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WILDEARTH



Winter 1996/97



\$4.95 US



Opposing Wilderness Deconstruction

*Gary Snyder, Dave Foreman, Don Waller and others
respond to the latest attacks on wilderness*

Around the Campfire

All Kinds of Wilderness Foes

This issue of *Wild Earth* casts an eye to the dirt clod Professor William Cronon recently tossed at the Wilderness Act and at defenders of Wilderness Areas. Criticism of wilderness from academics like Cronon has come as a surprise to many on-the-ground conservationists. We expect foes like mining company executives, 'dozer jockeys, and regional foresters, but Cronon's missile caught us behind the ear. Our contributors this issue will show how wrong-headed the good professor is, but here I'd like to look at the whole motley mob of wilderness foes. I'm currently working on a new book, *The War on Nature*, which will take apart the opposition to conservation. As I've worked on it, I've come up with cubbyholes in which to stuff the different kinds of wilderness foes. I've also found that, whether wilderness foes are right or left, educated or innocent of book-larmin', they share underlying views. Let me give you a quick summary.

About the time I was coming into this world, Aldo Leopold was writing his foreword to *A Sand County Almanac*. Now, half a century later, as I reread *A Sand County Almanac* for the umpteenth time, his words are ever more timely. Leopold was so far ahead of his time—no, perhaps it is better to think of him as timeless—that his wisdom speaks directly to us today. This is a mark of genius.

At the beginning of the foreword, Leopold wrote:

There are some who can live without wild things, and some who cannot.

I think this is why it is so difficult for conservationists to talk to our foes. We cannot live without wild things. They can.

Two decades before Leopold wrote, Bob Marshall boomed:

For me, and for thousands with similar inclinations, the most important passion of life is the overpowering desire to escape periodically from the clutches of mechanistic civilization. To us, the enjoyment of solitude, complete independence, and the beauty of undefiled panoramas is absolutely essential to happiness.

More recently, Paul Shepard went beyond Leopold and Marshall to argue that regular contact with large mammals and wilderness is needed for mental health and maturity. Hugh Iltis makes similar points. And E.O. Wilson has offered his biophilia hypothesis that humans have an inborn love for Nature.

It seems to me that those who can live without wild things fall into two camps:

- 1) Those who simply don't care about Nature.
- 2) Those who actively hate or fear Nature.

Let me also suggest that our Fellini cast of wilderness foes share, in varying degrees, three psychological traits: fear of the wild, abiologism, and immaturity.



About *Wild Earth* and *The Wildlands Project*

Wild Earth and *The Wildlands Project* are closely allied but independent non-profit organizations dedicated to the restoration and protection of wilderness and biodiversity. We share a vision of an ecologically healthy North America—with adequate habitat for all native species, containing vibrant human and natural communities.

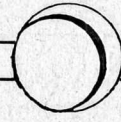
Wild Earth (POB 455, Richmond, VT 05477; 802-434-4077) is a quarterly journal melding conservation biology and wildlands activism. Our efforts to strengthen the conservation movement involve the following:

- We serve as the publishing wing of *The Wildlands Project*.
- We provide a forum for the many effective but little-known regional wilderness groups and coalitions in North America, and serve as a networking tool for wilderness activists.
- We make the teachings of conservation biology accessible to non-scientists, that activists may employ them in defense of biodiversity.
- We expose threats to habitat and wildlife.
- We facilitate discussion on ways to end and reverse the human population explosion.
- We defend wilderness both as *concept* and as *place*.

The Wildlands Project (1955 W Grant Rd., Suite 148A, Tucson, AZ 85745; 520-884-0875) is the organization guiding the design of a continental wilderness recovery strategy. Through advocacy, education, scientific consultation, and cooperation with many regional groups, *The Wildlands Project* is drafting a blueprint for an interconnected, continental-scale system of protected wildlands linked by habitat corridors.



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continued from inside front cover

Fear of the Wild

The word 'wilderness' comes from the Old English *Wil-deor-ness*, defined by Rod Nash as "place of wild beasts" and by Jay Vest as "self-willed land." Either way, 'wilderness' means land beyond human control. And land beyond human control is an affront to the arrogance of humanism—elitist or common man, capitalist or socialist, first worlder or third. Land beyond human control is also something to be feared. As soon as they stepped off Plymouth Rock, the Pilgrims drew back, afraid of the wilderness howling around them. They saw the great American forest as Satan's Kingdom on Earth and therefore believed they had a mandate from God to civilize it. This fear of the wild and the religious mission to bring it under the hand of Man still finds expression in the Forest Service engineers who believe it is their duty to open up the backcountry and bring human management to wild forests. We find it in Pat Robertson's sweaty-palmed mandate to dominate Creation. And it is there in the ideology of "sustainable development" (an oxymoron) that humans can improve upon wild Nature.

Among the yahoos of the "wise use"/militia movement, fear of the wild is expressed through a more hostile relationship to Nature. Men are made manly by taking on the wilderness Grendel (wolves, baby Harp Seals, or two thousand year old Redwoods) and killing it.

Abiologism

Also key to all kinds of wilderness foes is *abiologism*—a disbelief in biology. Wilderness foes, whether they intellectually give lip service to evolution or reject it in favor of creationism, do not accept the reality of evolution, the basic kinship of all living things, and—most important—that humans are biological beings. The Christian right allows humans to transcend biology through supernaturalism and special creation; free-market zealots take humans out of biology through the miracle of Smith's invisible hand; and secular humanists cut *Homo Sapiens* out of the herd through the "second nature" of human culture. By rejecting biology for humans, wilderness foes cannot find value in Nature.

Immaturity

Setting limits underlies both maturity and conservation. Many wilderness foes are trapped in a two-year-old's sense of freedom. *All revolves around me. There are no limits. Actions have no consequences.* Maturity, on the other hand, means responsibility. Conservationists believe that there are limits in Nature (carrying capacity), which make it morally incumbent upon us to act responsibly. Wilderness foes bridle at any sense of limits and thus reject efforts from society to make them behave responsibly toward Nature.

Let's now quickly survey the kinds of wilderness foes.

Manifest Destiny Capitalists

Best known are the sturdy capitalist and the hardy swain of Manifest Destiny. They believe that God put resources here to use, and that the bounty of America (Passenger Pigeons, Bison, old-growth forests, cod, salmon) is super-abundant and without limit. Loggers, miners, some ranchers, big irrigators, and their ilk have fought conservation since Congress debated Yellowstone in 1872. We know them well.

Resource Professionals

We also know the professional resource manager. Sometimes allied with conservationists against the rape'n'scrape of Manifest Destiny, sometimes allied with the Manifest Destiny boomers against conservationists, always claiming special wisdom and objectivity for themselves, they believe that Nature is

here to be used and that professional engineers (Ahem!) can manage Nature. They don't like wilderness because they are not managing it and because its resources are going to waste. Descended from Gifford Pinchot, resource managers run the Forest Service, BLM, most state wildlife agencies, most forestry schools, and professional societies like the Society of American Foresters. Many of these resource managers have moved away from the high standards set by Pinchot and away from his ideas of multiple use and sustained yield to become closer to the Manifest Destiny he-men (the Forest Service's feverish logging of phony salvage sales is a current example). The gangs of Manifest Destiny and Resourcism are the traditional foes of National Parks, Wilderness Areas, Gray Wolves, and undefiled panoramas.

