elevate the White Pine to a status consistent with its lofty crown? Louisiana has a society to which only venerable Live Oaks belong. Trees that have reached their 100th birthday and have attained a circumference of 17 feet are automatic members. Why not a society to which only towering White Pines belong? I would propose a title such as "The Over 150 Club." Someone else may think of a nobler handle, but the idea is on the table.

Write old-growth sleuth Robert Leverett at 52 Fairfield Ave., Holyoke, MA 01040. Illustrations for this article are by the author's son, Rob Jr.



SIGNS OF ADVANCED AGE

- 1) FLAIRED CROWNS
- 2) DEEPLY FURROWED TO PLATED BARK
- 3) SPARSE, UNEVEN FOLIAGE
- 4) STUBBY BRANCHES
- 5) CONSPICUOUS BASAL ROOT SPREAD



Fighting for BLM Wilderness: The Arizona Experience

by Dale S. Turner

For wilderness lovers in the western U.S., the next few years offer a one-time opportunity to protect big chunks of wild terrain — the holdings of the Bureau of Land Management. The campaign for Arizona's statewide BLM wilderness bill, the first such legislation to pass, may hold some useful lessons for activists in other states.

Only Congress can designate official Wilderness Areas, and in 1976 Congress directed BLM to study all their land holdings for areas worthy of wilderness protection, as part of the broader Federal Land Policy and Management Act. They were directed to report to the President by October 1991, and the President then had two years to make recommendations to Congress. Out of 174 million acres of BLM public lands in the lower 48, the agency classified 24 million acres as Wilderness Study Areas and recommended a small fraction of that for official Wilderness designation. (Much of the basic Wilderness legislation is compiled for activists in *The Wilderness Act Handbook*, prepared by The Wilderness Society.)

THE ARIZONA PRECEDENT

In Arizona, the BLM identified slightly over 2 million acres of Wilderness Study Areas and recommended designation of less than half that. The biocentric Earth First! proposal covered about 17 million acres, the Arizona Wilderness Coalition pushed for 2.2 million, and the final Arizona Desert Wilderness Act set aside 1.1 million acres of BLM land. It also protected 1.3 million acres of U.S. Fish and Wildlife Service (National Wildlife Refuge) land. In size, the result was far less than we'd

hoped for, but better than we'd feared.

Beyond the numbers, we had some success in the management language of the bill, which may have strong precedent value for other states. The most contentious issue was water rights—an odd fight for a bill that covered mostly low desert lands. Pro-development forces in Congress fought hard to include an explicit denial of any federal water rights for the newly-designated Wilderness Areas, and managed to delay action on the bill for nearly a year. The final language includes several small provisions stating that it has no effect on previously established water rights or on the operations of several specific dams, but it does claim rights to “a quantity of water sufficient to fulfill the purposes” of the legislation. This was the pre-existing standard.

Other areas where we held Congress to the established guidelines include grazing and wildlife management. Ranchers and the AZ Game & Fish Department each pushed for the right to do whatever they wanted in Wilderness Areas. Both were rejected on the grounds that the standard management language meets all their real needs. We didn't get the cows out of the wilderness, but we didn't lose any ground.

One novel portion of the Act was a compromise that will supposedly protect wilderness without giving it the official designation. An area of extreme controversy, the Gila Box was designated a Riparian National Conservation Area. National Conservation Area is a relatively new land status, with little precedent behind it. Basically, an NCA is whatever Congress says it should be. That *could* mean more protection than Wilderness, but generally means much less. Here it was used as a way to appease the enviros without using the dreaded “W” word on land adjacent to a mine run by megacorp Phelps Dodge. The NCA legislation contains a few strong points (mining withdrawal, water rights, vehicles restricted to existing roads) and lots of pretty generalities but left management specifics to

the BLM, so its ultimate value remains to be seen. Lacking the strong precedents of Wilderness designation, it may ultimately be very weak protection. Opponents of new Wilderness legislation included the standard cast of characters offering their usual lines. Mining companies spoke the loudest, claiming that more Wilderness would collapse the state's economy and bring the end of Life As We Know It. They initially played themselves out of the game by presenting the congressional delegation with a seven-volume analysis showing that all the Wilderness Study Areas had “High” to “Very High” mineral values and recommending the designation of exactly zero (0) acres. They were told that was not a helpful contribution (i.e., everybody laughed) and thus came back with a prioritized list of areas, which heavily influenced the final legislation. Individual mining companies fighting designation of specific areas did a lot of damage.

Hunting groups were vaguely negative but had little overall impact except in discussions of two large National Wildlife Refuges, Kofa and Cabeza Prieta, famous for their Bighorn Sheep populations. AZ Game and Fish got more respect for their site-specific concerns, primarily water-hole maintenance, which resulted in a number of 4WD road corridors being kept open.

Ranchers were also against any Wilderness anywhere but had very little influence. Off-road vehicle users were largely ignored by all concerned.

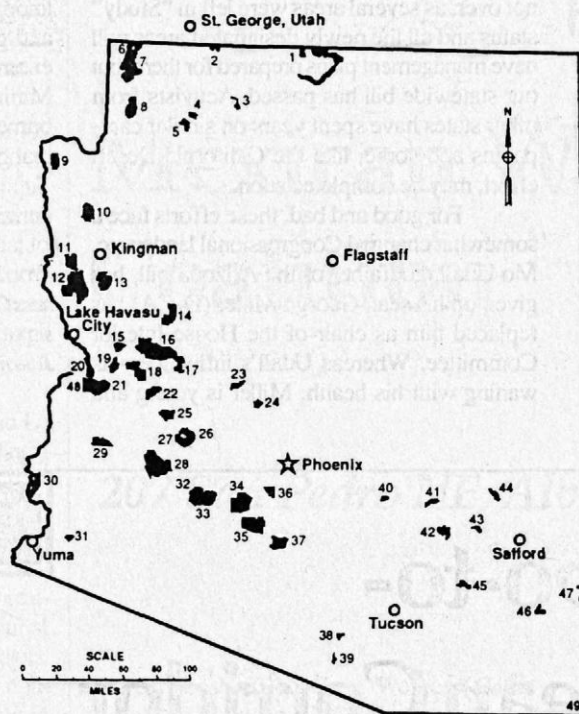
WHAT WE DID RIGHT

One of the most important steps taken by the Arizona Wilderness Coalition was creating a detailed wilderness proposal, with maps and descriptions of all the areas. This set the agenda for all future discussions and was a vital tool for organizing and lobbying. (Groups

DESIGNATED AREAS

- 1 Paria Canyon-Vermilion Cliffs
- 2 Cottonwood Point
- 3 Kanab Creek
- 4 Mt. Trumbull
- 5 Mt. Logan
- 6 Beaver Dam Mtns.
- 7 Paiute
- 8 Grand Wash Cliffs
- 9 Mount Wilson
- 10 Mount Tipton
- 11 Mount Nutt
- 12 Warm Springs
- 13 Wabayuma Peak
- 14 Upper Burro Creek
- 15 Aubrey Peak
- 16 Arrastra Mountain
- 17 Tres Alamos
- 18 Rawhide Mountains
- 19 Swansea
- 20 Gibraltar Mountain
- 21 East Cactus Plain
- 22 Harcuvar Mountains
- 23 Hassayampa River Canyon
- 24 Hells Canyon
- 25 Harquahala Mountains
- 26 Hummingbird Springs
- 27 Big Horn Mountains
- 28 Eagletail Mountains
- 29 New Water Mountains
- 30 Trigo Mountains
- 31 Muggins Mountains
- 32 Signal Mountain
- 33 Woolsey Peak
- 34 North Maricopa Mountains
- 35 South Maricopa Mountains

WHERE IS ARIZONA BLM WILDERNESS?



- 36 Sierra Estrella
- 37 Table Top
- 38 Coyote Mountains
- 39 Baboquivari Peak
- 40 White Canyon
- 41 Needle's Eye
- 42 Aravaipa Canyon
- 43 North Santa Teresa
- 44 Fishhooks
- 45 Redfield Canyon
- 46 Dos Cabezas Mountains
- 47 Peloncillo Mountains

STUDY AREAS

- 48 Cactus Plain
- 49 Baker Canyon

in other states have done similar proposals — ours owed much to an earlier production by the New Mexico Wilderness Coalition; and a much higher standard has been set by the recent Utah Wilderness Coalition proposal, which would protect over 5 million acres of BLM land as Wilderness.)

We kept our central place in the later discussions with a set of large maps. The BLM prepared a set of poster-size maps of all the areas, showing only their lines, so we drew our boundaries and put our logo onto their maps and printed blue-line copies for the whole Congressional delegation. When the debate got down to area boundaries, our version was the one on the easel.

An essential part of writing our proposal was to survey all the areas on the ground. Area "adopters," who knew and fought for specific areas, were vital organizers of local support groups, setting up visits to the areas, cranking out letters and pushing for press coverage. They were also our experts on boundary questions which often arose once an area was "in the bill."

Also useful was the effort to gain wide public support. We got endorsement letters from environmental organizations, of course, but also sought out senior citizen hiking clubs, outdoor equipment stores and elected officials. A supportive resolution from the Pima County Board of Supervisors weighed far more than

cranky letters from a few recreational miners. (But it cut both ways: lobbying by the rural Greenlee County Supervisors overwhelmed all efforts by urban activists.)

A useful factor in the water rights fight was the position of the state Department of Water Resources, which publicly stated that Wilderness water rights are appropriate, and that any new Wilderness water rights would be junior to all previous claims and thus would not harm existing water users. Seems pretty straightforward, but that's a difficult notion for some Senators to grasp and it sounds much less radical coming from a government official. Congress usually defers to the states on such matters.

One other group that really helped was Lighthawk, "the wings of conservation". They flew us to survey, photograph, and show off areas that are almost inaccessible because they're so huge and rugged. While nothing can match the experience of getting into a wild area on the ground, you can show a Congressman a lot of great terrain in a morning's flight.

Finally, it helped to get a professional survey showing that Arizonans favor wilderness by a four-to-one margin. The poll of 700 people, paid for by Recreational Equipment Inc., gave solid backing to our claims of popular support.

WHAT WE DID WRONG

We didn't think big enough, in area or management conditions. We stuck to the agency rules when deciding on boundaries and acceptable human impacts. We fought for the status quo on grazing and mining restrictions, deferring fights to tighten restrictions for another day. Maybe we won more Wilderness Areas in the process, but they're small and full of cow pies. The proposed Oregon High Desert Protection Act, a visionary effort which takes on the whole pile, would be far more exciting to fight for. [It would end livestock grazing in areas designated Wilderness.]

On a related note, our proposal and lobbying efforts never really focused on the biological value of large clusters of Wilderness Areas, and that showed in the results. In particular, one complex of areas around the Bill Williams River in western Arizona included more than 719,000 acres in 16 separate units. Many of those areas were separated from adjacent areas only by dirt roads or powerlines, and the complex should be protected and managed as a whole. Instead, Congress designated about 298,000 acres in 9 areas scattered across the map.

One other lingering concern is that we would have been better off to have known more economic "fun facts" on our side early

continued next page

in the game. When wilderness opponents came up with several bogus studies about the billions of dollars that were sure to be lost, we were slow to gather the real numbers that could answer their fantasies. While the true values of wilderness — undisturbed habitat, biological diversity, the right of species to exist — cannot be measured in dollars, economic arguments are inevitable and there is solid evidence in our favor.

THE FUTURE

Arizona's BLM wilderness effort is not over, as several areas were left in "Study" status and all the newly designated areas will have management plans prepared for them, but our statewide bill has passed. Activists from other states have spent years on similar campaigns and some, like the California Desert effort, may be completed soon.

For good and bad, these efforts face a somewhat changed Congressional landscape. Mo Udall, godfather of the Arizona bill, has given up his seat. George Miller (D-CA) has replaced him as chair of the House Interior Committee. Whereas Udall's influence was waning with his health, Miller is young and

vigorous, and worked hard on the Arizona bill to oppose weakening language on water rights and grazing. In the Senate, wilderness arch-enemy Jim McClure is gone, at long last. Mining Law reform is finally on the front burner, and many politicians are looking for that green aura.

This is a great opportunity for wilderness advocates and for the wild.

Dale S. Turner is part of the Arizona Wilderness Coalition Executive Committee, and formerly served as Assistant Editor of the Earth First! Journal.

Biodiversity

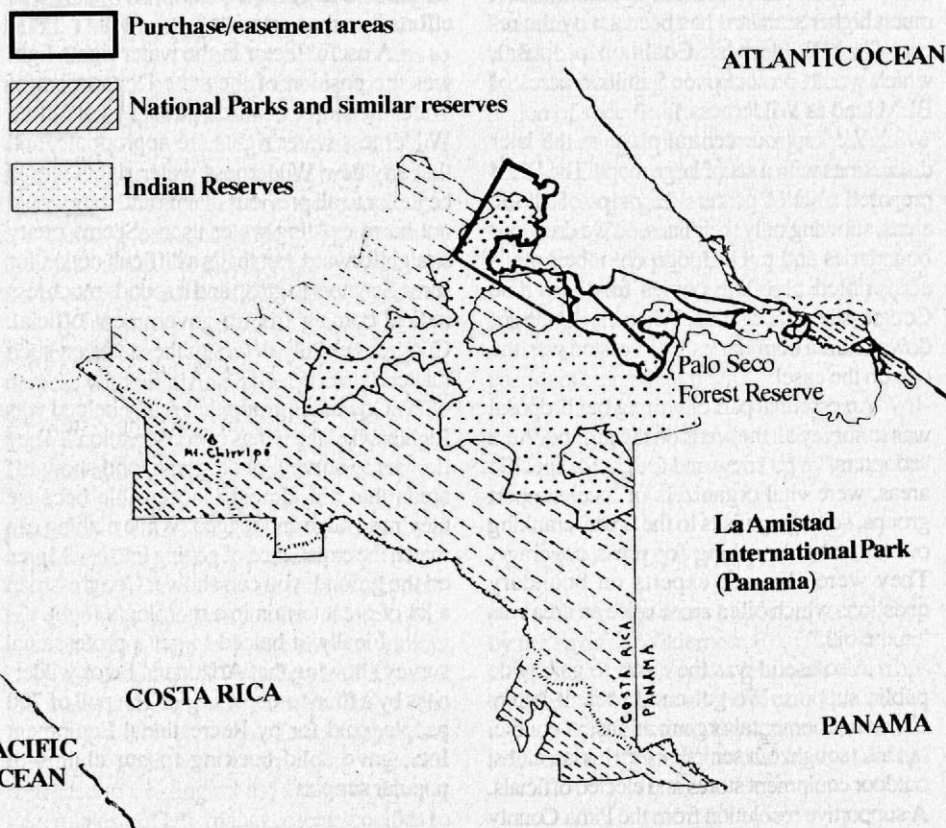
The Chirripo-to-the-Caribbean Corridor, Talamanca, Costa Rica

by Bill McLarney

Any reader of the environmental press can tell you that Costa Rica is known as a developing country that has made a remarkable effort to protect its wild places. The reputation is well deserved, and beginning with the establishment of a modern National Parks system in the 1960s by Mario Boza and Alvaro Ugalde, a growing number of Costa Ricans have qualified for anyone's list of ecological heroes.

But just as United States history is not just the story of Muir and Leopold, there is more to the Costa Rican story. Alongside the statistics about percentage of total land protected, it must be noted that Costa Rica currently has one of the highest rates of deforestation in the world. Push is coming to shove very rapidly, and we will soon know to what extent their famed Parks system will be reduced to a series of islands, and how much can be linked by forest corridors to form a greater whole.

Probably the most valuable corridor still hanging in the balance is the Chirripo-to-the-Sea Corridor, located largely within the 2500



square mile La Amistad Biosphere Reserve. At this writing it is still possible to hike from atop Mt. Chirripo on the Continental Divide (at 12,533 feet, the highest point in Costa Rica) 60 linear miles to the Caribbean coast, remaining in natural tropical forests all the way. The sheer diversity one would encounter on such a journey is staggering. From the unique alpine "paramo" vegetation above tree line to mangrove swamps (and on, if one wishes, to Costa Rica's only true coral reefs), the corridor contains 11 of the 12 Holdridge Life Zones existing in Costa Rica. It is home to perhaps 80 percent of all Costa Rica's endangered animal species.

Most of the corridor is included within La Amistad's formally protected areas, including a National Park, the La Amistad International Park (shared with Panama), a complex of Indian Reservations, a Biological Reserve, and a Wildlife Refuge. But there are two major unprotected gaps, one of them immediately threatened by banana companies, loggers, tourist development, immigrant farmers and speculators.

Enter ANAI, a small Costa Rican non-profit organization which has been active in the canton of Talamanca, where the corridor lies, for over a decade. There ANAI works with the rural people to enable them to improve their standard of living without destroying the still-rich forests in the area. ANAI has painstakingly identified the properties that must be protected to secure the corridor, and prepared a proposal which combines purchase of lands from speculators, easements for landholders with an interest in protecting their forests, buyouts of inholdings in Indian Reserves, land use agreements with the tribes, and sustainable management plans for buffer zones. With the help of The Nature Conservancy, the Costa Rican Ministry of Natural Resources and numerous small organizations, ANAI is attempting to protect what may be the only Continental Divide-to-the-Sea forest corridor in the Neotropics.

The sums of money involved are considerable—in the millions—but significant contributions can be made with relatively small sums by helping buy single critical properties. Small individual donations can be used to support ANAI's overall program (thus reinforcing the local stake in the process) and to cover the costs of raising the larger sum. Tax-deductible contributions and requests for proposals or other information can be sent to ANAI's one person, part-time US office—Bill McLamey, 1176 Bryson City, Franklin, NC 28734.



Mexican Wolf Coalition

207 San Pedro NE, Albuquerque, NM

Smallest of the Grey Wolves (*Canis lupus*), the Mexican Wolf, as known to many New Mexicans as the Lobo, was once found in New Mexico, Arizona, and Texas, as well as Mexico. Mexican Wolves were extirpated from the wild in the US over twenty years ago, and there is doubt as to whether any wild wolves survive in Mexico. In the US, the federal government, at the behest of ranchers, eliminated the wolf.

In the 1970s, six wolves were taken from the wild in New Mexico and brought to captive breeding facilities, including the Rio Grande Zoo in Albuquerque. There are now 38 Mexican Wolves in captivity—29 in the US and 9 in Mexico.

The Endangered Species Act of 1973 states that the Secretary of the Interior has responsibility to bring back an Endangered species through conservation measures. The expressed goal of the Act is to delist species by restoring viable wild populations. In 1982 the US Fish and Wildlife Service (FWS) produced a Recovery Plan with a three-step process for delisting the Lobo: captive breeding, site selection, and reintroduction into the wild. Reintroduction was supposed to occur after 1985.

Tired of FWS foot-dragging, the Mexican Wolf Coalition, along with the Wolf Action Group, Sierra Club and other organizations, filed suit on Earth Day 1990 to force the implementation of a recovery plan. Since White Sands Missile Range in southern New Mexico is the most likely site for initial reintroduction, the suit names both the Secretary of the Interior and the Secretary of Defense as defendants.



Soon after the suit was launched, FWS hired a full-time Mexican Wolf Recovery Coordinator. There is now a detailed recovery plan which calls for reintroduction to begin in 1994.