Wise Use/Militia Paranoids

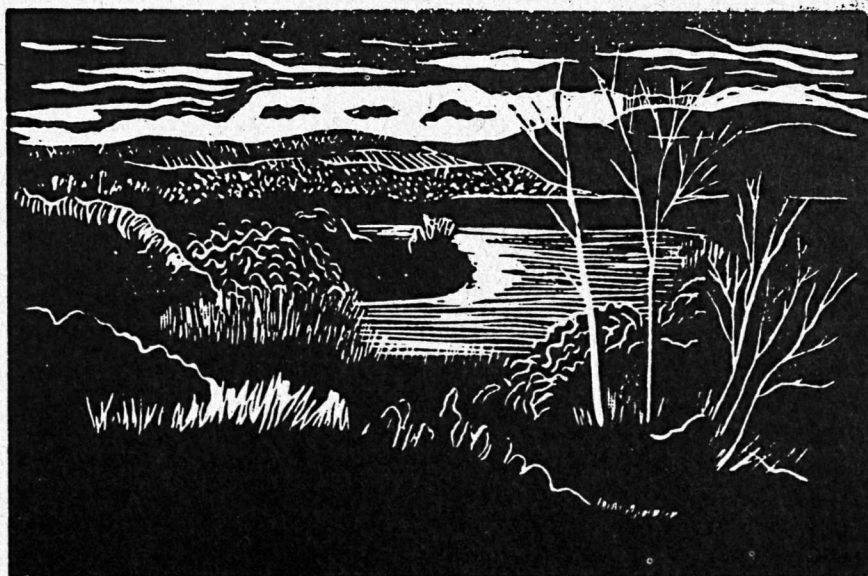
Recently the cut and run bunch has merged with the dark side of American populism in the "wise use"/militia movement. From the earliest days of colonialism, a nativist, anti-intellectual, anti-elitist, paranoid, and gullible strain has sprung up now and then as the Know-nothings, the Ku Klux Klan, the John Birch Society, and now as the populist right of Rush Limbaugh, Pat Buchanan, and Ron Arnold. This wacko populism now includes public lands, Endangered species, wetlands and wilderness in its big government troop of devils. Traditional wilderness foes have been transformed by the loonies and have become a movement different from the old Sagebrush Rebellion. Though it is still manipulated and funded by extractive industries, it is far more dangerous. And irrational.

I guess poor Alston Chase fits in here as the token intellectual—though his book decrying old-growth forests and their defenders, *In a Dark Wood*, might better be titled *In The Dark*. Chase comes across as someone trying to describe an old-growth forest on a moonless night after losing his glasses and having his flashlight dim and flicker. Chase also plays the elitist protector of the common man.

Lesser known opponents of wilderness include critics from across the political spectrum, and often more highbrow levels of society. These include the following groups:

Environmentalists

Especially troubling are the criticisms of conservation from a few environmentalists. I see conservation (land and wildlife protection) and environmentalism (pollution control) as two separate movements with different histories, participants, messages and priorities. For most conservationists and environmentalists, there is little sense of competitiveness or rancor. But some environmentalists like Barry Commoner and Robert Gottlieb (*Forcing the Spring*) want to subsume conservation in a human-oriented environmentalism. They argue that this movement is about human health, and that wilderness and silvery minnows are not terribly relevant. I really don't know any conservationists who take a similar position to argue that pollution control is irrelevant.



Dead Creek, linocut by Margaret Parlour

Cornucopians

Cornucopians from both left and right see all as economics—whether they be plump, pink Young Republicans sucking on Camels and trying to look bottom-line tough, or aging New Leftists tossing their rhetorical Molotov Cocktails against the bastions of Wall Street (“there is no population problem—it’s all unfair distribution of abundant resources”). Some on both sides hate and fear wilderness; others simply have no feeling for it.

Journalists

A recent batch of wilderness foes are cynical, self-proclaimed-realistic members of the Fourth Estate. Gregg Easterbrook in his outlandish *A Moment on Earth* and Charles Mann and Mark Plummer in their hubristic *Noah’s Choice* are good examples, along with *The New York Times’s* Keith Schneider and *US News and World Report’s* Steve Budiansky. They claim that there is no environmental crisis, that things are getting better, and that conservationists and environmentalists exaggerate everything.

Anti-imperialists

Other critics of wilderness come from a third or fourth world perspective. Dennis Martinez, who says he is a Native American, and India’s Ramachandra Guha see wilderness as imperialistic and trumpet the notion of the Noble Savage or the ecological peasant (they’re close to the view of the professional resource manager, in that they think people can manage Nature better than Nature can, only they’d have native people or peasants do the managing). They get a lot of support from American and European wannabes, like new age psychologist Chellis Glendenning, expiating her white liberal guilt, or intellectuals enamored of “sustainable development.”

Deconstructionist Scholars

Finally, we come to Cronon’s crowd. Some, like the University of Vermont’s Bob Pepperman Taylor (*Our Limits Transgressed*), who tries to convince us that Thoreau really didn’t care much for wilderness, along with many of the contributors

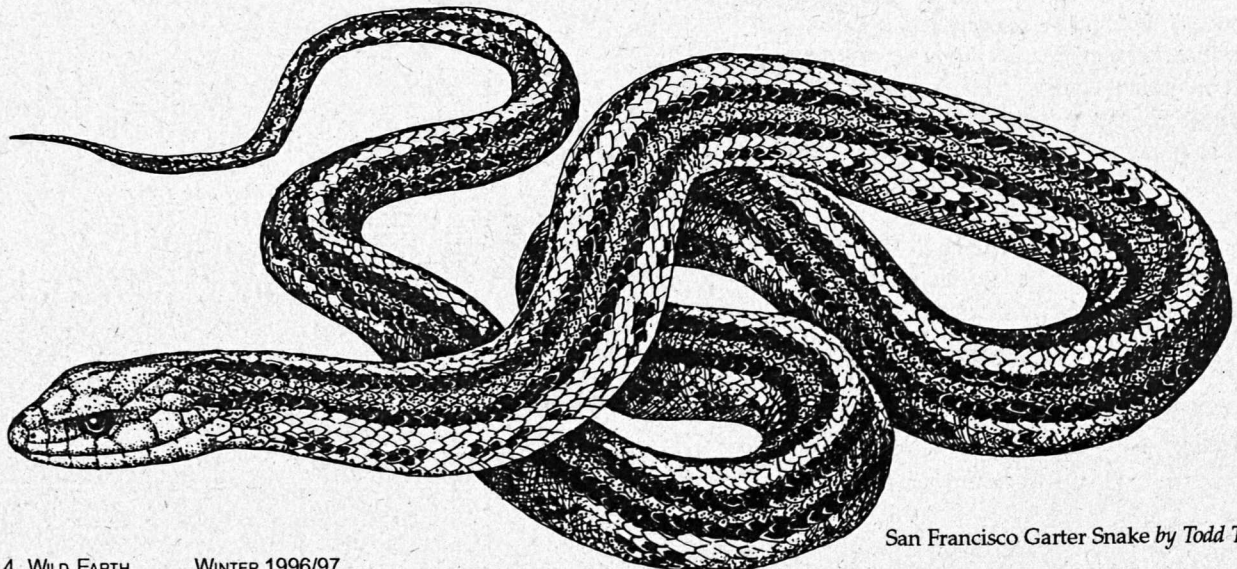
to Cronon’s *Uncommon Ground* anthology, seem perfectly capable of living without wild things. A few of these revisionist scholars even show hostility toward Nature.

But Cronon claims he is different. He says he has been misunderstood. He says he really supports the protection of Wilderness Areas. For the sake of argument, let’s take him at his word. What, then, do we make of his criticism? I think in it we find an unusual group of wilderness foes, who care about wild things, but who criticize conservationists out of ignorance. In this light, Cronon’s complaints are based in ignorance of biology, a misunderstanding of the conservation movement, and a carelessness about the consequences of his critique of wilderness. He spins his high-falutin’ theories far from the real world of Grizzly Bears and Gila Chubs, and far from the other (opposed) real world of timber corporation boardrooms and congressional committees—far, indeed from the frightening reality of chainsaws ripping through thousand-year-old forests, from the D-9 blade stopped by brave souls buried to their necks in a rough roadway, from the rallies, letter-writing, and scientific reports by all manner of conservationists. What Cronon criticizes is a straw-philosophy and a straw-movement, which exist only in the windowless, climate-controlled conference rooms of his *Uncommon Ground* ivory tower. This is all bad enough, but worse is the fuel he has given to the traditional enemies of conservation. The irony of Cronon is that he is the kind of intellectual the anti-wilderness populists decry in their red-faced anti-intellectualism, yet he gives these people arguments to use against wilderness (and they *are* using Cronon’s arguments).

Cronon claims he cares about wild things. He says his criticism has been misunderstood. Let us now see if he can admit his poor understanding of the conservation movement.

Half a century ago, Aldo Leopold warned us that there were those who could live without wild things, and those who could not. That still explains it. ■

Happy Trails,
—Dave Foreman
Boquillas Canyon



San Francisco Garter Snake by Todd Teland

Wild Earth Update

FOLKS WHO VISIT Vermont like to tease that the year up here is divided into two parts: nine months of winter and three months of bad skiing. Although the rumor is (supposedly) exaggerated, one of the reasons I decided to move to Vermont and accept this job anyway was because I so admired the ferocity of subscriber dedication to *Wild Earth*. Your response to our recent shameless fundraising appeal is the most recent tangible expression of that support. I am delighted to report that the 1996 fundraising letter was our most successful yet, raising \$4000 more in straight donations that even last year's previous high. We are deeply grateful for your commitment to this work, and want to ask you to consider doing three more favors for us:

1) Please try to renew before your subscription expires. The date above your address on the back cover of this magazine is your expiration date. If you agree that we should be spending your money on wilderness activism instead of on renewals processing, please send us a check *before we send you a notice*, or at the very least, upon receipt of the first renewal request. By doing so, you'll save us time and money, and you'll save trees. Call us at 802-434-4077 if you don't want to bother searching for your checkbook, envelope and a stamp, and we'll happily process your renewal on your Visa or Mastercard.

2) Is there a techie out there hankerin' to upgrade his or her computer system who might be interested in donating their Macintosh computer (Quadra, Performa, LC, or PowerMac) or Mac-compatible laser printer (preferably 600 dpi) to us? Ominous groans from our current printer portend the day when we won't be able to produce the magazine because we can't print the pages! Please help.

3) Our most shameless appeal: please consider switching your long-distance company to Affinity. As detailed on page 102, Affinity guarantees a 10% savings over your current long-distance charges and donates 5% of your total bill to *Wild Earth*. We need long-term, month-by-month reliable forms of cash support like this, and hope this is a program you will be able to support. Thanks!

—Monique Miller

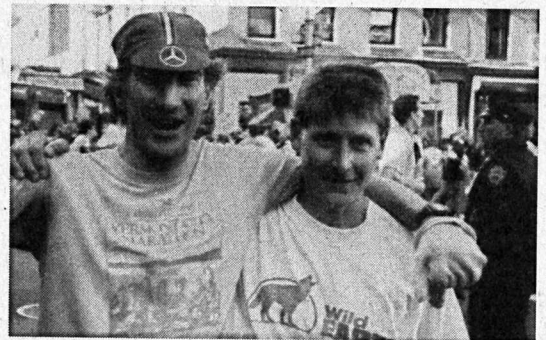
ON BEHALF of *Wild Earth*, and the instigator of this fund-raiser, John Duncan, I offer my deepest gratitude and thanks to the friends and readers who supported my marathon run for *Wild Earth*—and a marathon it was! Whereas the briefest glimpse of New York City would have satiated my curiosity, they expected us to run more than twenty-six miles (if I counted correctly) through an industrial zone with nary a tree in sight until Central Park. Incredibly, tens of thousands of people thronged to watch thousands of runners subject themselves to protracted pounding. Absent your support, I'd not even have crossed the starting line!

When I called the office the day after the run, Tom wondered: At what mile were you reduced to claudication? A hasty search through my dictionary revealed that we never really were.* So proud were we to be running for a good cause that we enjoyed the trot and finished painlessly, notwithstanding the urbanity of the whole affair.

Special thanks go to generous donors Patty Beaupre & Gary Trombley, Betsy Bott, Gale Center & Gene Bell, Gary Cloners, Clark Coan, Robert & Mary Davis, Don Dresser & Barb Winters, David Fallow, Mitch Friedman, Larry & Linda Hamilton, Betty Jordan Jacobs, Grace Kiley, Gale Lawrence, Bill McKibben, Charles Ray, and The Wildlands Project staff.

Though thousands of curious spectators saw the *Wild Earth* name and wolf logo, it is yet unclear if this marketing strategy (which I am loath to repeat) will result in an expanded *Wild Earth* readership, and ultimately, in wild habitat saved. If such a causal relationship can be proved, I might again run for the wilderness.

—John Davis



Johns Duncan (left) and Davis feeling fresh at mile 16.

photo: Don Dresser

*Managing editor's note: Not only did the mighty Johns—Davis and Duncan—thwart gimpiness, their 3:49 marathon time had them finishing the course ahead of roughly 25,000 fellow runners. —TB

The Wildlands Project Update

by Steve Gatewood

AS I WAS preparing to write this update on the subject of Wildlands Project pilots, planning and products, a typical series of events unfolded that has a fairly predictable return frequency of four years. A major politician seeking a major political office needs a major environmental issue in order to attract a majority of the voters' attention. And so with the classic combination of utmost secrecy and strategic leaks, President Bill Clinton and Vice President Al Gore arrived on the south rim of the Grand Canyon on September 18 to make a major announcement about the environment.

This time, however, the major environmental announcement clearly addressed something close to the hearts of all wildland activists. Utilizing the Antiquities Act of 1906, the President designated 1.7 million acres of southern Utah canyonlands as our newest protection area—the Grand Staircase/Escalante National Monument. Grand Canyon National Park had initially been designated under the same act by Republican President Teddy Roosevelt in 1908. Thus, this is nothing new; or is it?

Times have changed since 1908. In these days of states' rights, "wise use," "jobs versus the environment," and the Contract on America, it is significant that Clinton chose an action that had many of these issues wrapped up in it and encouraging that he essentially came down on the side of the environment. Certainly, it is an election year, but if incumbents and candidates will take actions and select issues that publicize and move toward implementation of wildlands ideals, the new conservation movement is all the better for it. Such actions are also an excellent testimonial for the campaign work of the Utah Wilderness Coalition, Southern Utah Wilderness Alliance and other groups to bring the issue of Utah wilderness before a national audience.