There remain several obstacles to wolf recovery. Since ranchers remain a powerful political force in New Mexico, recovery plans need to minimize opposition from ranchers. The main reason White Sands was chosen is that it is the only suitable habitat in New Mexico not currently open to grazing. The Mexican Wolf Coalition plans to set up a fund to reimburse ranchers who can prove depredation losses from wolves that are reintroduced.

The wolf population will need to reach 70 to 100 before reintroduction can be safely tried. Increased funding will be needed to provide sufficient facilities to bring the wolf population to that number.

To help the wolf recovery effort, contact the Mexican Wolf Coalition at 207 San Pedro NE, Albuquerque, NM 87108 (505-265-5506).

--Marc Bedner

Sky-Island Alliance

1639 E. 1ST STREET, TUCSON, AZ 85719

"Sky islands" is a term used to describe isolated mountains that rise above surrounding desert. The *Sky-Island Alliance* is a group of concerned conservationists and scientists who have joined together to help the land management agencies recognize and protect the unique biological diversity of our desert sky islands. We are responding to a US Forest Service (FS) proposed "National Recreation Area" for portions of the Coronado National Forest, in southeast Arizona. The FS nationwide is receiving for the next three years under a Presidential Initiative \$625 million to be used for: 1) recreation facilities, 2) special-designation areas, 3) forest interpretation and environmental education. This program is to be supplemented with non-federal funding sources, or cooperative funding in wildlife, fisheries, and recreation programs; for example, green sticker monies from gas taxes for off-road vehicle use groups.

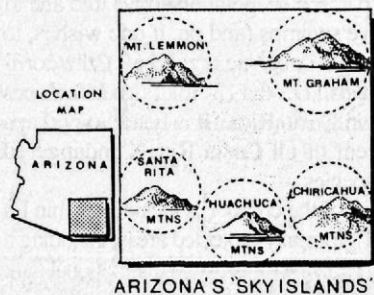
We believe the truly outstanding feature of the Coronado NF is its biological diversity—more diverse than any other National Forest in the nation, some biologists say. To help protect this unique region, we are designing a comprehensive proposal which will eventually transcend the borders of the Coronado NF to include the whole chain of sky islands in Arizona and New Mexico and south into Chihuahua and Sonora, Mexico. An important component of the proposal involves preserving wildlife corridors between mountain ranges to permit genetic exchange among populations of migrating species.

Instead of National Recreation Area (NRA) designation for parts of the Coronado NF, we favor a National Conservation Area (or other appropriate) designation. The Coronado NF management and the Regional Forester have recognized that the Forest has nationally unique features. The US Fish & Wildlife Service 1978 report for the region recommended protection for 8 "unique and nationally significant wildlife ecosystems" in Arizona, all but one occurring in the southeast part of the state.

The sky islands have spawned an impressive number of endemic plant and animal species due to the isolation of one "island"

from another. According to those in the field of island biogeography, the potential for insights gleaned from ecological studies and sky island comparisons is unparalleled. These ecosystems have finally been recognized by the scientific community as unique and worthy of preservation. Besides the amazing biodiversity, the sky islands also contain perennial streams, springs, tinajas, and rare highland cienegas (wetlands), some at over 9500 feet in elevation.

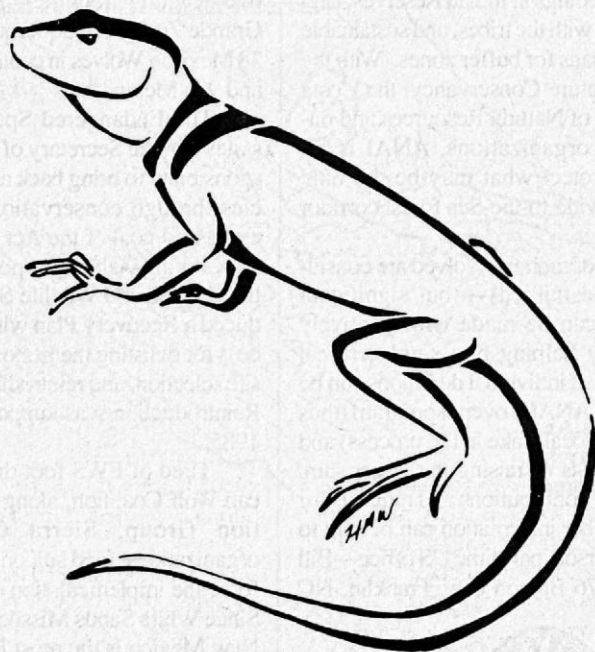
Since each National Forest in the system will be competing for dollars, we are proposing ways for the Coronado to enhance its competitive edge and get more out of the dollars sent this way. We are focusing on the educational and interpretive priority of the Presidential Initiative to provide for public appreciation of the Coronado treasures. Ostensibly, NRA designation for the chain of sky islands will give priority to long-term protection. We intend to develop a comprehensive



plan for protection beyond just the verbal promise.

Already, we have developed a general proposal emphasizing protection of the Coronado sky islands chain and the natural corridors of exchange between them. We've tried to anticipate problems concerning administration and opposition to our ideas. The proposal has been sent to over 100 individuals and groups to solicit comments, ideas, and commitments to participate. If you're interested, please write us.

--Nancy Zierenberg



National Off-Road Vehicle Task Force

POB 5784, Tucson, AZ 85703

The National Off Road Vehicle Task Force (NORVTF) is rising out of the academic rubble. Now that I have my graduate education secured in a box in the closet, I intend to resurrect my old floppy disk and become a serious pain in the backside of the increasingly organized ORV lobby.

The Blue Ribbon Coalition is raising quite a dust cloud behind the off-road vehicle industry. But this time the alkali is not only obscuring the clear skies of the Southwest, it is clouding the view of our policy makers in district, regional, and national land management offices across the country. The motorcycle/four wheeler industry is funding groups like the Blue Ribbon Coalition and the National Off-Highway Vehicle Conservation Council (NOHVCC). Like a politically correct "Sahara Club" (a club of off-roaders who have threatened, intimidated, or viciously attacked anyone they perceive as interfering with their "right" to trash the desert) these groups

are wielding their baseball bats and threatening to bludgeon any agency or politician that gets in their way.

If you live east of Missouri's Black River you may think you are entitled to a private land reprieve. However, according to "Dirt Rider" magazine, the NOHVCC has staff offices in Virginia, West Virginia, New York, Wisconsin, Michigan, and Illinois, to name a few. The ORV gang has found the newly blossoming "Wise Use" movement and has slithered aboard this steaming train with the likes of Homestake Mining, Coors, and Exxon. ORV'ers are working hard to put aside their fights with ranchers, miners, and hunters to form coalitions, which are becoming an ever louder voice in the management of public lands. The people in this alliance from hell are serious, and they have big money stuffed in their gaudy colored riding knickers. Their most recent victory (still unconfirmed) has been to convince the BLM that they must reopen, once

again, the infamous Barstow to Vegas race. Even though every EA or EIS ever produced on this race has shown multiple negative impacts, the BLM is again wavering under the pressure. They are hearing only the squeaky wheels of 4x4 pickups with Yamaha, Honda, Kawasaki, Suzuki, and KTM stickers festooning their windows. It's time to rally the voices of those fighting *for* the land, not over the land.

Those of you who have been around this ORV fight for awhile might remember the Sierra Club's "ORV Monitor". We intend to produce a similar newsletter (bi-monthly) on the latest happenings in the ORV world. The intent of this newsletter and the National ORV Task Force is to function as a networking facility and a clearinghouse for information on ORVs causing harm to public or private land. We also intend to produce a "how to" tabloid for anti-ORV activists.

What you can do to help: Send photos, slides, and information to: Rod Mondt, Director NORVTF, POB 5784, Tucson, AZ 85703.

—Rod Mondt

Rest The West

POB 10065, Portland, OR 97210
503-645-6293

Imagine if one day you and I bought a fishing license, which is really nothing more than a consumptive permit, and decided to spend the day on a popular local trout stream. Imagine that we took, not our drift-boat, waders, and fishing rod, but a D-9 caterpillar and a dump truck filled with human excrement. Imagine that we drove that D-9 up and down the banks of the stream, scraping the vegetation

away, tearing down the stream banks, and burying the precious spawning gravel; then that we drove the truck down the middle of the stream and dumped the human excrement into the water.

Sound ridiculous? Of course it does. If you and I did something like that, our friends would forget our last names before they let us out of jail. The sad truth, however, is that the

public lands livestock grazing industry does just that every day throughout the West. While we have been struggling these past 25 years to preserve our natural forests, the livestock industry has turned our Western public lands into running-water toilets.

Public lands livestock grazing in the West has polluted more water, eroded more topsoil, killed more fish, displaced more wildlife, and destroyed more native vegetation than any other activity. Moreover, we the American taxpayers pay the ranchers to do the damage.

The public lands livestock industry, *continued next page*

sisting of fewer than 30,000 individual permit users, is destroying over 323 million acres of public lands to produce less than 2% of the nation's meat.

Although the federal government charges livestock graziers to use public lands, in an average year the government spends approximately \$60 million to facilitate grazing programs, and recovers less than \$20 million in fees. These numbers do not reflect hidden costs such as water diversion projects, fire protection, insect control, herbicide spraying, brush removal and grass seedings.

Perhaps the most tragic hidden costs are those associated with the US Department of Agriculture's, Livestock Predator Control program [Animal Damage Control], a program specifically designed to protect only livestock. In 1989, the USDA hired some 400 government hunters and trappers to kill 86,502 Coyotes, 1202 Bobcats, 7156 foxes, 237 Mountain Lions, 336 Black Bears, 80 Gray Wolves, and countless small mammals and birds inadvertently taken or poisoned. For that service, we taxpayers paid some \$38 million.

You would think with the massive damage to the environment and the outrageous economic subsidies involved, the national environmental groups would demand an end.

However, they are virtually ignoring the problem.

Recently, I joined other desert activists to set up a West-wide grassroots organization whose main function is to end public lands welfare ranching. We are not interested in charging higher fees for the destruction of our public lands. We are not interested in expanding or maintaining grazing under so-called "better management." The plain truth is, you cannot manage livestock on fragile, arid desert lands. We are no longer willing to waste time touring our ravaged desert lands with Bureau of Land Management and Forest Service employees and the livestock industry, listening to one excuse after another about why nothing can be done this year.

Rest the West (RtW) believes the issue is simple. Livestock grazing on public lands is the equivalent of clearcutting the land every year. Recent agency reports indicate that over 79% of federal Western public lands are in unsatisfactory condition. RtW will press for legislation that would immediately withdraw livestock grazing on public lands that are now in unsatisfactory condition. These lands would be "rested" until they are in excellent condition. Thereafter, the lands would be evaluated for grazing suitability. If suitable, the lands

could not be grazed beyond the good or excellent condition. For those lands special enough to warrant federal or state designation, such as Wilderness and Wilderness Study Areas, National and State Parks, National Monuments, Natural Resource Areas, Areas of Critical Environmental Concern, and Wild and Scenic River Corridors, there is no justification whatsoever for continued grazing.

Rest the West will work to organize individuals and assist existing groups in each Western state to stop abusive public lands grazing. We will assist those groups in activities ranging from the proposal and passage of individual state BLM cattle-free wilderness bills, to appeals and litigation of illegal livestock allotment plans, to petitions for individual species protection under the Endangered Species Act. No matter what the strategy, Rest the West will remain proactive. We intend to keep on pushing.

Obviously, we need your help. We need you to join with us as a \$25 Associate, \$100 Founder or \$250 Benefactor. We will provide members with newsletters and action alerts. For every dollar you contribute, we will provide \$10 worth of grief to those who abuse our Western desert lands.

—Bruce Apple, Executive Director

MOVEMENT MUTTERINGS

Nightmare On Polk Street: ASCMEE Acts Up

by Margaret Hayes Young

The struggle to bring the "Big 10" groups back to a conservation ethic continues. On November 16 in San Francisco, ASCMEE, the Association of Sierra Club Members for Environmental Ethics, staged its first ever Outing—at Sierra Club's National Board of Directors meeting!

A small horde of conservation-minded Sierra Club members participated in this impromptu action, massing at the Club headquarters on Polk Street and marching to the Board Meeting, bullhorns in hand. Accompanied by press reps and carrying banners and signs such as "Bring Back

the Spirit of John Muir" and "Put the Sierra Back in the Sierra Club," the protesters made their assault on Cathedral Hill. After hanging several banners at the site and establishing the picket line, the protesters spoke to the gathering crowd.

After about an hour, the Board invited the protesters to participate in the meeting, and ASCMEE agreed to go upstairs (with banners and signs). But it soon became apparent that they would not be permitted to speak. (Some participants suggested that the invitation was a ploy to get them off the street.) After a short consultation, a few dissidents returned to the street and continued the demonstration.

In the meeting upstairs, the session turned to

"How to Reorganize the Club," with input permitted from each discussion table. One of the tables suggested, among other things, that Complete Financial Disclosure be required from all volunteer office holders. Unlike previous suggestions, this one met with deafening silence, followed by low, hollow laughter from every part of the room. Clearly, while we might debate the merits of clearcutting or the suspension of dissident chapters, financial disclosure by volunteer leaders was Not On The Menu.

At the urging of others in the ASCMEE group, I then got up to explain to the Club's management why we were there. I asked them to understand that we would not have come to this

meeting if we didn't care about the Club; in fact we cared so much about the Club that we were willing to try to reform it.

I asked them to understand that to come before them openly and express our sense of betrayal was not an act of confrontation, but ultimately a gesture of trust. I told them that we knew others before us had found no tolerance of dissent in the Club, and had left; but we had elected to stay. We knew that they could throw us out, but how many activists can they keep eliminating, and hope to have anything left?

We then announced the ASCMEE candidates for nomination to the Board of Directors. Among those running to reform the Club are David Orr from California, Tim Hermach from Oregon, Margaret Hays Young from New York, Gordon Robinson from California and George Russell from Texas. They are now gathering signatures on petitions in hopes of making it onto the Club's Na-

tional Ballot for 1992. While incumbents are almost always reelected to the Club's Board, these folks have decided to take a shot at changing the "business as usual" Club policies.

MOSCOW ON THE BAY

Nevertheless, the next day, November 17, the Board of Directors took a drastic step: They voted to approve changes to the National By-Laws which would give the Board of Directors the power to remove individually elected Volunteer Leaders from office, and to remove any Group's or Chapter's Executive Committees in whole or in part, if the Directors felt such action was "in the best interests of" the Club. Further, such action would not be subject to review by the Council or other bodies, nor would notification of the local membership be required. (At press time we are

waiting to receive the final draft of the ballot proposal; some changes may have been made in the wording, but this is the general thrust of their action.)

These proposed changes to the National By-Laws will most likely be on the ballot for the Club's April 1992 election. To pass, the proposal must win two-thirds of the vote. However, of more than 640,000 Sierra Club members, only 74,000 voted in 1991. Most members who do vote will have no idea of the implications of this proposal.

So next year's national election in the Sierra Club will be interesting. If you'd like to defend the grassroots activists in the conservation movement, and have been contemplating getting into action, now would be a good time to take the plunge...If you're not a Sierra Club member, you might want to join now, and tell the Board what you think of their policies. Your vote next April will be important.

But the Agencies are Worse

EPA, for instance...

by Gregory McNamee

Ronald Reagan may no longer be in power, but the voodoo economic policies George Bush accused him of practicing are alive and well at the Environmental Protection Agency.

In a summary report released in March of 1991, "Environmental Investments: The Costs of a Clean Environment," EPA boss William Reilly wishfully projects that soon a full 2.8 percent--nearly \$161 billion--of the United States gross national product will be devoted to pollution control programs, as against the 2.1% spent in 1990 and the .9% spent in 1972, the year the agency was founded. (By way of contrast, in 1987 military expenditures ate up 6.9% of the GNP. In the same year, the EPA approved the manufacture of 8579 new toxic chemical compounds. Go figure.)

The report claims that this increased spending will set the United States far ahead

of other industrial nations--notably West Germany, the United Kingdom, and France--in pollution control. The European data, however, is more than six years old and does not take into account matters like the massive campaigns in the late 1980s to remove pollutants from the Rhine and Danube Rivers. The EPA's figures are also woefully incomplete, leading author Alan Carlin to temper Reilly's misguided enthusiasm in the later pages of the report: "(the data) do suggest that the United States commitment to national pollution control is at least as great as that of many of its Western European economic counterparts."

Responding to the mandates of the nation's self-professed environmentalist President, among whose recent accomplishments has been a thorough weakening of the Clean Air Act of 1990, the EPA will offer major polluters a menu of choices for reducing emissions at the lowest cost.

If you ever doubted whose interests the EPA serves, consider this: In February, the agency with-

drew its popular consumer handbook from circulation after manufacturing lobbyists objected to some of its contents. Among the handbook's wilder statements were a recipe for a baking soda oven-cleaning solution, a note that flypapers contain toxins, and a suggestion that consumers replace throw-away cups with ceramic mugs. The handbook will be re-released this fall with such objectionable material deleted, on William Reilly's orders. An EPA representative explained: "We felt we have an obligation to provide information that is absolutely factual. We were concerned our credibility would be negatively affected."

We've got news for the agency: You're way too late.



MOVEMENT
MUTTERINGS

Aldo Presaged the New Conservation Movement

by Mitch Friedman

In *Wild Earth* number 2, Dave Foreman traces the emergence of what he calls the "new conservation movement." Foreman describes how this aggressive grassroots front has clawed its way to influence, as entrenched national groups of the old movement have foundered with their "soft members" and uninspired leadership.

Maybe so. But the transition may also be regarded as the maturation of the existing conservation movement, as it more firmly embraces the values and attributes envisioned by early luminaries. In fact, each of the factors Dave outlines as differentiating the new movement from the old are actually rooted in Aldo Leopold's thinking.

Foreman sees the new movement growing under the influence of deep ecological

philosophy, a biocentric ethic not grasped by the national groups of the 1970s and 80s. But well before Arne Naess and Bill Devall, Aldo wrote that "birds should continue as a matter of biotic right, regardless of the presence or absence of economic advantage to us." Even James Lovelock's contemporary notion of Gaia, the Earth functioning as a living being, is predated by Leopold's "picture of how healthy land maintains itself as an organism."

A second major influence on the new conservation movement, of which I consider myself a part, is conservation biology. Major concepts from conservation biology that the movement has embraced and rallied around include island biogeography and population viability analysis. In technical literature, the formal origin of the theory of island biogeography is attributed to MacArthur and Wilson in 1967; and population viability analysis is traced to the Na-

tional Forest Management Act of 1976, and Mark Shaffer's work first published in 1981.

However, Aldo noted that "Even the National Parks, which run up to a million acres each in size, have not been large enough to retain their natural predators..." Moreover, "Many animal species, for reasons unknown, do not seem to thrive as detached islands of population." These were, I think, the seeds from which later theories emerged.