Although not designating a full-fledged National Park or actual Wilderness Area, the signed proclamation should keep coal mining out of the Kaiparowits Plateau. The monument will allow traditional uses such as hunting and grazing. Conditions of use will be established through a "unique" three-year land management planning process. Unlike the Logging Without Laws process, public input will be heard. This could provide a previously unavailable opportunity to affect management of BLM lands and lay a foundation for community-based sustainable use of wildlands reserve system buffer areas and corridors. Interestingly, on National Public Radio the Chamber of Commerce spokesperson from the town of Kanab, located away from the designated area, lamented the loss of jobs and economic opportunity from mining while the CC spokesperson from Escalante, adjacent to the monument, applauded economic growth projected from increased natural resource based tourism.





One of the most difficult aspects of wildlands work is outreach. How do you reach a mostly apathetic US population that is more interested in Wheel of Fortune, Disney World's 25th anniversary, the Publisher's Clearinghouse giveaway and McDonald's new "adult" burger, than it is in ecosystem protection, biodiversity and species extinction? To develop a citizen constituency committed to achieving a realistic balance between human needs and the need to maintain ecological integrity, we must seize on the media opportunities provided by election year posturing and nationally publicized issues to reach the masses. Without an educated and active voting constituency, public land management and designation issues will be decided by the same influence-buying PACs and corporate "leaders" that run the process during the other three years of the four year cycle. And for the foreseeable future, public lands will need to form the core reserve backbones of almost all wildland area systems in the US, Canada, and Mesoamerica.

And so as we continue the day-to-day activities of normal Wildlands Project work—coordination, reserve design review, strategic planning, fund-raising, meeting preparation, and the like—we must pause, reflect, and take action on these milestone events that remind us maybe, just maybe, things could be getting better. Think about it. With a projected hundred year vision, presidential elections every four years, and publicity events that protect 1.7 million acres each election, we could get 42.5 million acres added to the protected category of a public wildlands reserve system!

In closing, I need to point out what may be just a coincidence. On the same day President Clinton was protecting 1.7 million acres of wild land, candidate Bob Dole stumbled at a political rally and fell off a stage and injured his eye. I wonder if this was a sign about the stability of the current Republican platform and its vision for the future? ■

Steve Gatewood is executive director of The Wildlands Project. And he votes. As always, for more information contact the TWP clearinghouse at 1955 West Grant Road, Suite 148A, Tucson, AZ 85745; 520-884-0875.

NATURE As Seen from Kitkitdizze Is No "Social Construction"

by Gary Snyder

I MUST CONFESS I'm getting a bit grumpy about the dumb arguments being put forth by high-paid intellectual types in which they are trying to knock Nature; knock the people who value Nature, and still come out smelling smart and progressive.

The idea of Nature as being a "social construction"—a shared cultural projection seen and shaped in the light of social values and priorities—if carried out to the full bright light of philosophy, would look like a subset of the world view best developed in Mahayana Buddhism or Advaita Vedanta, which declares (as just one part of its strategy) the universe to be *maya*, or illusion. In doing so the Asian philosophers are not saying that the universe is ontologically without some kind of reality. They are arguing that, across the board, our seeing of the world is a biological (based on the particular qualities of our species's body-mind), psychological (reflecting subjective projections), and cultural construction. And they go on to suggest how to examine one's own seeing so as to see the one who sees, and thus make seeing more accurate.

The current use of the "social construction" terminology, however, cannot go deeper, because it is based on the logic of European science and the "enlightenment." This thought-pod, in pursuing some new kind of meta-narrative, has failed to cop to its own story—which is the same old occidental view of Nature as a realm of resources that has been handed over to humanity for its own use. As a spiritually (politically) fallen realm, this socially constructed nature finally has no reality other than the quantification provided by economists and resource managers. This is indeed the ultimate commodification of Nature, done by supposedly advanced theorists, who prove to be simply the high end of

the "wise use" movement. Deconstruction, done with a compassionate heart and the intention of gaining wisdom, becomes the Mahayana Buddhist logical and philosophical exercise which plumbs to the bottom of deconstructing and comes back with compassion for all beings. Deconstruction without compassion is self-aggrandizement.

So we understand the point about wilderness being in one sense a cultural construct, and what isn't? What's more to the point, and what I fail to find in the writings of the anti-wilderness crowd, is the awareness that we are not into saving relatively uninhabited wild landscapes for the purpose of recreation or spirituality even, but to preserve home-space for non-human beings. And that this preservation of diversity is essential to planetary ecological, spiritual, and evolutionary health for all.

Some of these writers set up, and then attack, the notion of "pristine wilderness," and this again is beating a dead horse. It's well known that humans and proto-humans have lived virtually everywhere for hundreds of millennia. "Pristine" is only a relative term. But humanly-used as the landscape may have been, up until about ninety years ago the planet still had huge territories of wild terrain, which now are woefully shrunken. Much of the wild land was also the territory of indigenous cultures that fit well into what were inhabited wildernesses.

The attacks on Nature and wilderness from the ivory towers come at the right time to bolster the global developers, the resurgent timber companies (here in California, the Charles Hurwitz Suits at Pacific Lumber), and those who would trash the Endangered Species Act. It looks like an unholy alliance of Capitalist Materialists and Marxist Idealists in an attack on the rural world that Marx reputedly found idiotic and boring. Yikes!

Deconstruction, done with a compassionate heart and the intention of gaining wisdom, becomes the Mahayana Buddhist logical and philosophical exercise which plumbs to the bottom of deconstructing and comes back with compassion for all beings.

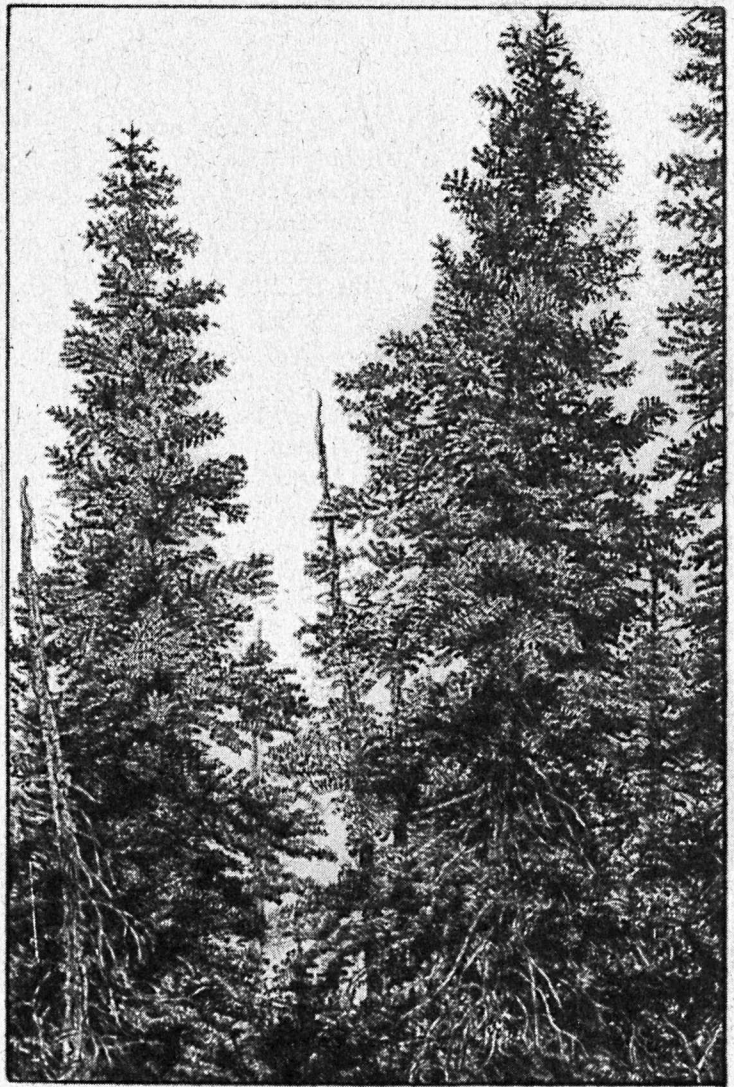
Deconstruction without compassion is self-aggrandizement.

Heraclitus, the Stoics, the Buddhists, scientists, and your average alert older person all know that everything in this world is ephemeral and unpredictable. Even the earlier ecologists who worked with Clementsian succession theory knew this! Yet now a generation of resource biologists, inspired by the thin milk of Daniel Botkin's theorizing, are promoting what they think is a new paradigm that relegates the concept of *climax* to the dustheap of ideas. Surely none of the earlier scientific ecologists ever doubted that disturbances come and go. It looks like this particular bit of bullying also comes just in time to support the corporate clear-cutters and land-developers. (Granted blow-downs, bugs, fires, and landslides, communities like the vast northern hemisphere trans-Pacific Sequoia Forests prior to the ice age lasted in essence for several million years.)

It's a real pity that the humanities and social sciences are finding it so difficult to handle the rise of "nature" as an intellectually serious territory. For all the talk of "the other" in everybody's theory these days, when confronted with a genuine Other, the non-human realm, the response of the come-lately anti-Nature intellectuals is to circle the wagons and declare that Nature is really part of Culture. Which may be just a strategy to keep the budget within their specialties.

A lot of this rhetoric, if translated into human politics, would be like saying "Black people are the social construction of whites." And then they might as well declare that South Central Los Angeles is a problematic realm that has been exaggerated by some white liberals, a realm whose apparent moral issues are also illusory, and that the real exercise in regard to African Americans is a better understanding of how white writers and readers made them up. Of course, liberal critical theorists don't talk this way when it comes to fellow human beings because they know what kind of heat they'd get. In the case of Nature, because they are still under the illusion that it isn't seriously *there*, they indulge themselves in this moral and political shallowness.

Conservationists and environmentalists have brought some of this on themselves. We still have not communicated well on the question of "Why value biodiversity?" Many if not most citizens are genuinely confused over why such importance appears to be placed on hitherto unheard-of owls or fish. Scientists have been heard from, but the writers and philosophers among us (me too) should speak our deep feelings for the value of the non-human with greater clarity. We need to be more creative, stay fresh, write clean prose, eschew obscurity, and not intentionally exaggerate. And we need to comprehend the pain and distress of displaced working people everywhere.



A wilderness is always a specific place, basically there for the local critters that live in it. In some cases a few humans will be living in it too. Such places are scarce and must be rigorously defended. *Wild* is the process that surrounds us all, self-organizing Nature: creating plant-zones, humans and their societies, all of it ultimately resilient beyond our wildest imagination. Human societies create a variety of dreams, notions, and images as to the nature of Nature. But it's not impossible to get a pretty accurate picture of Nature with a little first-hand application—no big deal. I'd say take these dubious professors out for a walk, show them a bit of the passing ecosystem show, and maybe get them to help clean up a creek. ■

Gary Snyder inhabits Kitkitdizze in the Yuba watershed, Shasta bioregion (northern California). His books include Turtle Island, Practice of the Wild, A Place in Space, and most recently, his long anticipated epic poem Mountains and Rivers Without End (Counterpoint, 1627 I St. NW, Ste. 850, Washington, DC 20006).

I greatly enjoyed the stimulating debate/discussion in the recent *Wild Earth* Forum about Eastside Forest Restoration, involving George Wuerthner, Mark Gaffney and Reed Noss, all comrades and fellow eco-warriors for whom I have the greatest respect and admiration.

I think that Mark and Reed are completely right on this one, when they disagree with George that we should simply let "nature take its course" even if it means big crown fires which will also wipe out the remaining giant old "yellow belly" Ponderosa Pines.

Having spent 30 years wandering around the West, particularly the Eastside forests of the Northwest, I couldn't agree more with Reed that Ponderosa Pine is now one of the most endangered forest types in North America. It was the fate of this magnificent tree species to be located mostly in rural Western America, far from major population centers and uncomfortably close to the whole "cowboy culture" which characterizes Eastside/Interior West politics from the Canadian border to the Mexican. In other words, the exploitation politics are ferocious, local politicians and Chambers of Commerce can't wait to direct an all-too-willing Forest Service to give away *all* the big trees to the industry, and there have (until recently) been precious few locals to stand up and fight back—in contrast to the Westside, where we were able to muster sufficient strength from time to time in the large cities to rescue significant tracts of forests from the same interests.

Having wandered through (and fought for, myself) so many of the Northwest Eastside forests, from the John Day and Ochoco Canyons in Oregon to the Wenaha and Okanagan country of Washington, I can personally attest to the painful and bitter losses of this forest signature of the West—the giant "yellow belly," vanilla-scented bark, towering Ponderosa Pines. It is forever my own favorite tree species, and there is nothing quite like the experience of walking through one of the remaining places, say, Auger Creek on the Fremont National Forest in Oregon, to experience the awe and spiritual wonder that so many must have felt before us.

But there is far too little left now, and we cannot wait for "nature to take its course," letting the crown fires take out practically all that's left. We created this mess, and we have to intervene where we can to undo it, if we want to have any of these magnificent giants left.

I will never forget a visit back to Pine Bench on the Umpqua National Forest in Oregon, in 1992. The last time I had been there was 20 years before, and I had cherished the memory of watching the bobbing blonde head of my two-year old son dancing underneath the great orange-barked trees, towering up into the sky.

How shockingly different it was 20 years later to go back. Yes, the big trees are still there, but completely obscured by a dense thicket of fire-suppressed growth of fir—fuel ladders, reaching halfway up the trunks. This

is what we have done everywhere across the Interior West to our Ponderosa Pine forest; it is a matter of time until Pine Bench is also destroyed by a fire of the type that would have done little or no harm to it had we permitted a more natural regime.

So, I for one don't want to wait another 500 years until "nature" has somehow cleaned everything out and started all over again. Even setting aside the fact that such unnaturally hot fires as have been resulting from our misguided suppression activities have catastrophic effects on forest soils and future growth, I think we owe it to ourselves and the generations that come after us to keep at least some of the original Ponderosa Pine forest the way we first saw it. Let them be moved as we were by the unique spiritual majesty.

For all the important discussions about biology and biodiversity, about ecosystems and change of life, we should never forget the spiritual and aesthetic part of our forests, too. The scientific concepts of course are true, and we must adhere to them and listen to them. But I argue that is not really what this is all about, in the end. What these forests do for our collective or individual spirits, the sense they convey to us of a link with times long past—the time of our ancestors—is even more of a powerful motivating factor for our cause. People will fight to protect these remaining ancient Ponderosa Pine places if we take action now.