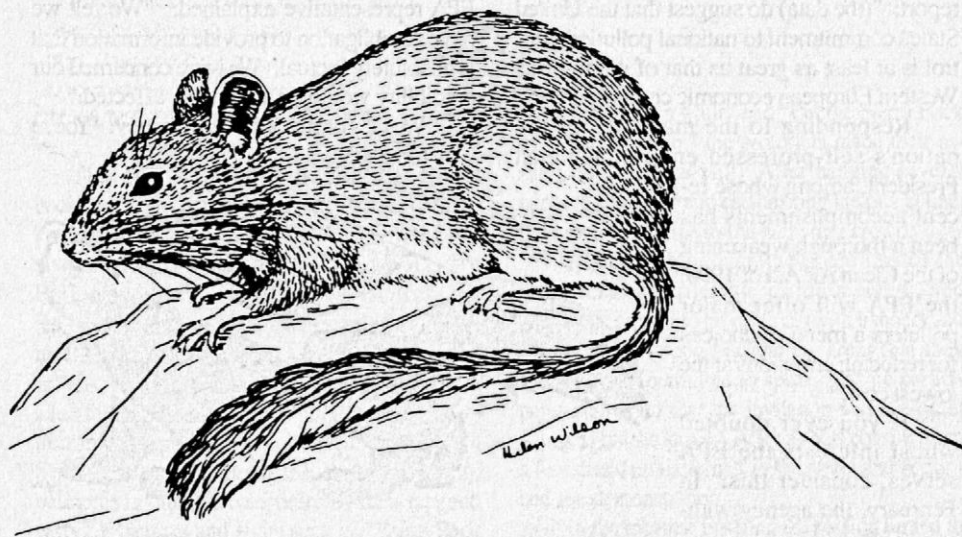
Leopold described boldly and accurately 50 years ago what smaller minds are still quibbling about today. For instance, he recognized that the best way to enhance the abilities of National Parks to sustain wildlife would be for surrounding National Forests to function as parks, which he clearly realized was not occurring. Some parochial agency biologists and industry hacks still debate this point today.

Lastly, Dave thinks the emergence of the new conservation movement is a product of a reinvigorated and empowered grassroots of "independent local groups." (Dave listed a fourth factor, too: the effect Earth First! had in emboldening the movement. However, I see this and general grassroots growth as inseparable.) This is what Leopold called "a militant minority of wilderness-minded citizens (who) must be on watch throughout the nation and vigilantly available for action."

Yet again, Leopold's *A Sand County Almanac*, published in 1949, asserts itself as the pinnacle work in conservation, essential reading for all residents of this and other planets.

My analysis then, is that the new conservation movement is not so new. Just as the Forest Service's "new perspectives" is only fresh rhetoric heaped over the agency's old identity, the changes in the conservation movement really indicate that we're getting not onto a new track but simply back on the track formerly envisioned. Conservationists come home.

Mitch Friedman is President of the Greater Ecosystem Alliance.



How Environmentalists Pay--Or Don't Pay--Attention

by Lance Olsen

Thoughtful attention is as rare and precious as wilderness, and as limited as a budget. Opportunities for distraction are unlimited. How should we as environmentalists spend our limited attention?

Some of us—those of us in non-profit organizations—spend much of our attention on the non-profit world itself. Every hour and day spent on this specialized world within a world is a drain on our attention budget. It leaves less attention available to spend on our rightful interest—the environment itself. Each hour spent in the hunt for dollars is an hour not spent on, say, how the bears of India (or Canada) may be endangered by the emerging political chaos in that country.

Some of us—those of us in government agencies—spend much of our attention on the immense political pressure to conform. A biologist who writes a report that higher-ups don't like, and that is rewritten by agency executives in Washington, quickly learns to pay attention to the prevailing politics of the agency. This means less attention is available for the species or landscapes that a biologist should be studying and describing. Each hour a US Fish and Wildlife Service—or other agency—biologist spends at a desk, obeying an order to rewrite a report on some topic such as the impact of logging on spotted owls, or the impact of oil production on caribou at Arctic National Wildlife Refuge, is an hour not spent on the environment that most biologists are ostensibly hired to know.

Even as fundraising is costly, so is enforced conformity to political pressure. These distractions and others divert attention away from the environment. Non-profit conserva-

tionists may find more and more of their attention diverted to getting money, and less and less given to understanding the fast-changing crises on which money must be spent. Agency environmentalists may find more and more of their attention diverted to avoiding crucifixion, and less and less given to the truth-telling that can get them crucified. The risks of diverting psychic capital away from the environment are becoming increasingly intense as the environment deteriorates across the world.

Paradoxically, environmental groups that learn the money game better than they learn the environment can get the bulk of the money needed to save the environment. This often puts the needed cash in the hands of those least qualified to spend it. Similar pressures divert funds away from agency biologists who pay more attention to good science than to "smart politics."

Some of the world's most beloved wildlife species get caught in this deadly trap. In *Pandas* (Facts on File, 1990), Chris Catton says that conservation groups are often "reluctant to admit to those who provide their funds that the measures being adopted are inadequate." Misspending of money can create an illusion that something important is being done, and a non-profit that so deludes contributors is as guilty of fraud as the government that deceives the public into thinking it is taking action when it is not.

Those who provide funds can create the very conditions that divert environmentalists' attention away from the environment itself. Often the most knowledgeable experts go unfunded because contributors are simply not interested in financing the work that really needs to be done to save the species.

In a passage explaining the importance of corridors that provide genetic linkage between otherwise isolated tracts of wilderness, Catton concludes, "Sadly, it is just this type of expensive, long-term project that least appeals to those who might fund it." Some institutional

and individual contributors thus shackle environmentalists and biologists, funding them for appealing but marginally productive—or useless—efforts. When this happens, the important work remains undone.

The problems become especially severe when a species presents highly complex demands on environmentalists' attention. To save whales, environmentalists simply focus on prevention of whaling. The northern spotted owl's salvation depends on rescuing its forest habitat from logging. But the grizzly bear is currently jeopardized by a diverse collection of threats including poaching, logging, oil and gas development, hydropower development, the spread of spotted knapweed, mass tourism, photography, commercial berry-picking, and subdivisions created by the demands of a rapidly growing human population in the scenic areas where grizzlies still exist.

Faced with such a daunting variety of demands on their attention, environmental organizations that could help save the grizzly may become confused, prone to error, or, worse, may decide that it is not possible to overcome the inevitable and powerful political coalitions formed to promote the combined invasion of wilderness. Grant-making foundations shy away from comprehensive conservation efforts that they perceive as "unfocused." Agency biologists narrow their attention to tightly defined problems that agencies regard as "manageable." The public's attention is distracted by groups promising a quick fix for a charismatic species. The resultant measures taken are not adequate.

Problems arise when environmentalists start looking over their shoulders, worrying about being called "extremist," "radical," or "unreasonable." Fearful and ego-protective environmentalists who cannot handle these inevitable accusations will not keep their attention on what really matters. Worse, their decisions will be tainted with self-interest.

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Some environmentalists fall captive to short-term election politics. In the typical case, environmentalists support a pitiful candidate because they fear a monstrous one. This guarantees pitiful candidates in future elections.

Even when it costs us money, we cannot afford these various distractions. The problems are too urgent. For example, the oxygen supply is in jeopardy because forests, grasses, and phytoplankton are increasingly endangered by deadly ultraviolet radiation admitted through the deteriorating ozone shield. When John Muir observed that we and bears drink the same waters and breathe the same air, he

did not envision an oxygen crisis. The deterioration of the ozone shield means the biosphere will receive bigger blasts of the UV radiation that kills plants which free oxygen that we and bears must have in the air we breathe. Attention to money, politics, and our own reputations is a luxury we cannot afford as the habitability of the planet declines.

Divided attention will continue to be a fact of life for serious environmentalists. In cases such as the grizzly's, we must grapple with many complex issues at once. The challenge is not to keep our attention from being

divided, but to sharply select how to divide it, and to keep it from being diverted to extraneous matters.

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Compromising the Wilderness

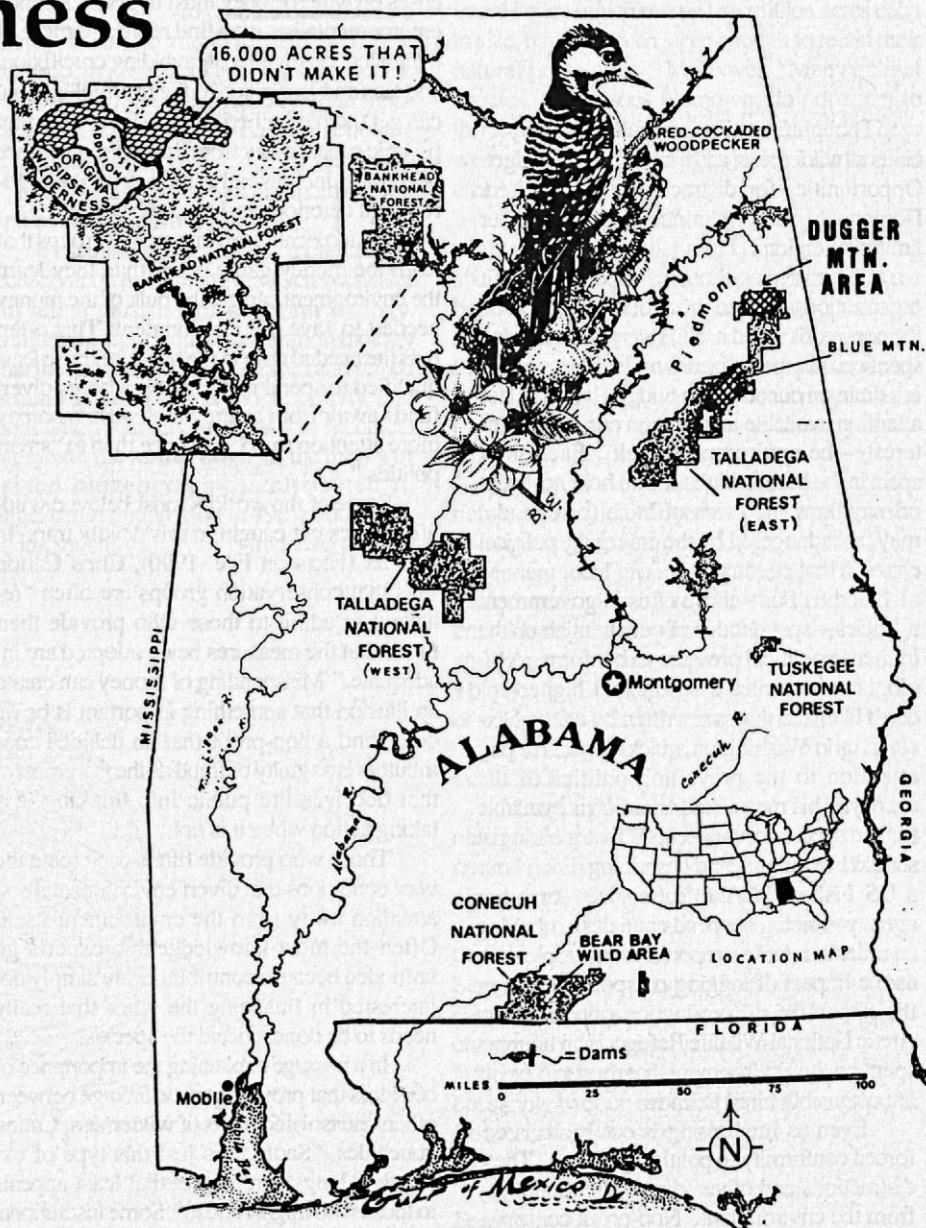
How Mainline Environmental Groups Sold Out Alabama

by Ray Vaughan

In spring, the mountain is draped with thin curtains of white as the dogwoods bloom in profusion. Set amongst the gray forest whose trees have yet to sprout their leaves, the white of the dogwood flowers can be seen from the top of the mountain down along all sides, appearing from a distance to be almost like a light dusting of snow. Soon the leaves will be out, and then the heat of another Alabama summer will arrive. It is 1987, and this is Dugger Mountain, one of the last remnants of wilderness in the state, and it will soon be no more than a pawn in negotiations in Birmingham law offices.

I carry a badge; I am an assistant attorney general for the State of Alabama, and my job is to save the wilderness. But my job and my orders do not coincide. Here in this law office in Birmingham, my orders are to support the environmental groups in their negotiations with the US Forest Service and agree to whatever they agree to. During lunch, I watch as a man from the Sierra Club says, "One acre of Sipsey is worth ten acres of Dugger Mountain." He is discussing strategy with representatives from The Alabama Conservancy and the Birmingham chapter of the Na-

MOVEMENT MUTTERINGS



tional Audubon Society. What he means is that they will give away Dugger Mountain, even all 8400 acres of it, just to get a few extra acres added to the Sipsey Wilderness. The irony is that these groups have already compromised away 14,000 acres of the Sipsey without getting anything in return; now they will throw away Dugger Mountain just to keep from losing any more of the Sipsey.

I think back to the first time I was in the Sipsey. Part of the Bankhead National Forest in northwest Alabama, it had just been declared a Wilderness Area in the Eastern Wilderness Act of 1975; approximately 12,700 acres, it contained some of Alabama's last uncut hardwood forests. In the middle of it, in a dark, damp canyon known as Bee Branch, stands Alabama's champion tree, a Yellow Poplar over 22 feet in circumference. Winning protection for the initial 12,700 acres of the Sipsey was a decades-long battle that started all the major environmental groups in Alabama. Of course, even the "major" environmental groups in Alabama are still small and underfunded compared to groups in states such as California. Nonetheless, the Sierra Club, Audubon Society, and Alabama Conservancy got their start here fighting for the Sipsey; and ever since the Sipsey was first protected, they dreamed of adding more protected acres to it.

In the late 1970s and early 80s, a plan was devised to add 29,000 acres to the Sipsey and to create Wilderness Area in the Talladega National Forest known as Cheaha, approximately 6800 acres on the southern ridge of the state's highest mountain (Mt. Cheaha, 2407 feet, in Cheaha State Park). The Forest Service wanted to build a scenic highway through the middle of Cheaha, but no one else opposed making it a Wilderness because it was beautiful and so steep that no worthwhile timber could be harvested there. But the proposed 29,000 acre addition to the Sipsey was not very rugged and had plenty of good timber on it. Due to heavy logger and timber company opposition, the Sipsey addition stalled in Congress while the Cheaha went ahead, and in 1983, Cheaha was declared a Wilderness Area. The Cheaha Wilderness is immediately south of Cheaha State Park, and does not contain the mountain from which it takes its name.

Several times, the Congressman from northern Alabama, Ronnie Flippo, introduced a bill with a 29,000 acre addition to the Sipsey, and each time, the bill passed the House by overwhelming margins, but Alabama's Senators, particularly Howell Heflin, listened to the loggers and would not support any addition to the Sipsey. In the mid-1980s, the Forest Service developed their management plan for the National Forests in Alabama; they planned to administratively protect about 10,000 acres

next to the Sipsey as a possible addition to the existing Wilderness and 8400 acres of Dugger Mountain. Everything else would be fair game for the saw. The mainline environmental groups administratively appealed the management plan and got legal representation through the Southern Environmental Law Center (SELC) in Charlottesville, Virginia. Before they ever went to the negotiation table with the Forest Service and Senator Heflin, the environmental groups had already decided to seek protection for only an 18,000 acre Sipsey addition. Eleven thousand acres of hardwood forest, canyons and clear streams were sacrificed for no reason other than the desire to appear "reasonable" to the opposition. Thus was set the course from which the mainline groups in Alabama would never deviate: compromise unilaterally to appear reasonable. Time and time again, they would compromise and get no corresponding compromise from Senator Heflin, from the loggers, or from the Forest Service.

Don Siegelman took office as Alabama's attorney general in January 1987, and, wanting to get his name in environmental legal matters, he intervened in the management plan appeal. I had just been hired to handle environmental cases for the State and was assigned to this case. After I wrote a brief demanding protection for the entire 29,000 acres and for 8400 acres of Dugger Mountain, I was ordered to go along with the environmental groups and support them in whatever compromise they reached with the Forest Service. I can still see the room in that Birmingham law office where the groups gave and gave until there was almost nothing left to give. I see their lawyer arguing over the maximum slope allowed for logging roads; he is arguing over the design of logging roads as if they were an inevitability in these areas. What happened to protecting the forest entirely? Although even the Forest Service wants to protect Dugger Mountain, I hear the environmental groups write it off without hesitation, without ever having seen it. Other than one of the Forest Service representatives, I am the only person in the room who has ever been to Dugger Mountain; I am the only one who has ever hiked up to its top, because the Forest Service guy drove to the top up an old jeep trail. I am the only one who says "what about Dugger"; I am told it will be compromised away to get more for the Sipsey addition. But by the end of the day, the environmental groups are talking about wanting 15,000 acres protected for an addition to the Sipsey, none for Dugger: 3000 more acres of the Sipsey have been compromised away and the entire 8400 acres of Dugger Mountain have been given away and the environmental groups are still going

backwards.

How does it all end? Once the environmental groups finally get down to 13,000 acres for a Sipsey addition, Senator Heflin agrees. In 1988, a law passes that adds 13,000 acres to the Sipsey and a few hundred acres to Cheaha due to the latest version of the scenic drive being decided. Dugger gains no protection and the law contains a wicked provision that says there shall be no more wilderness protected in Alabama for ten years. Only now, in 1991, have some of the environmental groups noticed that Dugger Mountain is still there and that it is worth protecting. Yes, it is still there, it is steep and rugged and its forests are mostly unfit for profitable timber harvesting even with all the Forest Service subsidies.

The mainline environmental groups took a course of action used in other wilderness battles in other states by the same groups and their kin. Here is the strategy: we have worked hard to get a seat at the table and we want to appear reasonable, and since protecting some wilderness is better than protecting no wilderness, we can compromise away as much as is possible until the other side finally agrees to a number. So to get a 13,000 acre addition to the Sipsey, 16,000 acres of the Sipsey were opened to the saw, and 8400 acres at Dugger Mountain were tossed aside cavalierly: 24,400 acres compromised to get 13,000. But that is not the whole story. Prior to ever getting into a position to compromise away those 24,400 acres, these groups gave away tens of thousands more. According to the initial Forest Service inventory of roadless areas in Alabama (part of RARE II) there were over 64,000 acres of potential wilderness in Alabama. These acres included Dugger Mountain and the 29,000 acre addition to the Sipsey and many other special places that the environmental groups never attempted to protect. Even if you assume that the Forest Service number of 64,000 was correct [the FS omitted many roadless areas from its RARE II estimates], why would the folks who are supposed to protect the wilderness forget so much land. Places lost include a unique hardwood swamp on the coastal plain surrounded by pine forests that are what Southern pine forests are supposed to be: huge, century-plus-old Longleaf Pines with a great diversity of wildlife such as Gopher Tortoises, Red-cockaded Woodpeckers, Eastern Indigo Snakes, and more. Gone too are the Pitcher Plant bogs unique to the Southern coastal plain; the hardwood forests of the Piedmont which, in a few more decades, would have recovered to the state they were in prior to the coming of white man; and Blue Mountain, just north of Cheaha.

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Beyond Special Interest Politics

"Must the citizen even for a moment, or in the least degree, resign his conscience to the legislator?"

-H.D. Thoreau

by Marc Bedner

In their effort to become "professional," the mainstream environmental organizations have become indistinguishable from other D.C. special-interest lobbies. Their national offices spend much of their time and energy issuing fundraising appeals. Although these letters may include a modicum of information about a particular environmental issue, they are properly regarded as junk mail. Their bottom line (in the literal as well as financial sense) is that the environmental crisis of the moment can be solved by sending \$100, or \$50, or at least \$25 to keep up the lobbying effort.

More than a financial question is involved here. Since politics, as we learned in school, is the art of compromise, those who make politics a career tend also to make compromise a career. Lobbyists often compromise a proposal before presenting it to members of Congress, in an attempt to appear "reasonable." Consequently Congressional debate starts with an already compromised proposal, and the end result inevitably compromises the bill even more. And passage of a law is only the first step. Implementation of a law is the result of regulatory negotiation ("reg-neg" to the Washington insiders) among industry representatives and officially approved environmental groups.

A case in point is the Clean Air Act of 1990, lauded by the president of the Sierra Club as "the most significant environmental protection program passed by Congress in the last ten years." The law specifically authorizes increased pollution levels in the officially "clean" mountain states. Recently announced implementing regulations provide for buying and selling pollution credits, which will keep the total level of air pollution at the maximum permitted by law.

Professional lobbyists take care to form

alliances only with other "respectable" lobbies. The National Wildlife Federation and other organizations who are trying to save wildlife in order to shoot it are considered more respectable than humane associations. So the Sierra Club takes no position on such bills as Representative Green's Wildlife Refuge Reform bill, backed by the Humane Society of the U.S., which would ban sport hunting from National Wildlife Refuges. And since the Club lobbyists take no position on the bill, the membership never hears about it.

In short, not only does the lobbying staff determine when and how much to compromise, but they do so without the knowledge of the membership. Hence the slogan proposed by grassroots Sierra Club activists: "not blind opposition to compromise, but opposition to blind compromise." [See ASCMEE article in *Wild Earth* #2.]

The irony of these allegedly professional lobbying campaigns is that they make no sense even from the standpoint of trying to influence Congress. To the extent that members of Congress are subject to influence from environmentalists, it is where they see their constituents concerned about environmental issues. But local chapters of the Sierra Club cannot adequately organize these constituencies when the bulk of the membership dues is drained off to support the national office and lobbying efforts.

Environmental organizations will never grow large enough to be able to outspend mining, logging, and automobile interests. Many national organizations are now experiencing a decline in contributions, forcing them to cut down their staffs. They blame this on the recession. But at a time when the general public is growing disgusted with members of Congress and organized lobbies, it is not surprising that fund appeals get little response. By concentrating on influencing Congress, the mainstream environmental groups are setting themselves up for defeat.

Marc Bedner is the wildlife chair of the Albuquerque group of the Sierra Club.

Final tally: 51,000 acres or more sacrificed to get protection for 13,000. In a state like Alabama, where there are only a few bits and pieces of wilderness left, one has to wonder why the environmental groups did not fight to save all of it. What does being "reasonable" have to do with protecting the wilderness? The opposition was not reasonable; they did not unilaterally compromise in order to appease the environmental groups. What is apparent, even with small mainline environmental groups, is that they get so caught up in being allowed to sit at the table with the power interests that they will do almost anything to keep that seat. When going to a gunfight, one does not empty out most of the chambers in his gun beforehand. A revolver with one bullet in it may appear more reasonable than one with six, but the other gunslinger will not do the same; his gun will be fully loaded.

The 13,000 acre addition to the Sipsey was hailed as a great victory for the environmental groups of Alabama. Mainline groups and their lawyers, such as the SELC, do a great job of making any slight progress appear to be a major victory. But I was there, and it was no victory.

It is 1991; I no longer carry that badge. I am self-employed as an environmental lawyer and writer. Dugger Mountain is still intact for now; most of the other places cast off by compromise are not. Would taking a more uncompromising approach have resulted in protection for more wilderness in Alabama? One cannot say. The opportunity, like the wilderness, is gone.



Wilderness Around the Finger Lakes: A Vision

Mike Biltonen and Rick Bonney

The Finger Lakes National Forest: have you ever heard of it? Less than 14,000 acres in size, it's located in the rolling hills between Cayuga and Seneca Lakes, about 20 miles west of Ithaca, New York. Look on a state map; you probably won't find it. Look in a guidebook to the Finger Lakes region, it may not even show up there. Fly over the area in an airplane and you still might miss it—because this forest really doesn't look much different from the surrounding countryside, a mosaic of fields, shrubs, and small woodlands, crisscrossed by numerous roads and trails.

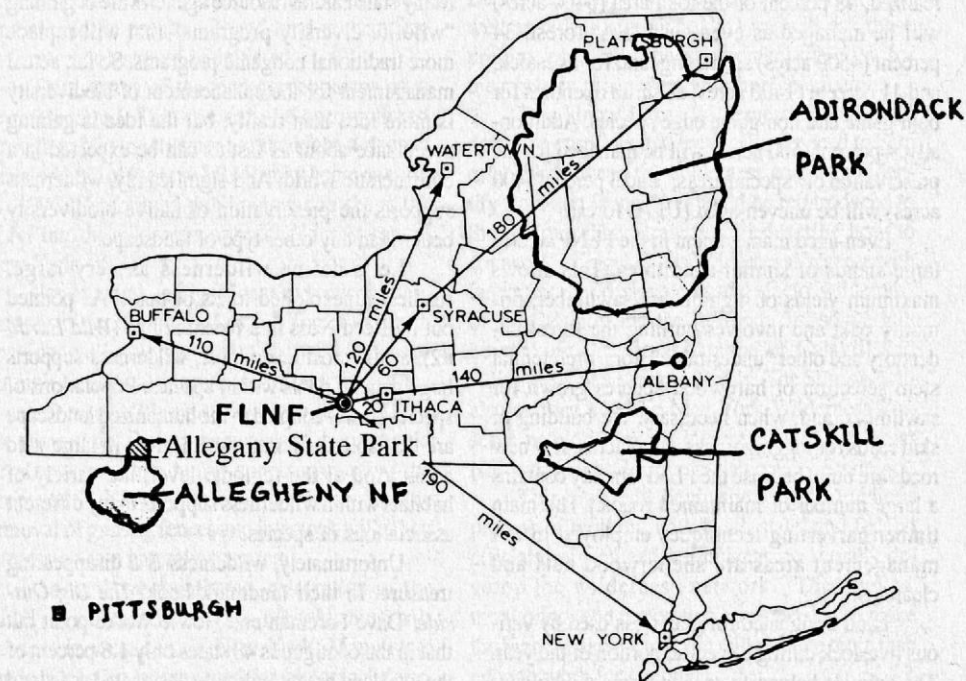
No, at first glance the Finger Lakes National Forest (FLNF) doesn't look like anything special. And from an ecological point of view, it's really not. True, it does contain some uncommon animals, especially grassland birds. But like so many of our National Forests, most of the FLNF—about 93 percent—is intensively managed, primarily for human resource extraction. As a result, the area now comprises many artificial "ecosystems" designed by humans to create a certain desired quality of forest "health."

Yet the FLNF could be much more. As one of the largest public holdings in the Finger Lakes region, it could be managed for one valuable resource that has virtually disappeared from this area: wildness. It could be managed as an evolutionary preserve, intended for the maintenance of healthy, diverse, biotic communities. It could be allowed to exist as a whole for its own sake, on Nature's terms. And it could be an integral piece of a network of wild lands throughout the Finger Lakes region, an interlaced system of wild refuges for the plants and animals that have diminished or even disappeared in the crush of local "development."

Let's take a closer look at New York's only contribution to the National Forest System.

HISTORY

Before European settlers arrived in central New York, the only human inhabitants of the area now called the Finger Lakes National Forest were the Cayuga Indians, one of the Five Nations of the



Iroquois. The Cayugas had lived in peace with the land for hundreds of years. They farmed, using polycultural practices today recognized as integral to sustainable agriculture. They removed trees from the land to build their homes, and they fished, hunted, and trapped the animals that lived on the land and in the streams, but they seldom, if ever, took more than they needed.

In 1779 General Sullivan's army came to central New York. The marauding soldiers not only burned the villages and destroyed the farms of the white settlers; they also vanquished the native culture. In 1790, much of the present FLNF was divided into military lots for Revolutionary War veterans, who cleared the forest for farms. Before long the area's large, contiguous, hardwood forest had been destroyed. The land quickly became unproductive: agricultural practices were crude, resulting in erosion, and logged lands were not replanted. By the early 1900s the land had become virtually useless, an empty shell of its former self, with only about five percent of the original forest remaining.

In the 1930s, the federal government began relocating many farmers to fresh, agriculturally productive land to the west and north. More than

100 abandoned farms were purchased and consolidated into the Hector Land Use Area (HLUA), which was soon placed under the management of the Soil Conservation Service.

In 1943, the Hector Cooperative Grazing Association was formed to manage cattle grazing in the HLUA. By 1950, the land had been stabilized through the implementation of sustainable agricultural techniques and the replanting of forests. In 1954 administration was transferred to the United States Forest Service (FS), where the HLUA became a part of the Green Mountain National Forest (GMNF), which is headquartered in Rutland, Vermont.

In 1982, land management agencies of the U. S. government were directed to identify "surplus" parcels of federally owned land. The HLUA was identified as one such parcel. However, because of a groundswell of public support, Congress decided to leave the HLUA under federal control. Finally, in 1985, Congress declared the HLUA to be the Finger Lakes National Forest, but left it under the jurisdiction of the GMNF. Local management decisions are made by the district ranger's

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office in Odessa, New York.

MANAGEMENT

The FLNF, like all National Forests, is managed under the FS multiple-use mandate. Not surprisingly, the current Land and Resource Management Plan (LRMP) for the FLNF calls for 93 percent of the land to be used for resource extraction. If the objectives of the present LRMP are realized, 48 percent of the total area (6400 acres) will be managed as even-aged (EA) forest, 34 percent (4500 acres) as grazing land for livestock, and 11 percent (1400 acres) as shrub openings for both game and non-game edge species. Additionally, 4 percent (500 acres) will be managed for the preservation of "special areas," and 3 percent (400 acres) will be uneven-aged (UEA) forest.

Even-aged management in the FLNF creates large stands of similar-aged trees. This allows maximum yields of high-quality sawtimber, primarily oak, and involves burning the forest understory and other "undesirable" flora, preferential stem selection of hardwood species grown for sawtimber, and, when necessary, the building of skid roads for logging trucks. (In practice few new roads are built, because the FLNF already contains a large number of maintained roads.) The main timber harvesting techniques employed in EA management areas are shelterwood cuts and clearcuts.

Land designated for grazing is used by various livestock during a specific portion of the year. The animals belong to private farmers who contract, through the HCGA, to bring their stock onto public lands. At present, the grazing levels per unit of land area are below the maximum levels recommended by the LRMP. Nevertheless, all portions of the FLNF that are committed to grazing are fenced off. Maintenance of the grazing area involves liming, mowing, and fence construction and maintenance. Overall, the grazing is done "below-cost," which means that U. S. taxpayers are subsidizing the practice.

Shrub openings are created to maintain a desired population of edge species. The edges are created by burning and mowing.

UEA management creates a forest composed of different-aged trees. The only logging conducted under this system is called selection cutting, which involves carefully removing marked trees. In both EA and UEA management areas, "mitigation measures" are employed around visually or ecologically sensitive areas, such as trails and ravines, to reduce the impact of tree removal on the remaining ecosystem.

Special areas are minimally managed; within them nature is generally allowed to take its course. Special areas may be old-growth forests, riparian areas and watersheds, ravines, or areas of historical or cultural importance. Many of these areas are designated "special" because they possess unique

character, are inaccessible, or lack easily extractable resources.

WILDERNESS IN THE FINGER LAKES: THE NEED

Wilderness is required for the evolutionary integrity and survival of the planet Earth. Why? The preservation of biodiversity has been recognized as a major concern in the past few years. Many state natural resource agencies are beginning "wildlife diversity programs" that will replace more traditional nongame programs. So far, actual management for the enhancement of biodiversity is more idea than reality, but the idea is gaining acceptance about as fast as can be expected in a bureaucratic world. And significantly, wilderness supports the preservation of native biodiversity better than any other type of landscape.

Let's define wilderness as very large, roadless, unexploited tracts of land. As pointed out by Reed Noss in a recent article (*Wild Earth*, #2), at the most basic level, wilderness supports large genetic pools within species. Populations of species poorly adapted to the humanized landscape are best able to maintain themselves in large wild areas. And at the regional level, the variety of habitats within wilderness supports many different associations of species.

Unfortunately, wilderness is a disappearing treasure. In their landmark book, *The Big Outside*, Dave Foreman and Howie Wolke point out that in the contiguous 48 states only 1.8 percent of the total land base is presently designated as federal Wilderness (the total for all of the United States is 4 percent). The largest Wilderness Area outside of Alaska is the Frank Church River of No Return in Idaho and Montana, which, counting both designated Wilderness and adjacent roadless areas, totals over 3 million acres.

In New York, the percentage of land designated by the state as Wilderness is only about three percent. And all of this land is in the Adirondack Park, where Wilderness totals just a little over one million acres. In west-central New York, wilderness is absent.

Does this mean we should write off the area as a place for wilderness? Not at all. What it means is that we must rewild west-central New York, by identifying the largest tracts of undeveloped land, securing their permanent protection, connecting them with corridors, halting disruptive management activities, and providing buffer zones around them where only limited human activity is permitted.

Yes, we know this is a tall order. Many obstacles stand in the way of creating a wilderness network within which genetic material can flow freely and the processes of natural selection and evolution can continue undisturbed. But we already have the potential core of such a system, the FLNF. In most parts of the United States, our National

Forests contain our largest Wilderness Areas, our best hopes to maintain native biodiversity, our best chance to perpetuate naturally functioning ecosystems. Thus we must ask: how well does the FLNF function in meeting these needs?

WILDERNESS AND BIODIVERSITY IN THE FINGER LAKES NATIONAL FOREST: THE PROBLEM

As we have seen, most of the FLNF is intensively managed and fragmented at many levels. Although a forest proclamation boundary does not exist, were it to be hypothetically drawn, many private inholdings would be contained within it. These prevent the formation of a contiguous holding of public land. Unless they are kept undeveloped, the inholdings could fragment the forest ecosystem even further. In addition to the inholdings, crisscrossing town roads, miles of grazing fences, and the Forest Service's own management areas have chopped the area into many artificial "ecosystems."

Furthermore, in relation to New York's designated wilderness in the Adirondacks and some de facto wilderness in the Catskills and Allegany regions, the FLNF is an island. It is isolated by Cayuga and Seneca lakes to the east and west, respectively, and by agriculture and urban development to the north and south. This fragmentation from other wild areas forces it to function as an isolated ecosystem.

The FLNF's present contribution to the preservation of biodiversity depends on how biodiversity is measured. The FLNF is actually quite diverse when the total number of plant and animal species in the forest is considered. For example, studies have shown that the FLNF has a rich bird community, which includes approximately 50 percent of the breeding birds found in New York. In addition, the FLNF provides habitat for many species of grassland birds that seem to be declining elsewhere in the state. Nevertheless, considering the openness of the surrounding countryside and the fact that many of these grassland species do not require large tracts of wild land, we question whether the FLNF is the best place to provide habitat for them.

Furthermore, the existing diversity within the FLNF is a result of manipulation of the land and its inhabitants, both by early settlers and by present managers. True preservation of biodiversity involves the consideration of the species of plants, animals, and other organisms present in the region before the intervention of humans. Grassland birds may never have been common in New York.

Unfortunately, little is known of the natural history and biodiversity of the area before the settlers arrived. We are unsure of the native flora and fauna and of the natural processes that occurred 300 years ago, except that Kuchlers map of potential natural vegetation shows Appalachian oak

forests and northern hardwoods forests in the area.

The nature of the Cayuga Lake Basin flora has been drastically altered through the intervention of humans over the course of time. Work based on floral remnants of the late 19th century suggests that the area was heavily forested with large tracts of Eastern White Pine, American Elm, oak, spruce, Beech, and American Chestnut, interspersed with numerous clearings maintained by the Cayuga Indians. Except for the American Elm and the American Chestnut, most of these large trees still thrive in the managed forests. Recent floral inventories of the FLNF reveal abundant species of trees, shrubs, grasses, forbs, and ferns, but most of the species identified belong to early successional plant communities.

Because of the maintenance of clearings by the Cayuga Indians and their expansion by the Europeans, little of the original forest remains. Still, what fragments of old-growth forest do survive can be the "seeds" for a forest progressing through its successional stages to become Finger Lakes old growth.

During the 19th century, reports of Black Bear, Eastern Cougar, and Timber Wolf were common. Obviously, it would take a tremendous amount of wild land to bring these species back. But these large, charismatic mammals are probably not the only native species that have been extirpated or severely diminished. Perpetuation of the highest degree of biodiversity includes maintenance of all populations of local species that would exist in the area without human interference, including fungi, moss, bacteria, protozoa, and viruses

For this reason we feel that the FLNF must not be managed primarily for any extractable resource, be it logs, milk, beef, or birds. Instead the forest should be managed as an evolutionary and ecological preserve that will stand as an example of the undisturbed ecology of the Finger Lakes region. Traditional management techniques should be replaced by techniques that will help the forest recover. We don't advocate a return to "native ecology," since we don't know exactly what that is, and since it is unlikely that it could ever be completely replicated. Instead we say, let this area be what it will be. Let's allow the Finger Lakes National Forest to once again stand on its own.

WILDERNESS IN WEST-CENTRAL NEW YORK: THE PLAN

Reestablishing large tracts of wilderness in west-central New York will be a Herculean task. It will involve not only the FLNF, but also many other undeveloped lands in the region. Let's start, however, by examining what steps must be taken within the FLNF.

First, to reduce habitat fragmentation, many of the roads, all of which are owned and maintained by the surrounding towns, must be closed, destroyed, and reclaimed by vegetation. Such clo-

tures will obviously require the cooperation of nearby residents, who will have to be sold on the value of the perceived inconvenience. New roads must not be built, and remaining roads should be maintained in a state that will not preclude future closure.

Second, a contiguous base of undeveloped land should be created within the present FLNF. This can be accomplished only through conservation easements, FS land acquisitions, and donations. Further development on National Forest land should be prohibited, and land reclamation and restoration should be initiated.

Third, many of the management areas must be restructured. This can only be accomplished through public involvement to the highest degree. Development of the new LRMP may begin as early as 1996. Determined public input can shape the FLNF into the wilderness so needed in west-central New York.

For example, a significant reduction in the amount of land managed as EA forest or shrub openings will give the land a chance to proceed through ecological succession and thus allow the eventual reestablishment of old-growth forest. At the same time, timber management areas should be placed outside a buffer zone surrounding the proposed FLNF wilderness core. Likewise, the removal of grazing fences and livestock will allow succession to a natural ecosystem.

As we have mentioned, restoration of the FLNF is just the first step in reestablishing wilderness in west-central New York. Many state lands must also be managed for biological diversity. Furthermore, to really restore wild ecosystems, the FLNF must be connected to these other lands, such as the nearby Connecticut Hill Wildlife Management Area. Such connections can be made by land acquisition and conservation easement and through the cooperation of other government agencies, such as the New York State Department of Environmental Conservation and the New York State Office of Parks and Recreation, as well as local residents and other concerned individuals.

WHERE DO WE GO FROM HERE?

Finger Lakes Wild!, an Ithaca, New York-based environmental group dedicated to the ecological restoration of west-central New York, is devising a plan for rewilding the Finger Lakes. Three major steps need to be accomplished.

First, the group is developing maps of the Finger Lakes region that will show all the land under federal and state ownership, and all remaining wild lands under private ownership. These maps will be used to identify lands that could be part of a wild lands system. Once the lands are identified, a plan for the management of each parcel, such as the Newfield State Forest, will be developed. All plans will focus on management for native biodiversity.