So let's get on with the business of undoing the wrongs we have done:

manual thinning of the trees that have invaded since fire suppression, followed by prescribed burning. We should not be daunted by the large areas involved. Let's get started so we have something left.

—Brock Evans, National Audubon Society, 1901 Pennsylvania Ave., NW, Ste. 1100, Washington, DC 20006-3405

Defending Wildness as Well as Wilderness

I've never really disagreed with Dave Foreman. He was my idol when I started work with The Wilderness Society as the Utah Representative back in 1975. He was an anomaly like a fox. Sharp, hilarious, penetrating and still is...like a fox. I don't subscribe to the notion that age calms one down—of necessity it may smooth some edges, but most of the real radicals I know are "old" women and men.

Like Dave, I've always argued for a broad diversity within the environmental movement. I've never worried that environmentalists can undercut other environmentalists if we are acting with an ecological purpose, with the ethics we ask all others to obey, and with a long and broad purpose in mind. Thus over the 3 or 4 years I was with The Wilderness Society and over the last 17+ years with the Utah Wilderness Association, before I "stepped aside," I looked at numerous alternatives to the traditional solutions offered by the Washington, DC legislative mentality. This led UWA into a deeper perspective of the issues.

Acres of wilderness are important but wildness is displaced by non-native "put and take" recreational trout fisheries so common in our high mountain wildernesses, by exotic species, by bear baiting, cougar hounding, heavily outfitted and guided recreational hunting in many wildernesses, predator control that has stripped out predators or distinctly adjusted predator demographics, not to mention grazing and the unfortunately bad behavior of far too many wilderness users.

We must play politics, we must build coalitions and cross boundaries, but it is becoming clearer every day that we must confront the deep (philosophical) basis for why protecting wilderness (I prefer wildness) is important. Catching non-native trout in many Western wildernesses is traditional, even challenging (and the reason many wildernesses were set aside as administrative wilderness or primitive areas in the first place). But is it ecologically and therefore philosophically (that phrase can easily be reversed) right? Mountain goats in the High Uintas or Mt. Nebo Wilderness in northern Utah are icons of alpine landscapes, but they don't belong here. They were deposited by helicopter to enhance aesthetics and hunting.

Over the years I've been told, and at one time probably said, "let's maximize the wilderness system and then later confront these peripheral issues." The problem is they aren't peripheral; they are foundational. Social,

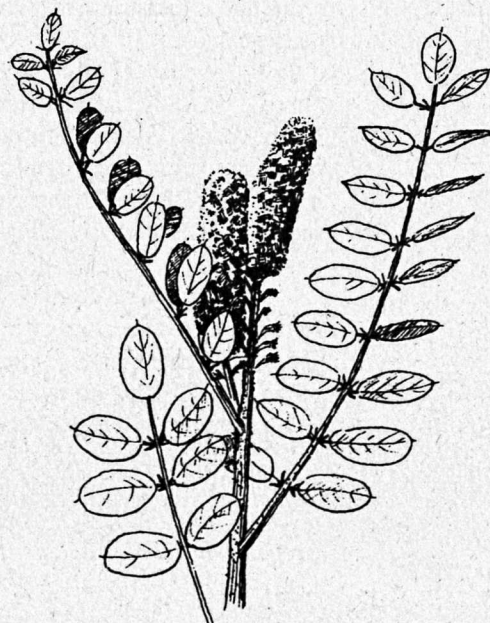
philosophical and political expectations are defined and set with that kind of approach.

Thus I have a growing concern with the ideas expressed by Dave Foreman when he talks of seeking out allies defined as hunters, fishers, budget hawks and others. I fly fish so I know what he probably means. And I would not for an instant suggest that we should not cross boundaries, seek allies, build coalitions. But it is of equal importance that we continue, with even more vigor, to define and discuss the rationale for why all of this is important. To catch fish, bag an elk, tree a cougar, hike? Is human-ness going to continue to define the processes/purposes of life and the places we call wilderness? This whole idea of place being so important is a real humanistic mistake—process, whether we call it life, biodiversity or ecology, is the fundamental issue, not place. Our efforts should focus on getting hunters and fisher to care about wildness, not the hunt, while trying to avoid the "anti-hunting" debate.

Oelschlaeger writes about these broader concerns about wildness in his book *The Idea of Wilderness*. J.B. Callicot, Bryan Norton, Holmes Rolston and many others are engaged in sometimes incisive debate as to our relationship with the wild. Because we haven't and maybe can't (?) define this relationship as clearly as those who define land and critters as commodities, we will always struggle. Our ideas are paradoxically hooked to the past and tradition, yet disconnected from the paradigm that defines our existence as the *purpose of existence*.

Indeed, conservationists, as Dave notes, are in the fight for life. It has been that way for a long time. It is not a moment, but a continuum and at the height of our potential we seem to be spiraling down through that continuum. In part, I think, because we are only now beginning to understand what motivates our concern for this wild process of life.

—Dick Carter, 190 South 100 West, Hyrum, UT 84319



Leadplant (*Amorpha fruticosa*) by Gary Benstrup

MAINE CITIZENS VOTE FOR CHANGE IN THE MAINE WOODS

On election day the residents of Maine decided whether to ban clearcutting, reform forestry practices, or maintain the status-quo. Citizens were given three options: 2A—ban clearcutting; 2B—a “compact” promoting sustainable forestry (a.k.a. the Contract on Maine’s Forest); and 2C—status quo. [See Jamie Sayen’s reports in recent issues of *Wild Earth*.]

The results left environmentalists frustrated, yet hopeful: 29% voted for 2A, 47% for 2B and 23% for 2C. Over 50% of the vote was needed for enactment. Since no measure won a majority, citizens will vote Yes or No on the compact in the next election. The legislature could call a special election or wait until the next general election which will be in November 1997 or June 1998. Governor King said he will ask the Maine Supreme Court if the Legislature could enact the compact without putting it to a second vote. What will happen next remains to be seen.

Although industry spent over 6 million dollars on a seductive multi-media campaign, 14 times more than the Ban Clearcutting campaign spent, and had the support of the so-called major environmental groups and Governor Angus King, they could not pass 2B. In February, before industry’s green washing campaign, polls showed 70% of the populace in support of the ban. “If we were playing on a level field, the ban would have passed,” said Jamie Sayen of Northern Appalachian Restoration Project.

Three-fourths of Maine voters recognized the status quo is disastrous, and voted for forest practice regulations. “This sends a strong message to industry—their days of irresponsible management are limited,” said Michael Kellett of RESTORE: The North Woods. Unfortunately, people supporting 2B were misled by the paper companies and politicians in believing 2B would change the status-quo. In some cases 2B might actually allow more destructive forestry practices.

One year ago clearcutting was not a major public concern in Maine; today it is on the front burner. This is just the beginning. Jonathan Carter, leader of the Ban Clearcutting campaign, said, “We will be back and we will be back in even more force.”