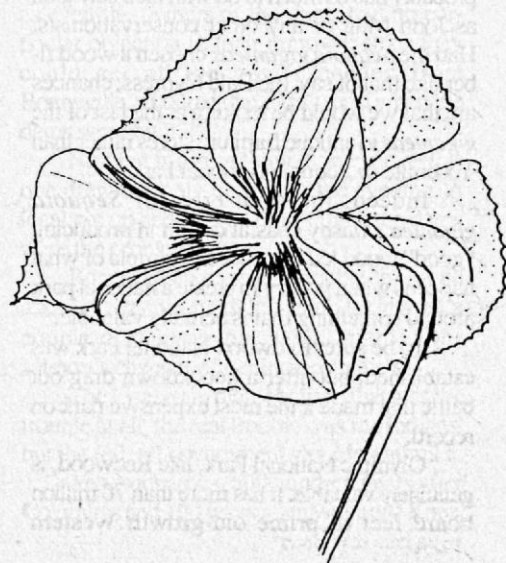
Second, because implementing the plans will be far more difficult than devising them, we will hold a workshop on our west-central New York wilderness restoration strategy on 3-5 April 1992, at the Cayuga Nature Center in Ithaca. The workshop will begin with a rousing speech by Dave Foreman, executive editor of *Wild Earth*. Then, we will present our wilderness recovery strategy and rationale to all attendees, including representatives of the US Forest Service and the New York State Department of Environmental Conservation, as well as citizen's groups. Next we will ask those present, especially the government officials, for their help in proceeding with implementation.

This Finger Lakes Wilderness Strategy will detail the corridors that these officials need to help establish between the wilderness cores, and identify flora and fauna that should be reintroduced to the region. The Strategy will describe how to connect the Finger Lakes Wilderness Preserve with larger tracts of designated and de facto wilderness in the Catskills and the Adirondacks, so we will be seeking the assistance of Catskill and Adirondack State Parks officials. The Strategy will also explain how the New York Wilderness Preserve network will be integrated into the larger North American Wilderness Recovery Strategy.

Third, we will begin the long and tedious process of working with local, state, and federal officials, as well as local citizens, to actually develop the wilderness network. The studies, monitoring, and restoration work needed to make the Finger Lakes wild again will provide more than enough work for everyone.

Anyone interested in helping with our mapping project or wilderness restoration plans should contact: Finger Lakes Wild!, POB 4542, Ithaca, NY 14852; (607)257-6220.

Mike Biltonen and Rick Bonney are vice-president and treasurer, respectively, of Finger Lakes Wild!. Both live in the Finger Lakes region.



OLYMPIC HIGH

by PJ Ryan

Olympic National Park is one of the very few parks in the system that is worth anything.

Now, buckaroos, before you arrive at my door with flaming torches, ropes and tar barrels, let me clarify the above statement.

I do not mean to imply that your park is not beautiful, or that God doesn't love it.

However, I am not talking about the last golden pink alpine glow on snowy crests, or Harlequin Ducks flying through the morning mist, or the way the desert smells after a rain, or any of the rest of the undeniable poetry; I am talking about net worth.

Olympic National Park is actually worth something.

Most mountain top, desert, and cut over National Parks had to undergo intense scrutiny by the local gentry in order to prove their worthlessness for "practical" purposes before they could be relegated to the role of tourist traps.

The farsighted decision on the part of the *Sequoia giganteas* to produce "inferior" wood probably had as much to do with their salvation as John Muir or any other conservationists. Had the *Sequoia giganteas* chosen a wood fiber like that of say, the Bald Cypress, chances are that we would be looking at the last of the *giganteas* in antique furniture stores rather than Yosemite or Sequoia National Parks.

Indeed, the fatal error of *Sequoia gigantea's* flashy coastal cousin in producing "good" wood led to a classic example of what happens when you try to create a national park around something that is actually valuable.

To be sure, Redwood National Park was established, but after a knockdown drag out battle that made it the most expensive park on record.

Olympic National Park, like Redwood, is genuinely valuable. It has more than 70 million board feet of prime old-growth Western

Hemlock, Douglas-fir and above all, Sitka Spruce: trees, whose very sight causes Pavlovian salivation in loggers and lumber companies.

Like your park it is also quite beautiful; like your park it is also quite controversial, not so much because of being overcrowded (it is not) but rather where it is and what it contains.

Olympic National Park has always been controversial, sort of an island in the most productive industrial forest in the world. Rocky Mountain forests have always been somewhat marginal both in species and market. Not so the forests of the Pacific Northwest; the best timber trees in the world growing close to the cheapest transportation known to man—deep salt water. You couldn't ask for anything better.

Olympic National Park has from its beginning been something of a reproach to the local folks.

More than fifty years ago, when President Franklin Delano Roosevelt was being driven past clear cuts on his way to dedicate Olympic National Park, he remarked that he "Hoped the people responsible for this sacrilege were burning in hell."

Now, buckaroos, that was a bit unChristian of FDR, as clearcutting is a proven scientific forest management tool, a bit like rape, duplicating natural processes such as fire or storm blowdowns. (Again, farsighted thinking on God's part to come up with natural processes that just happen to duplicate the most economic form of large-scale logging—clear cutting.)

Now, more than fifty years later, Olympic is not just another old-growth forest; it is rapidly getting to be the only old-growth forest in the woods. I suppose that a National Park should stand out, but I don't think its founders intended this to be literally the case; Olympic National Park is rapidly becoming an island in a sea of "new, growing forests" as the Forest Service signs interpret the clearcuts.

As I noted, Olympic has always been both



a reproach and a scandal of waste to the locals.

The first attempt to log the park and turn it into just another mountain top park occurred during the Second World War when the lumber companies practically gurgled with patriotism, and for a price, were going to save us from the "Japs" by logging Sitka Spruce which was invaluable in the building of wooden airplanes. (Do not chuckle, buckaroos, the British came up with an excellent twin-engine fighter-bomber, the Mosquito, which was built of plywood, and until recently, the largest plane in the world was Howard Hughes famed Spruce-Goose—which was actually built of non-rhyming birch.)

World War II was a period of great hysteria and hoopla in which everybody collected tin cans, rubber, paper, frying grease, and donated aluminum pots and pans for the war effort. Aside from a morale factor, it is doubtful if any of these scrap drives affected the outcome of the war, but they did create a climate of super-patriotism which made it a bit risky to oppose a lumber company's efforts to obtain old-growth Sitka Spruce to "Help Our Boys Whip Those Japs."

Fortunately, there were some folks who were both brave and well connected enough to forestall this timber grab even though it was wrapped in the American Flag.

One has to give the lumber people credit for dogged persistence. After the "boys" came home from beating the "Japs," the lumber companies spent much money in slick advertising during the 1950s suggesting that our

"boys" should have homes made from timber wastefully locked up in Olympic National Park. I was always curious about those ads—Olympic National Park is big, but not that big, and its old-growth forest is not THAT vast. I suppose that it was the principle of the thing, that and the growing reproach as Olympic National Park gradually became an island in a sea of clearcuts.

What about the "Japs," who were such a threat? Oh, they're still around, transformed into Japanese and the best customer of the lumber folks. One company even built a Japanese style guesthouse for visiting Japanese executives and cuts its lumber into metric sizes to meet their specifications. (John Wayne must be revolting in his grave.)

I had not seen Olympic for more than ten years and was curious to see how it was doing. (A journey to Olympic National Park requires certain ritual preparations; one must first buy a full length rain suit, preferably Gore-Tex, but God will accept coated nylon. If you do this and make your pilgrimage in July, it will not rain—it didn't.)

I was pleased to find Olympic just as beautiful as ever—and just as controversial as ever.

As always in a National Park, I attended the campfire talk, as they are the sort of multi-generational, All American, Norman Rockwell sort of thing one does in a National Park. Besides, they're free.

I was startled to find that tonight's speaker was none other than the Assistant Superintendent, Roger Rudolph.

I was a bit curious as to why Roger was giving the campfire talk.

It seems that it was his own damn fault. He had arrived some three months previously and in a burst of eager-beaver enthusiasm blurted out a suggestion to the superintendent that he thought management should occasionally give campfire talks to demonstrate their solidarity with the troops, and keep a finger on the public pulse: A noble sentiment that one should keep to one's self lest one's superintendent take you up on it.

At any rate, he didn't and she did. So here was Roger standing beside the campfire 30 miles from his house, at 9:00 at night and exempt from overtime, serves him right!

Roger would not be talking about "Friendly Fungi of Olympic National Park" or "Fun with Rain" or the usual campfire topics at Olympic National Park. Instead he would be discussing management problems at Olympic and requesting input from the group on possible solutions.

A rather daring approach as one of the "solutions" could possibly be throwing something heavy at Roger. Olympic National

Park ranks number one in violent controversy, at least in the lower 48. On July 16, 1988, disaffected persons burned the Elwha Entrance Station. On June 23, 1990, they burned the Soleduck Entrance Station, and attempted to burn the park headquarters at Port Angeles. On February 1, 1991, they burned the Fairholm Ranger Station and, again, the unfortunate Soleduck Ranger Station. The NPS is offering a \$10,000 reward for these desperados.

In addition, the barflies in the logging town of Forks, outside the park, have threatened to fire the old-growth forest in the park, and cut large, difficult to repair holes in park rangers.

Roger was understandably nervous addressing this group, as unlike Yellowstone or Glacier campfires, where everyone is from somewhere else, at least half of the people would be from the Puget Sound area.

After introducing himself, Roger got right down to the four main problems, the first of which was Mountain Goats.

Not that they were endangered, mind you; that was the problem, they were doing all too well. The Rocky Mountain Goat is an exotic species here, introduced in the 1920s before the area became a National Park in the fond hope that hunters would have something more than Elk or deer to shoot at.

Unfortunately, the local plants did not evolve with the Rocky Mountain Goats and proved very sensitive to their habits.

The Park Service instituted a program to dart the goats and transplant them to the North Cascades or any place else where anybody needed Mountain Goats.

There were a thousand of the beasts in the park, and about 600 of the more klutzy goats were captured rather quickly. However, around 400 of the more athletic beasts headed for the high country pinnacles where it was very difficult and dangerous for rangers to dart them, and dangerous to the goats as well, as a darted goat would simply fall to its death; so the goats had to be carefully maneuvered into a relatively flat area before being darted.

The audience suggested that old cure-all, the reintroduction of wolves.

However, Roger pointed out that wolves are just as smart as rangers, and don't fancy leaping from ledge to ledge in pursuit of a goat, when food can be obtained in a more normal manner by waiting for an elderly Elk to come along a flat safe meadow.

The final solution of shooting had been proposed, and was certainly cost effective, about \$30 to \$60 per beast compared to \$500 - \$1000 for darting and helicopter transport. Naturally, the animal rights groups, particularly Cleveland Amory's Fund for Animals, would go ballistic at the prospect of killing the

animals, and as Roger pointed out "It would start a bad precedent in the park."

However, during the course of the discussion, Roger may have inadvertently hit upon the solution; he said that darting and live capturing goats on the pinnacles "Would take a rare combination of hunting and mountaineering skills."

Roger just may have hit upon a use for mountain climbers.

Until this moment, the only known use for a mountain climber was to rescue other climbers who did something dumb—like climb mountains.

Roger may have invented a new Yuppie sport, "goat bagging" which will provide the thrills of hunting, mountaineering, and tax evasion.

The hunter-mountaineer would be trained for a day or two in the use of the dart gun and sent out after the goats, no bag limit, the only rule being that the goats must be taken alive. The hunter-mountaineer could then deduct the cost of the hunt from his income tax. All that is needed is an article in OUTSIDE magazine and the goats will be on their way to the Cascades.

The second managerial problem involved dams on the Elwha River. The two dams were put in before the park was established to provide hydro-electric power for a sawmill located beyond the present park boundaries. The dams would be coming up for license renewal soon and there was some doubt renewal would be granted as the dams, of course, interfere with salmon spawning in the Elwha. Removal of these dams would possibly mean the first restoration of a major Washington river along its entire course. This would be a great victory for salmon, fishermen, the environment, and humankind, as it would show that we could undo environmental damage.

This one looked like a win-win situation as even the owners of the dams had no particular objection to their removal; since they could get all the power needed from Bonneville, a source that didn't exist when the dams were built.

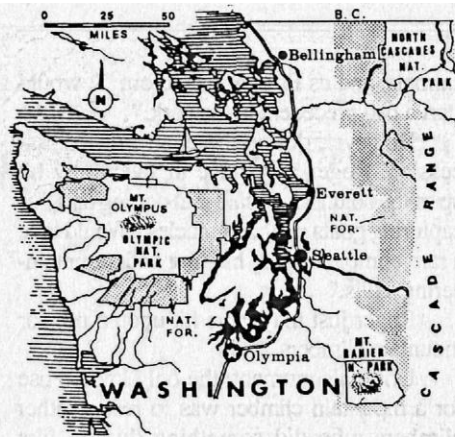
Nothing is a sure thing, however, as this one drew the only dissent of the evening. A local got up and said he didn't think the dams were the problem.

Roger did an excellent double-take, and asked the man if he didn't think taking out a couple of dams might, well, improve the salmon's chances of getting upstream?

The local chap didn't believe that was the trouble at all, the real trouble was the Indians, but the federal government wouldn't admit it.

Yes, buckaroos, 500 hundred years after Columbus and 100 years after Wounded Knee,

continued next page



those pesky Redskins are STILL giving us a hard time!

It seems what the local fellow was objecting to was that back in the 19th century, after we had separated the Northwest Indians from most of their lands, we were feeling rather expansive and generous and allowed the Indians to practice some of their traditional fishing techniques, such as dip netting; in fact we gave them exclusive right. Our generosity was not exactly overwhelming as those were the pre-pollution, pre-dam, pre-population explosion days when salmon were as common as dirt and twice as cheap; letting them catch fish was sort of like letting somebody collect aluminum cans today; there was an apparently endless supply.

Now, however, with plenty of dams, pollution, and demand, the Whites are whining that the Indians got the better bargain in the deal.

Roger allowed the man to vent his rage, and invited him to stop off after the program for more discussion. (He didn't.)

The third problem is that there are summer homes along the shores of the three magnificent park lakes on land held before the area became a National Park. The NPS would like to have them, and if you saw the view, you would see why many of the owners would like to hang onto them. The NPS plans no condemnation proceedings, despite some paranoid thoughts to the contrary. Apparently there were no homeowners in the audience, as this one provoked about as much interest as today's jute market quotations.

Roger saved the best for last, the Specialite de La Maison, the Great Spotted Owl Controversy.

A federal judge has ordered the cessation of logging in the Olympic National Forest until the U.S. Forest Service comes up with a plan to protect the Northern Spotted Owl. The owl seems to require old-growth forest, and lots of it, for survival, as it is a cavity dweller and nester and needs plenty of dead trees. Exactly how many dead, standing trees are required is the main bone of contention.

Olympic National Park is sort of caught in the middle on this one as some of the log-

gers believe that it is all a plot to put the entire Olympic Peninsula, or at least all the remaining old-growth forests, into the National Park. Although this is not the case, extremists nail Spotted Owls to the Olympic Park entrance sign and commit acts of arson against the park.

Surprisingly, no one in the audience wanted to talk about the Spotted Owl. (One man wanted very much to talk about increasing the length of pad space for motor homes in the campground.)

The Spotted Owl question is complex. The bird appears to be a signature species for old-growth forests; if the old-growth is totally removed, the owl will go the way of the Ivory-billed Woodpecker of the South, which was also dependent upon old-growth forests which were removed by the lumber industry.

There appears to be some indication that the Spotted Owl can survive on Forest Service land that is managed to somewhat duplicate old-growth forest (ie: selective logging).

At any rate, the days of logging being the

king in the Puget Sound area are definitely limited. As mills become more and more automated, the number of jobs will drop. The future seems to be in small diversified industries attracted to the Pacific Northwest by the quality of life; a quality that is not enhanced by endless clearcuts.

It is difficult to explain this to someone who has spent his life in the rugged but colorful job of a Pacific logger, and the resentment runs high in Forks and other logging towns. One of the best books on the subject is *Fragile Majesty* by Keith Ervin, which gives a sympathetic treatment to all hands in the controversy, though it is obvious that his heart is with the old-growth and the Spotted Owl.

I congratulated Roger for a fine talk and for surviving yet another day at fascinating, controversial, cantankerous Olympic National Park, surely one of the best assignments in the system, wouldn't mind working there myself.

trying to find the language
of ravens,
we are late for the tide,
late for mass, late for the
sunrise, late for the mountain—
the trails are covered with snow,
or fast moving water, wind-
language falls from treetops,
from nets pulled up from the
bottom — a raven feather on
the rock — a shell in your
hand — something flies over —
conversation drifts

—Gary Lawless, from *Sitka Spring* (1991, by Gary Lawless with art by Li Ching; Blackberry Books, RR 1 Box 228, Nobleboro, ME 04555)

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Photo: Darius Kinsey, Whatcom Museum

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Year End Report: The Doctor Gets Depraved

(Further evidence of Dioxin's Toxic Effects)

Cool, refreshing, air finds me as dusk settles along Louisiana's shore. An antique paddle-wheeled riverboat prepares to set off into the night; it is brightly decorated with lights, reflecting merrily upon the waters of the Mississippi River—The Old Man. Across the River, on the far shore, a yellow-painted hulk of a building (restaurant? club?) issues forth a continuous blast of jazz music. Behind me looms one of America's largest cities—New Orleans. I am here to discover new evidence concerning 2,3,7,8-TCDD's effects upon living organisms. It is a sleazy job. Someone has to do it and they chose me. I am Dr. Dioxin and this is the Toxic Trail.

I catch the trolley up St. Charles to the campus of Tulane University, home of the Green Wave football team. It is the last weekend of September; young, eager, collegiate faces dominate the landscape. Somewhere nearby, a conference is being convened by the Deep South Network concerning the pulp & paper industry's proclivity to contribute organo-chlorines to the World's aquatic ecosystems. Many speakers will testify as to the ill-effects of such pollution. Organic bran muffins will be available. A long day is planned. When all is said and done, the Doctor plans to investigate pollution on his own, up close—in America's version of Heaven and Hell: the greatest outdoor, non-stop sidewalk Carny Freak Show on Earth—the famous French Quarter.

These things have happened since last we met:

1. The Alabama Department of Environmental Management (ADEM), sued over its new dioxin water quality standard, is discovered to have failed to complete ANY studies of dioxin's effects upon people, wildlife, or endangered species.

2. In the above referenced suit, State at-



Dr. Dioxin and unidentified female on the Toxic Trail in New Orleans' famous French Quarter

torneys refuse to allow ADEM officials to respond to queries involving policy decisions about dioxin. These attorneys cite Executive Privilege as the reason why ADEM should be shielded from public scrutiny where dioxin is concerned (Shades of Nixon!). Lawyers for the Sierra Club file separate suit on the issue of executive privilege in Circuit Court.

3. Kimberly Clark Corporation, in a clever attempt at public relations, flies in Dr. Ronald E. Gots of the National Medical Advisory Service to assure the residents of Lay Lake, Alabama, that their fears about dioxin are simply the result of "environmental alarmism". Local newspapers print the story without rebuttal from competent scientists in the field. Meanwhile, several species of aquatic

wildlife in Lay Lake continue bioconcentrating dangerous levels of dioxin and other chlorinated compounds.

4. Cate Jenkins, an EPA official in Washington, submits an affidavit in the United States District Court for the Eastern District of New York which spells out a litany of ghastly health horrors associated with exposure to dioxin. This affidavit blows a serious hole in recent EPA mumbling about the safety of dioxin.

5. EPA officials acknowledge that dioxin is becoming a political issue. Said agency decides to postpone any decisions on dioxin standards until a review of the risk associated with exposure to dioxin can be completed. Unidentified sources express fears that the in-

continued next page

famous Council on Competitiveness (aka the Quayle Council) will intervene in the EPA re-evaluation of dioxin, thereby further politicizing the issue, possibly skewing the results of the study.

6. A citizens' dioxin conference convenes in Chapel Hill, North Carolina, and denounces what is coming to be known as "the Dioxin Fraud". Said fraud involves industry's reliance upon so-called scientific studies, now suspected of being anything but scientific, purporting that dioxin is much safer than once suspected.

7. The Doctor survives various and sundry contract disputes, to emerge slightly more independent, substantively and figuratively. New batteries are purchased for the micro-cassette recorder; checks are cashed; it's off to the Big Easy.

Dioxin is becoming suspiciously sexy. Reporters drool over dioxin facts and fantasies, allowing other serious environmental travesties to go unreported. *The Wall Street Journal* has covered dioxin. So has National Public Radio and CNN. Tabloids harp on fodder regurgitated by toxic-celebs such as Dr. Vernon Houk of the CDC in Atlanta: the Dioxin Dweeb. The truth vaporizes between paragraphs in the local paper. Industry touts the best experts money can buy, leaving the public to buy the farm.

I notice a sad state of affairs en route to New Orleans: dozens of logging trucks pass me as my truck bisects the heart of Mississippi; a glance in any direction reveals a landscape of pine plantations, never a biologically mature pine in sight; a distinct lack of wildlife is apparent. The southern United States is becoming a Land of Weeds. Where are the giant hardwoods of a few years ago? Where are the spectacular Long Leaf Pines? Where the Pitcher Plants which Bartram described as stretching for miles? Where the shiny Red Wolf, the Ivory-billed Woodpecker, the huge cypress swamps? The natural legacy of Dixie is shriveling into oblivion. The Industrialization of the South has taken a devastating toll upon the Wild. But the costliest toll may be invisible.....

Someone at the Tulane conference comments that virtually no studies of the effects of dioxin upon wildlife exist. Not so. The U.S. Fish and Wildlife Service has released studies. They illustrate that TCDD is anathema to reproductive success in a host of aquatic critters. Bald Eagles have been shown to be particularly sensitive to TCDD. The chemical, which is ingested via fish, adversely affects the bird's eggs. The stuff is moving up the food chain. Trout demonstrate a strong tendency to accumulate dioxin. Trout are considered delicacies by an assortment of carnivores, in-

cluding people.

One can only surmise that many species of amphibians are being subjected to constant exposure to TCDD. Think of a tadpole, or various water-dependent insects. And the fish that depend upon such species for their livelihood. And the avian predators: Osprey, herons, gulls.

But not to worry. Your Government has everything under control. Polluters receive official permits to discharge Death into America's waters. It is part of the Clean Water Act's policy "that the discharge of toxic pollutants in toxic amounts be prohibited." It is part of the plan "which provides for the protection and propagation of fish, shellfish and wildlife..." Not to fret. Your State officials have standards for dioxin. Never mind that industry devises the science behind the standards; your State is selling you and what is left of the Wild down the river. It is all regulated. All is well in The Land of Weeds.

A speaker at the conference gets my attention, a member of the Bar. He is reading from William Blackstone's *Commentaries* :

"The principal aim of society is to protect the individual in the enjoyment of those absolute rights which were vested in him by the immutable laws of nature."

The speaker asserts that we have a constitutional right to a clean and natural environment. That we have a vested right to have rivers free of poison. He says we should take back that which has been illegally removed from us: provided by the immutable laws of nature. The crowd responds. They understand this talk. It's simple; it's real. They are hearing the basic premise of American law: a law worth fighting for. The right to the pursuit of happiness and health. The Law of Nature.

The conference slugs through many topics. Bran muffins disappear.

As seen through the eyes of the Doctor, America's rivers, bays, and estuaries appear on the brink of virtual extinction. Oh, there will continue to be rivers. There will be bays. But the immutable laws of Nature have been broken so consistently, so extensively, that irreparable harm has occurred. Ask the blue gills, the suckers and carp, the gators and frogs and turtles, the caddis flies. Ask folks about the fishing in southern Mississippi; Mobile Bay; Arkansas's Red River; the Fenholloway in Florida; salmon runs in Oregon and Washington.

Then ask your government what has gone awry. Why are our vested rights being systematically violated? Who is to blame? It is us.

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Exceptional Excerpts

Readings

LAST STAND: LOGGING, JOURNALISM AND THE CASE FOR HUMILITY

1991, by Richard Manning. Reprinted with permission of the publisher: Peregrine Smith Books, POB 667, Layton, Utah 84041; 179pp., \$19.95 cloth. Orders may be placed by calling 1-800-421-8714. This excerpt is from Chapter 4.

ed. note: Anyone interested in corporate journalism or corporate logging should read Last Stand. If you haven't already read about Richard Manning's de facto dismissal from the Missoulian—which closely followed his devastating series of articles on timber cutting on private lands in Montana, and preceded the newspaper's receipt of an award for those articles—see High Country News, 9-23-91. Or, even better, see this book.

Discussions of environmental dilemmas invoke the rule of the tragedy of the commons: when all members of a community are given common access to a resource, even overwhelming sentiment to protect the resource will not ensure protection. One person can always gain by exploiting the resource and will use his right of access to do so. A commonly held grazing area at the center of a village generally is cited as the best example of the tragedy of the commons. The will of the vast majority of farmers to conserve the grass will not ensure its protection as long as some are willing to overgraze the common plot. And some people always are. A better example still of this tragedy is the handling of Montana's timberlands, especially those clearly common, public lands overseen by the U.S. Forest Service.

Gallacher and I flew that day away from the Seeley-Swan Valley and over the Mission Mountains, across the broad Flathead River Valley and then to the lower Clark Fork River Valley just west of Missoula. The Cessna banked up a tributary of the Clark Fork called Fish Creek. The Forest Service manages much of the land there. It is our land, logging administered in our name. The commons. Yet in some places our land is cut every bit as hard as the corporate land, clearcuts swatched hard and square. There is a reason for this: the Forest Service, not the corporations, pioneered the use of the clearcut as a "legitimate" logging practice in the West. The experiment began not far from Fish Creek on the Flathead National Forest.

People think of the Forest Service as a sort of collection of overgrown Boy Scouts, rangers sheltering trees, flowers, and Bambi from errant

campfires and carelessly flicked butts, the prototypical Smokey Bears. In the West, though, where most of its domain lies, it is difficult to consider the Forest Service anything but a branch of the timber industry. Nationally, the agency superintends enough land to fill the states of California, Washington, Oregon, about two hundred thirty million acres. Each year it sends to mills enough timber to build about 1.2 million houses. It has not always been so. When the Forest Reserve Act of 1891 established what are now the national forests, they were considered just that: reserves. They were what was left of once far larger public holdings sold or traded to the timber companies. It was assumed that the companies would conduct the timber business and the government would protect forests and the watersheds the forests sheltered. Even Gifford Pinchot, father of the Forest Service and the social engineer modern-day environmentalists love to excoriate, did not envision the national forests as forage for mills.

THE UNFORESEEN WILDERNESS

by Wendell Berry with photographs by Ralph Eugene Meatyard. Text copyright (c) 1991 by Wendell Berry. Published by North Point Press and reprinted by permission.

editor's note: The following is from chapter 2 of The Unforeseen Wilderness. This book was originally published in 1971, when Kentucky's Red River Gorge was threatened by a dam. Wendell Berry's words are as timely and inspiring now as they were 20 years ago, when they helped stop the dam.

And then consider the river itself. Even now there are stretches of it that look as wild and unspoiled, you imagine, as they did a hundred years ago. That, to be sure, is something to be thankful for—but so far you are only looking at the surface. Step into the stream and wade down it for a few hundred steps. And notice that wherever the current slows you are walking, not over the clean rocky or weedy bottom of a healthy stream, but in mud. In places the mud is more than knee deep. It is the soil of the ridges and slopes upstream, the wasted flesh of a living creature stricken by a deadly disease.

To anyone standing in that mud, aware of

what it means, the idea of the proposed "flood control dam" is a giddy fiction, a fairy tale that reduces science to the level of the crudest superstition. For what the dam will be, if the misuse of the watershed continues, is the first step in the creation of a swamp. It will have nothing to do with the control of anything, but will be only another manifestation of the lack of moral and social and economic control that made the need for "flood control" in the first place.

The proponents of the dam in the Red River Gorge are the most recent heirs of John Swift in that part of the country. They have been entranced, as Swift was, by the dream of ease—of easy wealth, easy answers, easy fulfillments. And the dream is accompanied, necessarily, by the assumption that such ease is not destructive.

It almost always is destructive. For the work of preserving the life of the world, of which our lives are a part and on which they depend, is difficult and complex and endless. In nature all that grows is finally made to augment the possibility of growth, and so nothing is wasted. This year's leaves decay and enter the intricate life of the soil, which assures that there will be more leaves another year. It is this pattern and only this—not any that we may conceivably invent—that we must imitate and enter into if we are to live in the world without destroying it.

The task of preserving the life of the world has little to do with the present of American society. It has almost nothing to do with our concepts of wealth and profit and success and luxury and ease. It has nothing at all to do with short-term investments, or short-term anything else. It is not recognizable to a short-term intelligence. It involves us in work that we can neither live to finish nor imagine the end of. It is humble work, often involving the use of the hands. It requires respect for mystery. Its model figures are not to be found among the great figures of our history: our artists, inventors, soldiers, statesmen—but among humble people whose lives were devoted laboriously and ceremoniously and lovingly to the life of their land: tribal people and peasants.

Postscript (9-91): Thanks to the efforts of the people of the Red River, other good citizens, and the Cumberland chapter of the Sierra Club, the Red River Gorge is still free of the Army Corps of Engineers' intentions to "improve" it with a dam.

BOOK REVIEWS

TAKING STOCK: ANIMAL FARMING AND THE ENVIRONMENT

Alan Durning and Holly Brough; Worldwatch Institute; \$5. Available from Worldwatch Institute, 1776 Massachusetts Ave. NW, Washington, DC 20036.

Some ecologists, myself included, have suggested that if all the environmental costs associated with livestock production were fully considered, the production of livestock would rate as one of the most environmentally destructive activities on Earth. Those skeptical of such a conclusion should read the Worldwatch Institute's latest paper, *Taking Stock: Animal Farming and the Environment* by Alan Durning and Holly Brough.

In this small but well documented publication, the authors give a global ecological perspective of the numerous environmental "costs" associated with livestock production. It is full of statistics that will make even the most fervent cow lovers reconsider their stance and likely make the rest of us into vegetarians. Consider a few of the many important facts.

Half of the land area of the entire planet is grazed by domestic livestock. Nearly 70% of the grains grown in the United States are fed to livestock. Thus among the uncounted costs of America's love affair with a meat diet are topsoil loss resulting from cropland production, pollution of underground aquifers by fertilizers and pesticides, and the consumption of fossil fuels necessary to operate the farm equipment. All told, half of the energy used in American agriculture goes into the livestock sector.

Nearly half of the grain and hay fed to American beef comes from irrigated lands--primarily in the arid West. Thus dewatered rivers, construction of dams and reservoirs, and the subsequent flooding of free-flowing rivers and degradation of aquatic ecosystems are additional uncounted costs of the livestock industry.

The authors even suggest that dense concentrations of livestock may cause acid rain as a result of ammonia released from manure. They cite a report by the Netherlands National Institute of Public Health and Environmental

Protection which concluded that livestock industry discharges into the air are the single greatest source of acid deposition on Dutch soils--doing more damage than the country's cars and factories.

Unfortunately, the environmental damage is not restricted to rangelands. According to the authors, more than 1/3 of the rainforests in Central America have been cleared to produce livestock pasture. Similar destruction of tropical rainforests in Brazil and elsewhere is, in part, due to livestock production.

After enumerating the many environmental "costs" associated with livestock production, the authors review government and cultural policies contributing to the imbalances. Finally, they discuss some innovative solutions to make livestock production less environmentally destructive.

—Reviewed by George Wuerthner

Antarctica: Beauty in the Extreme

by Jonathan Chester; 1991; Running Press Publishers, 125 South 22nd St., Philadelphia, PA 19103; 136 oversize pages.

The polar regions, both north and south, hold an irresistible fascination for *Homo sapiens*. Something in the vast and unrelenting harshness of the landscape evokes wonder in our collective imagination. Powerful images of Polar Bears, penguins, or icebergs come to mind for virtually everyone, yet very few of us will see these things firsthand. Barry Lopez, in his superb book, *Arctic Dreams*, explored the relationship of place and perception using the phrase "the country of the mind." Whereas Lopez's book was devoted to the natural history and anthropology of the far North, Jonathan Chester's book, *Antarctica: Beauty in the Extreme*, explores the polar region that holds limited appeal to anthropologists.

Chester, who lives in Sydney, Australia, operates a commercial stock photography library and clearly is a photographer of great skill. In 112 pages, appendices, and hundreds of color photographs, he presents an informative overview of the last wild continent, including chapters devoted to the geography,

wildlife, aquatic and terrestrial ecosystems, and human exploration of the region. Additionally, he discusses the creation of the Antarctic Treaty and the prospects for the future of Antarctic conservation.

While the book does contain much basic information, anyone seeking more than an elementary understanding of Antarctica's natural history will be disappointed. Furthermore, Chester's writing mirrors his subject matter somewhat in its starkness. This section on penguins is a good example:

Penguins are the signature species of the Antarctic. They play the same role in the minds of the public as polar bears do in the Arctic. With their comical and endearing appearance and humanlike behavior, it is not surprising that penguins have become the favorites of cartoonists, illustrators, and photographers. In the wild, however, the pungent odor of a large penguin colony is much less appealing.

Penguins are flightless birds that have adapted to swimming in the sea and are thought to have evolved from petrel-like flying birds some fifty million years ago. They have a very streamlined body and wings that function as flippers. These are used as paddles and their feet and stubby tails combine to form a rudder.

Though Chester's prose may not be majestic, it is certainly adequate and his photography is spectacular. Included are the obligatory shots of penguins and icebergs, but they are often framed with such skill as to make fresh and novel images. Particularly striking are Chester's images of such unphotogenic subjects as krill and plankton. Again, as a coffee table book, its text clearly supports the photography rather than the opposite.

Though the author's stated intent is to promote Antarctic conservation by bringing to a wide audience the beauty of the place, his failure to address in any detail the negative impacts generated by the research facilities there and his approval of increased tourism seem contrary to his purpose. "Uncontrolled tourism may bring environmental problems to sensitive areas, yet scientists and bureaucrats ultimately depend on popular support (in the democratic world) for governments to fund their national expeditions, research, and bases." This is a dangerous notion, albeit one that is widely promulgated by supporters of eco-tourism. Thoughtful persons do not need to visit areas of ecological merit to know that

they should be preserved. Indeed, many will adamantly oppose human visitation to such areas because of the disturbance such visitation inevitably causes.

Furthermore, this statement assumes that continued government funding of research bases and expeditions is worthwhile. Arguably, many scientists are doing important work in Antarctica which should be supported. In some cases, however, governments maintain facilities on the continent largely to support their land claims, though these claims are held in abeyance under the Antarctic Treaty. In particular, Chilean and Argentinean stations are more colonial outposts than research facilities, being peopled by families who "settle" there for extended tours.

Antarctica: Beauty in the Extreme is likely to accomplish the author's goal of helping readers "...gain a greater appreciation of the unique qualities of the Antarctic and why it should remain as it is—a pristine, untamed wilderness." Its striking images should earn a wide audience and further his noble aim.

—Reviewed by Tom Butler

Strangers Devour the Land

by Boyce Richardson, 1991; Chelsea Green Publishing Company, POB 130, Post Mills, VT 05058-0130; 361pp, \$14.95.

It's fortunate that another publisher is now reprinting this book, after its initial publication in 1976 by Alfred A. Knopf Company. It has lost none of its power or relevancy in describing the early conflict surrounding the James Bay projects between the government of Quebec and the Cree people. As a reference tool it is valuable; as a document of the Cree way of life and the changes the James Bay I project has wrought, it would be hard to surpass.

In the five years Richardson worked on this story, he spent much time with the Cree: with elders and children, trappers, hunters, traders—traditionals—and those with a "modern education." He traveled to villages, into hunting territories, and to Quebec City where the first legal challenges to the supremely arrogant dam scheme were argued. It is a story coming from all corners of the world these days, but well worth the time for its closeness to home. As Farley Mowat said of this book, "Read it and rage."

—Reviewed by Brian Carter

NATURE'S METROPOLIS: Chicago and the Great West

by William Cronon; 1991 W. W. Norton & Company, New York; 530 pp.; \$27.50 hardcover.

In tracing how people of European descent settled the North American land, historians have all too often focused on the people, and given short shrift to the land, treating human deeds almost as a universal drama that could have played anywhere. William Cronon, in *Nature's Metropolis: Chicago and the Great West*, helps redress that imbalance by telling an ecological history of the Midwest—or is it an historical ecology? In any case, his granting of equal time to humans and their surroundings makes reading this often grim tome rather refreshing.

Cronon, a history professor at Yale, published his first ecological history, *Changes in the Land: Indians, Colonists, and the Ecology of New England*, in 1983. This time around he poses the question: Why did Chicago become the metropolis—the major city—of the region that stretched from the eastern edge of the prairie to the Rocky Mountains? In other words, why did the course of white settlement progress as it did? How were endless prairies turned so quickly into cornfields, old-growth White Pine forests into clearcut wastelands? To answer those questions, Cronon traces the history of three of the major goods that flowed through Chicago and made it a mercantile center: grain, lumber, and meat. His focus on resources allows *Nature's Metropolis* to transcend merely regional interest, for the book examines the way our society views and uses the very products of the Earth that keep us alive.

The first part of the answer to Cronon's question lies in the land itself. Chicago became a grain-handling center because the prairies to the west could yield astonishingly rich crops of corn and wheat. The city became a lumber center because the forests that cloaked the northern shores of the Great Lakes were heavy with virgin White Pine. And the land was free—not uninhabited, for Native Americans had lived there for millennia, but the resources were there to be taken.

Cronon's hypothesis, though, is that a simple wealth of resources does not build a city, does not explain why Chicago became the regional metropolis, rather than Milwaukee, say, or St. Louis. The city's growth was, of course, determined by human factors—by an underlying belief in Manifest Destiny, and by a conviction that the riches of nature were there to be used by humans. The boosters of Chicago were convinced that their city had access

to unlimited resources—the North Woods went on forever, the saying went, as did the fertility of the prairie loam. The first claim proved false by the turn of the century; current figures on soil erosion tell us that the second is equally illusory.

What really built Chicago was technology—innovative new technology that enabled people to convert prairies, trees, and other products of the Earth into money more quickly than ever before. The quintessential example is the railroad, which allowed crops to be moved to market year-round, over greater distances than had previously been practicable, and at a much greater speed. Railroads centralized trade, since they relied on a massive, immovable infrastructure of rails. Chicago, as the southernmost port on Lake Michigan, was ideally situated to be a center for rail transportation.