To help ban clearcutting in Maine, contact Ban Clearcutting, POB 2218, Augusta, ME 04338. ■

—Kathleen H. Fitzgerald, Coordinator,
Greater Laurentian Wildlands Project

LABRADOR’S MINERAL FEVER: A SUB-ARCTIC NIGHTMARE*

Until very recently, a place indicated on the map as Voisey’s Bay, near the Inuit village of Nain on the Labrador coast, would have been a familiar name only to an elite group of sportsfishermen and to the most intrepid of sea kayakers. Voisey’s Bay (called *Emish* by the native Innu) is one of the numerous bays or fjords along the jagged coastline of the Labrador Sea, where Fin Whales and Orcas, Grampuses and porpoises, sport in unspoiled waters; where waterfowl come in great flocks to feed and nest in the nutrient-rich marshes; and where the indefatigable Atlantic Salmon return by the thousands to climb the rugged rivers through steep canyons to their spawning beds. Inland, the intricate tapestry of mosses and lichens, berries and wildflowers, is crisscrossed with animal paths, as wide as highways where the great Caribou herds have passed, smaller ones made by bears or wolves; and even the trails of lemmings and voles are visible in the tundra carpet where imprints are long-lasting.

Here, industrial man is a very recent intruder.

Two years ago, prospectors looking for diamonds stumbled upon a mineral deposit near Voisey’s Bay that has since proved to be the richest deposit of nickel-cobalt-copper ore in the world. Suddenly the name Voisey’s Bay was on the lips of every Wall Street investor and in the headlines of financial journals everywhere. Stocks in the little company, Diamond Fields Resources, soared, turning its shareholders into overnight millionaires.

By June 1995 the map of Labrador had become a checkerboard of mineral claims by mining companies from around the world, with 250,000 km², 20% of the province, staked-out. Exploration has proceeded at a frenzied pace, even through the extreme Labrador winter, with hundreds of prospectors on the ground and the sky aswarm with helicopters. Currently there are 16 exploration camps other than Inco’s (which has bought out Diamond Fields), and drilling is already taking place—without any environmental regulation whatsoever.

Both the Innu and the Inuit have opposed the development (though the Inuit have been far less militant). The Newfoundland government has denied their demand for a moratorium on all exploration until baseline environmental data have been collected. The Innu are also demanding that a comprehensive federal/provincial environmental review

*For background, see “An Arctic Dream?” by Gary Randorf, *WE* spring 1996.

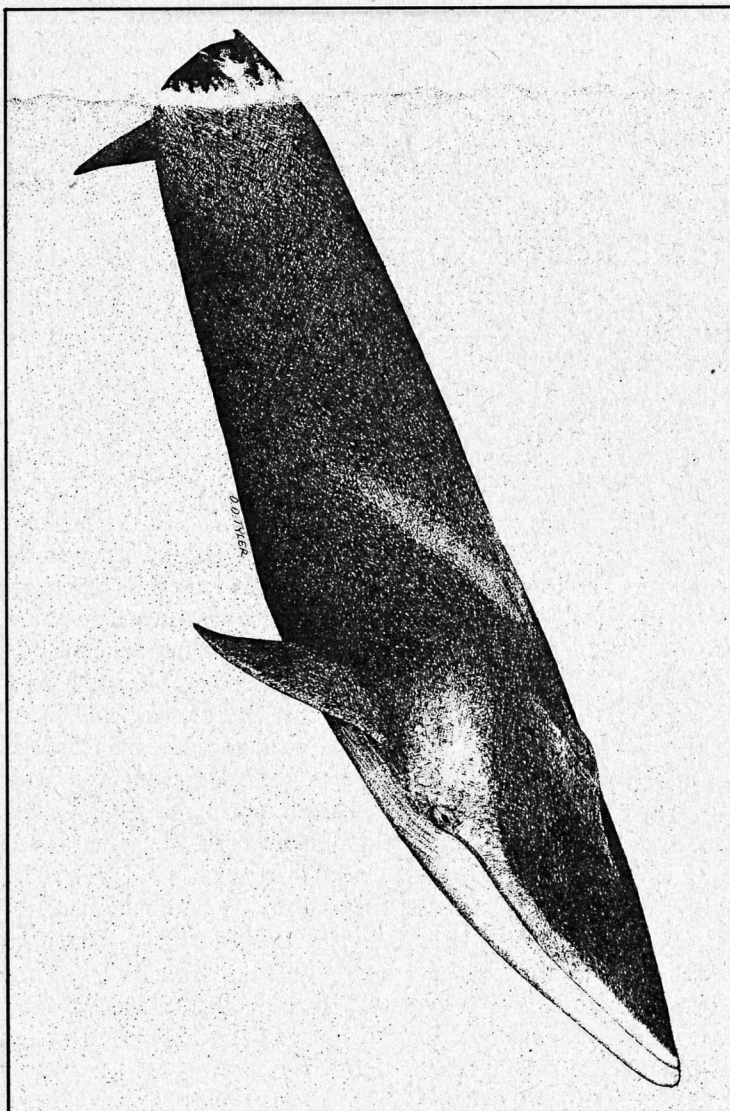
of the project be completed before any development or so-called "advanced exploration infrastructure" proceeds.

Diamond Field's promoter and chief shareholder, Robert Friedland (the infamous environmental criminal associated with both the Summitville, Colorado and Omai, Guyana mining disasters), has promised the development at Voisey's Bay will be "environmentally bullet proof." Company officials have even told the Innu that the tailings pond will be "clean enough to swim in." According to the EPA, "there are currently no widely applicable technologies to prevent acid mine drainage." Like nuclear waste, acid mine drainage is a persistent menace that will linger for thousands of years, and is all the more troublesome in a boggy, hydrologically complex area like Voisey's Bay. In addition to the problem of what to do with the mountains of tailings (the company is considering dumping them into the ocean), there will be smelters and refineries, roads, airstrips, and ice-breakers; there will be noise, blasting, fuel spills, and the impact of an influx of outsiders (mostly men, mostly white) with their associated bars, brothels and strip malls.

Crisscrossed with numerous cascading streams, the site of the nickel deposit also happens to be one of the sites where the imperiled Harlequin Duck has chosen to make its last stand in eastern North America. A highly sensitive species, requiring the white water of remote, rugged rivers, the Harlequin is viewed by biologists as an indicator of some of the continent's wildest landscapes and most vital wildlife communities.

Northern Labrador's remoteness and inaccessibility (no roads yet) has until now been its great blessing, but today these qualities signify a frightening vulnerability. Labrador's tiny aboriginal communities, who have taken on the defense of these wildlands against multi-billion dollar interests, are all that stand between the Harlequin and doom, between the wild splendor this species represents and a nightmare from which there would be no return. ■

—Alexis Lathem, co-director of *The Friends of Nitassinan* (POB 804, Burlington, VT 05402; ph/fax 802-425-3820), an organization helping to defend the wildlife and indigenous people of the Quebec-Labrador peninsula



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What you can do:

Write letters requesting a comprehensive federal/provincial environmental review of the Voisey Bay nickel project, as well as a moratorium on all further mineral exploration in Labrador, including the Tornat Mountain National Park Study Area. Write to:

Sergio Marchi
Minister of Environment,
Room 105-S, Center Block
House of Commons
Ottawa, ON K1A 0A6
Canada

Brian Tobin
Newfoundland Premier
POB 8700
St. John's, NF A1B 4J6
Canada

Clearinghouse Report

by Mary Byrd Davis

AS John Davis announced in the fall issue of *Wild Earth*, an Eastern Old-Growth Clearinghouse has been created to further the preservation and restoration of old growth in the East. Sponsors are Appalachia—Science in the Public Interest (ASPI), *Wild Earth*, and Ygdrasil Institute.