A more overlooked innovation, and one that emphasizes how technology fuels the process of resource exploitation, was the steam-powered grain elevator. Traditionally, wheat had been sold in sacks: when a miller bought wheat, he was buying a particular sack of wheat; he could evaluate it and know where it came from, before buying. In Chicago's grain elevator, wheat from many different farms was mixed together in huge vertical warehouses, ready to be loaded onto ships. A farmer who delivered 100 bushels of wheat received a receipt for that amount; in turn, he might sell that receipt to a miller, rather than the grain itself. The miller could then take delivery of 100 bushels of wheat, but what came out of the elevator was mixed, "generic" grain. The receipt became a substitute for the actual produce. Soon a commodities market sprang up, in which dealers speculated in receipts that represented grain to be delivered today, or next month, or in six months. Fortunes were made and lost by dealers who never touched a grain of wheat. Living plants became resources, which in turn became commodities.

The tragedy of the Midwest's ecosystems was that the logic of the commodity ran counter to the logic of ecology. Making a quick profit took precedence over, say, creating a sustainable economy in lumber towns—to say nothing of sustaining the ecosystem that supported the towns. One senses that the power of the marketplace dwarfed the efforts of individuals to alter it or change its course; even the entrepreneurs who put into use such innovations as the grain elevator, and, later, the refrigerator car, are not major figures in *Nature's Metropolis*. During the 19th century, the idea of holding back, of deliberately preserving any part of an ecosystem in a wild

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state, was almost unheard of.

That situation has improved some, though not enough. What has not changed are the essential mechanics Cronon lays out: the 19th century saw the growth of a food distribution system that was centralized as never before. As resources were commodified, the eventual consumer was distanced—geographically and figuratively—from the products he or she was using. The city and the country were tied together with numerous economic links that made each increasingly dependent on the other; ironically, the links became more and more obscure as they proliferated. It's no different today—in the Midwest you can still buy old-growth timber grown thousands of miles away, and it's easy to feel OK about using the timber if you don't know what a clearcut looks like. Cronon's book is a consciousness-raiser that exposes how the basics of our modern economic system evolved and affected a particular region. It will be good to see works of ecological history about other times and places appearing in bookstores; it will be better by far if politicians, businesspeople, and consumers alike care about the impacts of their decisions in the present, rather than a hundred years later.

—Reviewed by Peter Friederici

HELPING NATURE HEAL: An Introduction to Environmental Restoration

Richard Nilson, Editor; 1991; Ten Speed Press, POB 7123, Berkeley, CA 94707; \$14.95 paper, 160pp.

Though ecological proponents are already wallowing in anthologies, Richard Nilson, a *Whole Earth Review* editor, deserves accolades for this excellent collection of ecological restoration writings. Ecological restoration is a new field, still needing the types of general summaries that seem over-abundant in some fields, and Nilson's book will draw many more people into the work of restoring abused lands.

Fully aware of the dangers of touting humanity's ability to restore natural systems, Nilson draws together divergent, sometimes critical, views of restoration work, and offers his own valuable insights on how, when, and where active restoration efforts are appropriate. Nilson's book makes clear that the potential to restore damaged lands should not be used as a justification for allowing development of natural areas.

A general theme of *Helping Nature Heal*—conveyed with especial grace by Barry Lopez, William Jordan III, and Seth

Zuckerman—is that, along with actually helping return ecosystems to a state of normalcy, restoration work helps return participants' relationship with Nature to a state of normalcy, that is, health. Several of the writers in this anthology have enjoyed great success in teaching children about their watersheds by having them plant native trees or hatch and release native salmon.

Several authors caution would-be restorationists against hubris. We must beware our human tendency to manipulate, and generally only intervene where Nature has been so befouled by human activity that the elements alone will not suffice to effect a recovery. Often, the most appropriate course of action will simply be to remove the impediments to natural recovery: roads, buildings, dams, exotic species and such. Sometimes, tree planting, species reintroductions, reseeding, riprapping stream banks and the like will also be needed. Susan Davis skillfully reflects these lessons in her essay, "Natural Restoration," in which she describes how the demilitarized zone between North and South Korea—a "no-man's land"—has already produced a healthy mixed hardwood forest less than 40 years after the biotic community there was razed to the ground.

Again, though, some areas will not—except perhaps on a geological time scale—recover to anything like their original condition without active human work to undo the damage we or our forebears wrought. Steve Packard's remarkable story of the rediscovery and restoration of prairie savanna, or oak grasslands, in Illinois is testimony to the urgent need for, and amazing potential of, carefully researched restoration efforts. Through study of historical documents, experimental plantings of native seeds, manual removal of exotic shrubs, and judicious use of fire, Packard and comrades rediscovered a forgotten habitat type and restored it in small preserves near Chicago.

Likewise attesting to the importance of careful research before and during a restoration effort is Freeman House's account of salmon restoration in northern California's Mattole watershed. There a strain of King Salmon adapted to the river, is being restored by watershed residents. These innovators are shoring up eroded stream banks, removing log jams from streams running near clearcuts, and hatching native salmon for population augmentation. The work will require decades but already they've greatly increased salmon stocks and returned greenery to areas denuded by logging.

David Wingate's description of the restoration of the Cahow—a petrel from Bermuda and nearby islands, long thought

extinct—and of Nonsuch Island is equally encouraging. Over the last few decades, Wingate and friends have helped restore this burrow-nesting bird to a position of relative security, even while replanting the native forest on the once ravaged 15-acre island.

Packard, House, and Wingate (and a biologist unfortunately not included in this book: Dan Janzen, who is restoring tropical dry forest in Costa Rica's Guanacaste National Park) exemplify another theme of *Helping Nature Heal*: 1 small group, or even 1 individual, can make an enormous difference. Nature has tremendous restorative powers and sometimes just a little help from us can work wonders. Nilson's book will inspire such wonders.

Reviewed by John Davis.

SHANTYBOAT, A River Way of Life

by Harlan Hubbard; Univ. Press of Kentucky, Lexington, KY 40506-0024; \$10.00 paper, 352 pp.

SHANTYBOAT ON THE BAYOUS

By Harlan Hubbard; 1990; Univ. Press of Kentucky; \$19.95 paper, 141 pp.

PAYNE HOLLOW

by Harlan Hubbard; 1974; Gnomon Press, Frankfort, KY 40602-0475; paper, 167 pp.

HARLAN HUBBARD, Life and Work

by Wendell Berry; 1990; Univ. Press of Kentucky; \$23 hard, 108 pp.

Harlan Hubbard (1900-1988) was a Kentucky painter, writer, and farmer little known outside of his region, who will be much better known thanks to Wendell Berry's biography of him, an excellent work much enhanced by the inclusion of 20 color plates. Before we examine Mr. Berry's book, it is appropriate to sketch the life and work of Harlan Hubbard and to look at his view of nature, this "wild earth," as he once called it.

Although trained as a painter, Hubbard earned his living for a number of years as a carpenter, learning skills that enabled him to maintain his independence. After their marriage in 1943, he and his wife Anna spent two years building a shantyboat and preparing for an adventure. They set out on a trip of several years, drifting down the Ohio and Mississippi rivers and traveling through the bayous of Louisiana. Their trip was punctuated by lengthy stops to gather, raise, and store food. After a few months interim of automobile

travel, they settled at Payne Hollow, on the Kentucky side of the Ohio River, building their house and most of their furnishings and equipment. There they passed the rest of their lives, over 35 years, producing all of their own food, cutting wood for fuel, reading, and making music. Harlan also painted, and he wrote the three books which recount their travels, describe their life at Payne Hollow, and express his view of nature and philosophy of life.

Why did this couple who read in three languages and enjoyed concerts in Cincinnati cut themselves off from society? The answers are to be found in the characters of the individuals as well as in the constitution of the society. Hubbard explains that he had always loved nature, and that while very young he had realized that modern civilization, with its division of labor, was not for him. He desired the joy of providing for himself as completely as possible, directly from the earth, while treating it with love and respect. "The woods and river would supply fuel for the hearth and food for our table. We would plant and improve the soil through the years by good husbandry until it regained its original fertility" (*Payne Hollow*, p. 46). Anna shared this intention and his joy in its realization. They saw no contradiction between this life and cultural or even material refinement. "Surely refinement of living does not consist in gadgets and machinery, but in such elements as leisure, contentment, lack of confusion, small niceties" (*Shantyboat*, p. 316).

Harlan Hubbard's view of nature or the earth is a composite of utilitarianism, aesthetics, and perhaps mysticism. His concept of wilderness is liberal, including areas used but relatively unharmed by humans, in which native vegetation has been allowed to regenerate. It also includes lifestyles, such as drifting in a shantyboat, foraging, and gardening only with handtools in which one submits to natural forces. He had unlimited faith in the ability of nature to survive: the Earth will never be subdued by man. He was torn, however, between true wilderness and a rural setting, such as the Kentucky hill farms as they existed around 1900: he yearned for "the wild" and for "absolute solitude," yet he doubted that he could remain content in them (*Payne Hollow*, p. 166). While he advocated and practiced the gathering of wild edibles, the way of "natural man," he believed also in responsible cultivation methods, i.e. organic gardening. He is obliged to allow some human impact on the earth, admitting that his woodcutting has considerably changed the hillside around their house, with the resultant loss of plants that thrive in the shade (*Payne Hollow*, p. 87). Furthermore, he had no qualms about the

consumption of fish and meat that he or his dogs caught; he even butchered selected members of his goat herd and explicitly defended the practice, no doubt in response to questions thereon (*Payne Hollow*, p. 127).

While not damning all machines (he loved the old steamboats and occasionally gave grudging approval to some small machines), Hubbard was inevitably very critical of modern technological society with its division of labor and its abundance of contraptions which are wasteful ("The corn-picking machine is a boon to shanty-boaters, crows, mice, and such foragers."—*Shantyboat*, p. 109), which interfere with natural processes, and which rob people of the joy of working in direct contact with the earth and the elements.

In a compact yet thorough treatment of Harlan Hubbard, Wendell Berry surveys and analyzes the life and work of this singular individual. Giving only the essential biographical details, he deals in chapter 1, "A New Life," with the basic pattern of Harlan's and Anna's life during their shantyboat days, including their principal activities: drifting, reading, writing, painting, music, and "economy" (the procurement of their livelihood).

In chapter 2, "Much in Little," he treats the following period of their life and makes the necessary comparison with Thoreau, the primary influence on Hubbard's life and thought. Berry makes several crucial observations here. One is that Thoreau stayed at Walden for only two years, whereas the Hubbards remained at Payne Hollow for over 35 years. Consequently, Hubbard's economy was more elaborate than Thoreau's. Hubbard adopted a manner of existence that we call "simple living," but paradoxically, it was highly "complex," combining many labors and skills which are divided and specialized in modern society. On the other hand, it was not "complicated," a word implying disorder. No life could be more orderly than that of the Hubbards. Thoreau, moreover, tended to asceticism; the Hubbards did not. Their diet was abundant and varied, and they cultivated the pleasures of literature, painting, and music. Anna even had a grand piano at Payne Hollow. Berry also touches on the differences in writing styles of Thoreau and Hubbard, the latter utilizing a plainer prose (for which we are grateful) with more attention to domestic details.

In the area of religion, treated in the third chapter, Berry discusses Hubbard's expressed desire for "a more direct revelation" than those purveyed by the Bible or by other persons. His religious vocation was really "making the most of what the earth offers" (Berry, p. 38); and his faith was a belief that above the materials

and mechanics of the world is an "unknown, unknowable, mysterious spirit . . ." (Berry, p. 43).

Succeeding chapters include an excellent discussion of Harlan's painting, a brief portrait of Anna, and some observations about Harlan's life after her death. Berry's very perceptive impressions of the couple form perhaps the best chapter in the book. We long to get into the mind of Anna more than Harlan permits us to in his writing. Thus the few personal observations of Berry are a welcome addition to the rather hazy picture of this strong and sensitive lady.

One of the principal reasons for Berry's interest in Hubbard is the consonance of his views of nature, of domestic economy, of agriculture. Berry believes that the life of the Hubbards in Payne Hollow is a model for rural residents of the Ohio Valley, perhaps for other areas as well, because of their respect for the integrity of the place and because of their rejection of generally accepted contemporary values. He seems to foresee for Hubbard a place in American history and letters comparable to that of Thoreau. "I can think of no one else who has so purposefully, so fully, and for so long a time immersed himself in any American place. Harlan sought to live and work in just response to this intimacy. This is his revolution and his rare Americanism, and this is why his life is as important to us as his work" (Berry, pp. 88-90). He further sees Hubbard's life as an antidote to much that is wrong in the land, and he uses their example as a warning to a society smitten with destructive impulses. "Such a life can be dismissed as inconsequential only by those who refuse to see the overriding irony of our present economic life: that 'growth' is inescapably shrinking us. We are living within ever-widening margins of abandoned or abused or despised or ruined land—the 'fringes' of our society, which our children will have to inhabit and make the best of, if they can. They must either make the best of them as Harlan and Anna did—by poverty of means, by great skill, by love—or endure them at their worst" (Berry, p. 96).

Wendell Berry's book on Harlan Hubbard is reverent without being unduly adulatory. It is discreet, respecting the privacy of the Hubbards while recognizing that their life and work (for Anna should be recognized as an essential and equal partner in this adventure) will be influential, thus entering the public domain. A timely warning of grave societal, economic, and environmental ills, it also suggests a partial cure in the example of Harlan Hubbard. Berry's and Hubbard's books should be read and pondered.

Reviewed by Robert M. Davis

NOTEWORTHY ARTICLES

A Look at Conservation Literature

by John Davis

"The Land Ethic and Pilgrim Leopold," by Eric Freyfogle; *University of Colorado Law Review*, vol.61 #2, 1990, p.217-256. Law professor Eric Freyfogle has written an insightful account of the importance of Aldo Leopold—both his words and his actions—for conservationists and legal scholars. Freyfogle tells how people in legal fields might begin to incorporate Leopold's wisdom, including his famous Land Ethic, into their work. Reprints of this article are available from the author: Eric Freyfogle, U of IL College of Law, 209 Law Bldg, 504 E Pennsylvania Ave, Champaign, IL 61820.

"Arousing Biophilia," by Alfred Barten; *The Myrin Institute* newsletter, winter 1991. The Myrin Institute (136 E 64th St, NYC 10021), publisher of *Orion* quarterly, recently convened a colloquium called "Arousing Biophilia: How can scientists, nature writers, educators, and other communicators inspire a new cultural commitment to the environment?" Among the luminaries present were George K. Russell, Robert Finch, E.O. Wilson, and Gary Nabhan. Some of the many good ideas from the gathering also appeared in the winter 1991 issue of *Orion*.

"Ten Species Proposed During April for Listing Protection," *Endangered Species Technical Bulletin*, 5-91, p.1,6-10. *Endangered Species Technical Bulletin* is produced by the US Fish and Wildlife Service (FWS) and reprinted regularly within *Endangered Species Update*. Serving as the biodiversity obituary pages, the *Bulletin* regularly tells what species have been proposed, what species have been listed, and what the threats to them are. Always the situations are grim, desperate, and anthropogenic, particularly so in this issue. Consider, for example, the plight of one of Puerto Rico's endemic evergreens, *Styrax portoricensis*, or palo de jazmin: "Only one individual tree is known, and it was damaged in 1989 by Hurricane Hugo." FWS has thus

seen fit to propose listing this species as Endangered—along with 4 other endemic plants in northeastern Puerto Rico's Luquillo Mountains, within the Caribbean National Forest and thus threatened by road-building. Given the proclivities of the present administration, however, we may reasonably fear that more studies will be demanded prior to listing.

The *Bulletin* itself is hard to find and hard to read (due to an absurdly convoluted lay-out) but *Endangered Species Update* has done conservationists an important service by rescuing it from obscurity. Ask your librarian to subscribe to the *Update*: \$23, 10 issues/yr; Endangered Species Update, School of Natural Resources, U of MI, Ann Arbor, MI 48109-1115.

"Non-Anthropocentrism in a Thoroughly Anthropocentrized World," by Anthony Weston; *The Trumpeter*, summer 1991, p.108-112. Sometimes the most profound lessons are also the most obvious ... after they've been revealed by someone else. This will be the experience of many readers of this article. Weston shows that anthropocentrism is so deeply ingrained in our culture that it frames even the arguments against it. He notes the irony of critiquing anthropocentrism from a position wholly removed from Nature (e.g., a lecture hall). He notes also the irony of a worldview that holds as unreasonable any idea that does not debase all living things other than humans. He suggests that we cannot fully develop a non-anthropocentric ethic from within a totally humanized context; but we can begin to renew a relationship with Nature which will allow non-anthropocentric worldviews to evolve. One way to do this is to establish quiet zones—places where no machines intrude. This last is an idea all wilderness proponents should consider. Why not advocate that all public lands be declared quiet zones, where people may not bring their motors, guns, or other technology that separates us from Nature and overflights are banned.

The Trumpeter: Journal of Ecosophy (Lightstar Press, POB 5853, Stn B, Victoria, BC V8R 6S8 Canada) is Canada's best environmental ethics periodical and should be in every university library. While perusing the

Readings

summer number, the theme of which is "Environmental Crisis, Education, and Deep Ecology," note especially "What Is Education For?" by David W. Orr, "The Psychology of Environmentalism" by J. Donald Hughes, "Integrating Science and Passion in Conservation Education" by Thomas Fleischner, "The Educational Implications of Aldo Leopold's Land Ethic" by Kathie Bishop, and editor Alan Drengson's editorial.

"Water Hyacinths and Darwin," by George Cook; *Wildflower*, summer 1991, p.19. *Wildflower*, "North America's Magazine of Wild Flora," is the quarterly of the Canadian Wildflower Society, a group dedicated to conservation and study of North America's plants and fungi (\$25/yr membership; 1848 Liverpool Rd, Box 110, Pickering, Ontario, Canada L1V 6M3). This article discusses "the world's worst aquatic weed," which humans purposely and accidentally "have carried from its native range in the tropical lowlands of South America to Africa, Asia, Australia, and North America." Also in this issue see "Sex and Fluids: Pollination in Aquatic Vascular Plants."

"Notes and Abstracts," *Restoration & Management Notes*; summer 1991, p.32-61. *R&MN* is the magazine of the Society for Ecological Restoration. The magazine (\$15/yr Journals Division, 114 N. Murray St, Madison, WI 53715) and the organization (SER, 1207 Seminole Hwy, Madison 53711; membership \$25 includes *R&MN*) are leaders in the growing field of ecological restoration. Twice a year (possibly to increase soon to 4/yr) editor William R. Jordan III compiles huge amounts of information on attempts to restore degraded landscapes. The Notes and Abstracts section, especially, offers valuable lessons for those wanting to protect or restore natural grasslands, forests, wetlands, and other ecosystem types. Some of the reports clearly come from what might be called the mitigation school of restoration ecology: people who create wetlands to replace those ravaged by developers. Most, however, come from true restoration ecologists: people seeking to restore extirpated species and natural processes for Nature's own sake, not the sake of developers constrained by section 404 of the Clean Water Act.

This issue of *R&MN* also includes fine editorials by William Jordan III and Gary Nabhan, and "Restoration of Santa Catalina

Island, California" and "Comparisons of Constructed and Natural Salt Marshes of San Diego Bay." The latter conveys a lesson implicit in several of this issue's reports: Constructed ecosystems do not adequately mimic natural ecosystems. Artificial wetlands, for instance, do not perform the many ecological functions of wetlands (sediment removal, flood mitigation, etc.) as well as original wetlands.

"Japan Bashing Reconsidered," by Ted Williams; *Audubon*, 9-10/91, p.26-36. Williams presents 3 premises: "1. Japan, now closing in on the United States as the world's leading economic power, is the most important single factor in determining whether or not humankind will succeed in delaying the onset of mass extinctions. 2. Japan is by far the world's leading illicit trafficker in endangered wildlife. 3. Unlike developing nations, Japan has no real need for any of the wildlife it exploits." In this context, and given Japan's sensitivity to outside criticism, some international conservationists are now saying it's time to stop pulling punches. As long as Japan remains recalcitrant, bash it, as well as the US.

This, anyway, is my biased interpretation of the author's message. While stressing that Japan is only following the lead of the US—with much greater efficiency—I'll add another suggestion inspired by Williams's provocative article: International conservationists (WWF, Greenpeace, etc.) should shame Japan into compliance with environmental laws and ecological ethics. For example, run ads in Japanese newspapers ridiculing men who need bear gall bladders, rhino horns, and other putative aphrodisiacs to prove their manliness. ("Real men don't need gall bladders.") Spread rumors about how Japanese tourists who wear jewelry made of sea turtle shells, or other products of rare wildlife, are the laughing stock of the civilized world. Or ask Japanese sociologists about other ways to turn the Japanese public against consumption habits that destroy foreign wildlife and habitat.

"Ground Zero: The American Military vs. The American Land," by Tom Turner; *Wilderness*, fall 1991, p.10-15,31-33,36. Tom Turner, staff writer for the Sierra Club Legal Defense Fund, describes here a few of the military's many assaults on public lands: bombing of Bravo 20 near Fallon, Nevada, and Jefferson Proving Ground, Indiana; flights over Mt. Jefferson Wilderness, Oregon and Adirondack Park, New York; training in Caribbean National Forest, Puerto Rico. Turner is not altogether convinced by Defense Secretary Dick Cheney's recent announcement that he wants the Defense Department to become the federal leader in environmental

protection. In the wake of the Persian Gulf disaster, the military seems to be finding diminished opposition to its expansion plans. It wants to increase flights over the Adirondacks, expand Fort Irwin in California into surrounding roadless lands, and develop a training area in Idaho's Owyhee country, among other evils.

"How North America's Bats Survive the Winter," by Merlin Tuttle; *Bats*, fall 1991, p.7-12. "Bats are at their most vulnerable during hibernation and migration ..." Bat Conservation International (BCI) founder Merlin Tuttle makes clear here why bat populations are vulnerable to rapid extermination. For instance, almost all Gray Bats (*Myotis grisescens*, an Endangered species) from Alabama, Florida, Georgia, Kentucky, Tennessee and Virginia hibernate each winter in only 4 caves. Many cave-dwelling bat species can tolerate only very narrow temperature and moisture ranges during winter. Human disturbance of any sort during their hibernation can cause them to expend so much energy during arousal that they are subsequently unable to survive the winter. BCI (POB 162603, Austin, TX 78716) has ensured protection for many bat hibernacula, but the possibility still remains in places for some thoughtless bloke to stumble into a cave and seriously disrupt a major portion of the population of an imperiled species.

"Cryptic Cacti on the Borderline," by Gary Nabhan; *Orion*, autumn 1991, p.26-31. Gary Nabhan, an ethnobotanist and Nature essayist who seems to have won in the last few years almost every award a naturalist can win, here describes his search for the rare and declining Night-blooming Cereus Cactus. His narrative reveals much about Sonoran Desert ecology and cross-boundary conservation or lack thereof. Livestock grazing, cutting of the cacti's nurse trees by Ironwood gatherers catering to US consumers' craving for "Seri" wood carvings, and illegal collection for export to Japan and elsewhere ... these and other factors make the prospect of seeing a cactus blooming at night dubious at best.

This issue of *Orion* also includes important articles on rainforest ecology, and stirring essays by Terry Tempest Williams and Brenda Peterson. David Ehrenfeld's column is, as always, insightful.

Science, 8-16-91. The US-based weekly *Science*, like its British counterpart *Nature*, regularly prints articles important for advocates of the natural world. Both, though, offer such a wide range of science coverage (much of it obscure for us simpletons) that most conservationists do not regularly peruse these

periodicals. However, conservationists should see the August 16 number, which focuses on biodiversity loss and includes excellent overviews of the subject by Michael Soulé, Paul Ehrlich, and E.O. Wilson. The article by entomologist Terry Irwin, on setting priorities in conservation efforts, will prove very controversial. He argues that rare and endemic taxa—favored targets of many present preservation efforts—may be less important to save than more general taxa, which are more apt to be undergoing rapid adaptation and speciation. Irwin may be overstating the likelihood of rare and endemic taxa being evolutionary *cul de sacs*.

Unfortunately, this series of biodiversity articles is introduced by a journalist who tries to make it sound like there is growing dispute among scientists as to whether or not the biodiversity crisis is as serious as Soulé, Ehrlich, Wilson, and others claim. This journalist does not acknowledge that even if conservation biologists are overestimating species extinction rates several-fold, we are still in the midst of the most severe extinction episode in the planet's history.

"Pantheism and Biodiversity," by Harold Wood; *Pantheist Vision*, 9-91, p.1-6. "The Universal Pantheist Society [POB 265, Big Pine, CA 93513] is a non-profit religious corporation" whose purposes include stimulating "a revision of social attitudes away from anthropocentrism and toward reverence for the earth ..."; and their quarterly newsletter reflects these noble aims. *Pantheist Vision* editor Harold Wood discusses in this excellent article lessons from leading conservation biologists, including Michael Soulé, Paul Ehrlich, Harold Morowitz, E.O. Wilson, and Aldo Leopold, as well as from the late self-avowed Pantheist Joseph Wood Krutch, whose thoroughgoing rejection of anthropocentrism in *The Voice of the Desert* (1955) anticipated conservation biologists' warnings by 3 decades.

"Dismal Green Science," by Larry Lohmann; *The Ecologist* (c/o MIT Press Journals, 55 Hayward St, Cambridge, MA 02142), 9/10-91, p.194-195. An *Ecologist* associate editor effectively argues against the advocates of environmental economics—those who say that appropriate market incentives, prices on ecosystems, true cost-benefit analyses and such can solve our environmental ills. Lohmann says the language of the market is not, and should not be, universal.

See also in this issue Richard Hindmarsh's "The Flawed 'Sustainable' Promise of Genetic Engineering" (p.196-205). Hindmarsh focuses on agriculture, but his warnings apply equally

continued next page

to natural ecosystems. He decries environmentalists' failure to perceive the serious and unprecedented threats to natural life that recombinant DNA technology presents.

"Planting for Disaster: How Restorationists Can Plan for Global Warming," by Marylee Guinon and Margaret Alkon; *Whole Earth Review* (27 Gate Five Rd, Sausalito, CA 94965), fall 1991, p.56-59. *Whole Earth Review* is publishing some important articles on restoration ecology. This one stresses using the right local varieties of each native species, not simply the right species, when revegetating damaged lands. Planting trees from a different area can contaminate a local gene pool, weakening the adaptiveness of a population. Protecting genetic diversity, as well as preserving migration corridors, will be increasingly important as humanity's pollutants cause or accelerate global warming.

"Pocket Gophers and Mima Terrain in North America," by George Cox and Victor Scheffer; *Natural Areas Journal* (320 S Third St, Rockford, IL 61104), 10-91, p.193-198. George Bush has not bothered to falsely proclaim a "no net loss of mima terrain" policy because the mounded landscapes, apparently shaped by pocket gophers, have very few advocates. All confirmed mima terrain in North America lies west of the Mississippi River. Western states and The Nature Conservancy protect some mima sites, but most are vulnerable to developers. California has already lost 80% of its mima terrain to developers and their ilk. Thus far, philosophers have shown little inclination to accord intrinsic value to mima mounds.

"What's Good for the Corporation is Bad for the Children," by Jim Berry; *Center For the Reflection on the Second Law, Circular* #140, 10-20-91. Jim Berry, the equally radical brother of the famous "geologist" Thomas Berry, heads a small group nominally devoted to contemplation of the law of entropy, though actually applying itself very practically to critiquing industrial civilization. In this essay, Jim Berry says that our society raises children to be consumers, when what is needed—for Nature's sake as well as our own—is to raise them to be virtuous. CFRSL can be joined by writing 8420 Camellia Dr, Raleigh, NC 27613.

"Wilderness Recovery: Thinking Big in Restoration Ecology," by Reed Noss; *The Environmental Professional*, vol.13, p.225-234. It's encouraging to see a staid periodical like this run an article in which a leading conservation biologist suggests that restoration

ecologists must begin to think BIG so that we can return half of this country to a wilderness condition. It's discouraging to see in the same issue criticism of the wilderness concept by a prominent environmental ethicist, Baird Callicott. Read the latter to see the types of arguments conservationists will increasingly face as they defend the concept and the reality of wilderness. Read the former for a brilliant exposition on how we might make North America habitable again for even the most vulnerable of species.

"Under Green Guise, Multi-use Groups Work Against Environment," by Fred Baumgarten; *Audubon Activist*, 11-91, p.1 & 4. The *Audubon Activist* (950 Third Ave, New York, NY 10022) editor here explains the threat posed by the apparently growing number of know-nothings touting "wise use," calling themselves "grassroots," and joining People for the West, the Blue Ribbon Coalition, Timber Employees for Responsible Solutions, the Blue Line Council, National Inholders Association, and other reactionary groups. Baumgarten offers good advice on how to counter the miners, ORV riders, ranchers, and allies who think all public lands should be open for their exploitive activities. Amazingly, politicians are taking these clowns seriously, so we must too. (Here in the Adirondacks, the Blue Line Council, and groups even more averse to life, have successfully pressured Governor Cuomo into backing down on promises to slow development in the Park.)

"Court Jester" by Bill McKibben; *Mother Jones*, 12-91. With good reason, many people have been dissatisfied with newspaper reports on the famous Arizona 5 trial outcome, and wonder where they can read reports not biased in favor of the prevailing powers. Bill McKibben's is a humorous and insightful trial report, in which government figures rightfully emerge as buffoons. *Sierra* (11-12-91) ran a short, clear report by Christine Keyser. *High Country News* and *Forest Watch* (Vol. 12, #2) have explained well the trial's befuddling denouement. *Earth First's* articles by Karen Pickett (8&9-91), and Michael Lacey's series in *New Times* (an alternative Phoenix weekly) have offered the most thorough assessments of the trial, both before and after its sudden end. The latest *Outside* (12-91) offers another perspective.

"Questioning Technology," *Whole Earth Review*, Winter, 1991. That's the theme of this thought-provoking issue of *WER*. Pay special attention to the excellent critiques by Jerry Mander, Langdon Winner, and Ivan Illich.

Announcements

SUBSCRIBE TO A NEWSLETTER, CREATE A WILDLIFE REFUGE

The Wild Ranch Review is a new, home-based newsletter offering profiles of the work being done by individual activists and community based environmental groups at the opposite end of the size scale from the eco-behemoths like Greenpeace and the Sierra Club. At this level, people are finding imaginative responses to major problems. The purpose of the newsletter is to spread the word about their ideas and accomplishments.

Issue 1, available now, has two profiles. First is Wild Ranch, where 107 acres of former ranchland have been purchased, and wildlife habitat is being restored. Eventually a privately owned wildlife refuge will be carved out of this southern Colorado cow country. A portion of every subscription to *The Wild Ranch Review* will support the purchase and restoration of land for the refuge.

Mission: Wolf is the subject of the second profile. It is a wolf education center and a refuge for 25 wolves and wolf-dog hybrids. Mission: Wolf's traveling education program has given people across the United States an opportunity to meet a wolf.

On the lighter side, issue 1 also details how you can nominate your favorite bureaucrat or politician for the James What?!? Memorial Bonehead of the Year Award.

The subscription price is \$15 for 4 quarterly issues, with at least \$5 from every subscription going directly to purchase and restore land at Wild Ranch. Or send \$4 for a sample issue. Checks and money orders can be sent to The Wild Ranch Review, c/o Tim Haugen, POB 81, Gulnare, CO 81042.

MUSICIANS SING FOR WILDLIFE IN SCHOOLS

This summer, Janet De La Olivia and I put together an educational program that teaches environmental awareness through music and hands on experience with wild animals. We have begun in the Pensacola schools, and are scheduled for schools in Alabama and Mississippi. We hope to reach as wide an area as is physically possible.

If there is any hope at all, it is with the children. They have a willingness to face this crisis that most of their parents do not share. Our children are not locked into denial, and after all, facing a problem is the first step in solving it. We try to instill a sense of responsibility for and an appreciation of the web of life.

Our program, while sponsored by SAVE, Inc., Musicians for Environmental Education, and the Lower Alabama Wildlife Rescue Service, receives no financial assistance, and is handled on a voluntary basis. If you would like to arrange for the program in your schools, phone 904-492-5220 in Florida, 205-586-1721 in North Alabama, and 205-962-2616 in Lower Alabama. Donations are gladly accepted.

—Joe Billups, Musicians for Environmental Education, 5208 Choctaw Ave., Pensacola, FL 32507

ADC TABLOID

Wildlife Damage Review has put together an activist tabloid on Animal Damage Control (ADC) activities and how to stop them. These are available in quantity for distribution. Drop us a postcard with your street address on it for UPS shipment, or call us at 602-882-4218. Thanks for helping to spread word.

—Nancy Zierenberg, Clarke Abbey, Marian Baker-Gierlach, Lisa Peacock, Wildlife Damage Review, POB 2541, Tucson, AZ 85702

NATIVE FOREST NETWORK

Post Office Meander Tasmania 7304 Australia

Phone (003) 695 150 E-mail: peg: cadwood

Having just returned from an inspiring six days in the Blue Mountains and the dry sclerophyll forests of the Kanangra-Boyd Wilderness, we have concluded that there is a need for a more planetary approach to protecting the world's forests. Specifically, we believe that native forests could be better preserved by linking activists, NGOs and scientists in the North and the South whose common aims are to prevent the continued loss of the world's native forest ecosystems.

We feel that there are good networks within the tropical rainforest movement and that a similar approach is necessary to deal with the growing plagues of clearcutting, woodchipping and pulping which also threaten the temperate zones. We hope to establish a strong global network to challenge the existing policies and practices destroying the Earth's native forests.

The Native Forest Network is planning the following:

1) A quarterly newsletter dealing with temperate and tropical forest issues, biodiversity, profiles of multinational corporations, and forthcoming actions and conferences.

2) An annual conference to be held in native forest hot spots around the world. The first will be held in Tasmania in November of 1992 with the goal of adopting a Temperate Forest Action Plan.

3) Concerted, hard-hitting international campaigns targeting specific companies and par-

ticular ecosystems.

4) A Native Forest Action Plan prepared by environmentalists rather than the timber industry and the multinational development institutions.

NFN is looking for campaigners and NGOs who are prepared to get involved. Please write to us if you'd like to join the network, receive the newsletter and/or come to Tasmania next year. Tim Cadman will be the international coordinator based in Jackeys Marsh, Tasmania. He can be contacted at the above address or on pegasus (computer mail). Jake Jagoff is headed back to the United States where he will follow up with North American activists and groups. He will then be in Europe for the winter taking part in an Earth First! "Fate of the World's Forests" Roadshow which will enable Europeans to participate in NFN. All preliminary enquiries should go to Tim in Tasmania.

WILD EARTH MUGS

Wild Earth wheelthrown earthenware cups are still available: \$14 each (plus \$3.50 shipping). See WE 3 (pg. 3) for details.

FINGER LAKES WILD CONFERENCE

A Finger Lakes Wild Conference will be held the first weekend in April. For details see the article on the Finger Lakes in this issue.

SOUTHERN ROCKIES CONFERENCE

The Southern Rockies Ecosystem Conference, Working Toward the Vision of Native Wild-

land Recovery, will be held April 24-6 at the University of Colorado in Boulder. The conference is sponsored by the CU Wilderness Study Group and will join wilderness activists and conservation biologists to define and implement an ecosystem protection and restoration strategy for the Southern Rockies. Tentative agenda topics include defining, preserving, and restoring Southern Rocky and North American ecosystems, training workshops for grassroots activism, and talks by Dave Foreman, Chris Maser, and Reed Noss. Registration costs \$20. For information contact the CU Wilderness Study Group, Campus Box 207, UMC 183, Boulder, CO 80309 (303)492-6870, or the CU Environmental Center (303)492-8308.

CONSERVATION BIOLOGY, APPLIED ECOLOGY, AND NEOTROPICAL SONGBIRD CONSERVATION

April 11-12 at Swarthmore College, Swarthmore, Pennsylvania a symposium will be held on Conservation Biology, Applied Ecology, and Neotropical Songbird Conservation. The first day will be devoted to conservation biology and its application in the field and in activism. The second day migratory songbirds will be the subject of a case study. For further information contact Eric Sievers, 400 Walnut Street, Swarthmore, PA 19081 or Buck Young, PAW, POB 52A, Bondville, VT 05340 (802-297-1022).

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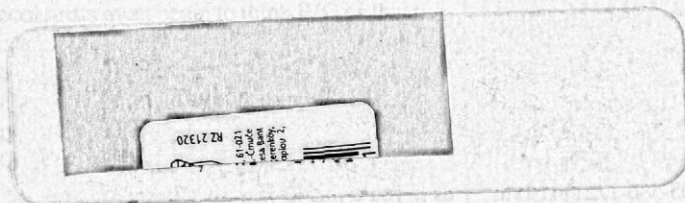
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GREATER ECOSYSTEM ALLIANCE

P.O. Box 2813, Bellingham, WA. 98227
 Phone: (206) 671-9950; Fax: (206) 671-8429

Greater Ecosystem Alliance is dedicated to preserving the wildness of the Pacific Northwest -- equal rights for all species! Facing the biodiversity challenge means conserving viable greater ecosystems. The Alliance works for the North and Central Cascades, Selkirk, Olympic and Monashee ecosystems of Washington and British Columbia.

To protect wildness and diversity across the Northwest, we:

- * Develop proposals for interconnected big reserves;
- * Work for grizzly and lynx recovery in the North Cascades;
- * Published a strategy for wolf recovery in Washington;
- * Network in B.C. for protection of transboundary ecosystems.

To protect forests we:

- * Lobby Congress for ancient forest protection;
- * Work with small mill owners on common concerns;
- * Initiate appeals and law suits over federal and state/private forest management.

We also coordinate the Wild Salmon and Trout Alliance, a coalition of conservationists, fishers, Native Americans and scientists in western Washington.

SPECIAL OFFER:

Subscribers to Wild Earth can order GEA's new video, "The Biodiversity Revolution" -- a video workshop on new concepts in conservation, at the discount rate of \$29.95 (Washington residents add 8 percent tax). This video introduces essential concepts, from biodiversity to minimum dynamic area, for activists and lay people.

"Unquestionably the best introduction to the application of conservation biology principles to on-the-ground issues. Every conservation group in the country should have copies."

Dave Foreman, Executive Editor of Wild Earth

With your \$25 (U.S. or Canadian) membership fee you will receive our excellent quarterly, Northwest Conservation, and help support the Alliance's vital work.

**GREATER ECOSYSTEMS
 WORTH DEFENDING!**