To the extent that funding is available, the clearinghouse will maintain records on old-growth discoveries and reassessments, on the condition and conservation status of sites, and on sources of further information. We shall publicize threats to old growth, opportunities to preserve and restore it, and educational activities; and we shall answer questions, with facts or referrals. (The locations of sensitive sites will not be made public.) The Educational Foundation of America helped fund the start up with a grant through ASPI.

The clearinghouse will publish old-growth news in each issue of *Wild Earth*. If we outgrow the space that *Wild Earth* can spare, we shall consider publishing a supplement to the magazine. Mary Byrd Davis is director and Chad Kelley, research assistant. Robert Leverett is serving as a consultant.

We need information to help us build our data bank, and we welcome questions. Should you be willing to respond to alerts on urgent matters that come up between issues of *Wild Earth*, let us know how we can contact you. You can reach us through Eastern Old-Growth Clearinghouse, POB 131, Georgetown, KY 40324; 502-868-9074; e-mail wildearth@igc.apc.org.

Quebec

The Quebec Ministry of Natural Resources (MRN) is conducting an ambitious program on "exceptional forests" under which an appointed task force, the GTEFE, is addressing three questions: What is an exceptional forest in the Quebec context? Where are such ecosystems located at the stand level? How can they be conserved? GTEFE has grouped exceptional forests in three categories: rare forests, forests inhabited by species at risk, and old-growth forests.

Initially the task force's five resource scientists compiled a preliminary list of exceptional sites by searching the literature and contacting foresters and scientists in the field. They also analyzed the MRN's existing data banks, which include information "on hundreds of thousands of sites sampled over the past few decades."

As of September 1996, the GTEFE's own data bank, which is confidential, contained information on some 450 sites, 150 of which are potential old growth. The task force now plans to examine in the field potential sites in northern Quebec. Scientists at the University of Quebec at Montreal, after visiting 1200 sites in southeastern Quebec, identified 10 sites, generally less than 10 hectares in size but more than 180 years old, that could be proposed as candidates for the old-growth category.

Not enough researchers are at work to identify all of Quebec's old growth within a few years. Normand Villeneuve of the GTEFE thinks that identification will be the work of decades and will be in part the result of regular, general-purpose inventories.

The main outcome of the exceptional forest project will be a summary report on the forests, to be published in the next few years. In the meantime, data collected by the task force can be used to protect specific tracts threatened by human activity.

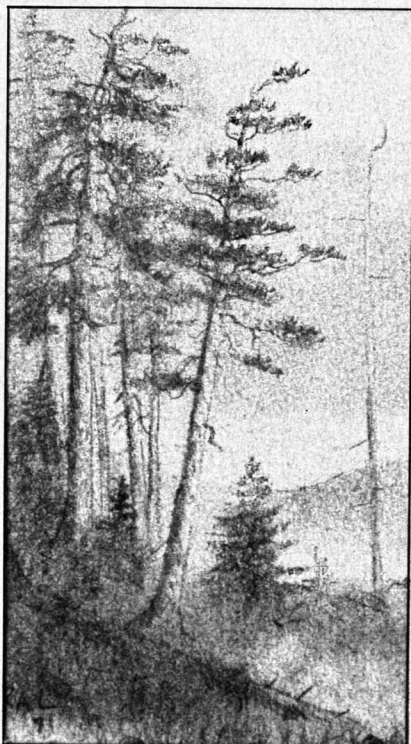


illustration by Rob Leverett Jr.

Quebec's minister of forests determines who will log public lands and where, and can protect an area over the short term simply by placing it in a reserve category. In response to a request from the GTEFE, he recently had several forest tracts put into a temporary reserve so that they can be studied before they are logged. A forestry company had already built roads to old-growth Red Pine that it had contracted to log. The minister halted the logging and paid the company \$100,000 in compensation for its lost investment.

Quebec's minister of the environment can protect old growth on private lands. For twelve years, the Environment Ministry has had the authority to protect endangered species and their habitat by imposing moratoria on destructive use of such land. The ministry can also purchase land to preserve it.

Nevertheless, old growth is being logged in Quebec. The Témiscaming Forest in western Quebec contains as much as 10,000 hectares of "almost virgin" old growth. Some 2000 of these hectares were placed in the Lac Malakasis reserve in 1978, but the forest outside the reserve is being exploited. This year timber companies will start cutting Northern White-cedar at least 200 years old for particle board. A new factory will open to produce the board, which will be sent south where cedar is in demand because termites do not eat it.

In the land of the Cree in northern Quebec, the forest has been leased to logging companies. The forest "right up to James Bay" will be exported, conservationist Henri Jacob told us. With rare exceptions, the boreal forests are not old growth in the strict sense of the term and are outside the MRN's definition of exceptional forests. The trees are not normally old, because the forests are swept periodically by natural disturbances such as fire and insects. However, the forests have never been logged and thus can be characterized as "primary." So serious is the situation that the Cree recently employed film makers to create a record of the forest in order that their descendants may know what their land once looked like.

For information contact Jean-François Bergeron or Normand Villeneuve, Service de l'évaluation environnementale, Direction de l'environnement forestier, 880 chemin Sainte-Foy, 5ième étage, Québec G1S 4X4, Canada; 418-646-5544.

For information on large-scale logging, contact Henri Jacob, Chair of the Réseau Québécois des Groupes Ecologistes at the Regroupement Ecologiste Val d'Or et Environs, POB 605, Val d'Or, Québec, Canada J9P 4P6; 819-738-5261.

Ontario

June 28 the government of Ontario released an Ontario Land Use Plan, which fails to protect many key ecosystems in the Temagami wilderness, including Red and White Pine forests. The Temagami, which occupies some 10,000 km² in the southeastern part of the province, hosts roughly one-third of the Red and White Pine old growth remaining in the United States and Canada.

The first old growth to be scheduled for logging was the

1400-ha Owain Lake Forest, 340 ha of which were to be logged. As we go to press, the logging is underway, fiercely opposed by activists, Dan McDermott of Earthroots reports. They erected a blockade August 30, which the police suddenly broke, after promising not to act without warning. Despite arrests, the camp continues, with conservationists engaging in sporadic delaying actions. Meanwhile, a court injunction over old-growth logging sought by the Wildlands League and Friends of Temagami in conjunction with the Sierra Legal Defense Fund was denied.

Defenders of wilderness are invited to visit Temagami whether or not they can join the activists' camp. Green tourism is in its infancy in the area but may be the only means of saving the forest. Contact Earthroots for information on sites to visit and places to stay as well as for updates on the old growth—401 Richmond Street West, ste. 410, Toronto, Ontario, Canada M5V 3A8; 416-599-0152.

New Hampshire

White Mountain National Forest plans to log 1692 acres in its 4700-acre Kearsarge North Area. Kearsarge North is suitable for Wilderness status and includes a stand with roughly a hundred acres of old-growth mixed northern hardwoods and hemlock. The US Forest Service does not intend to log the old growth, but its planned "treatment" would cut into the stand's buffer and end hopes that a large area of old growth will be allowed to recover around the stand in the future. Letters to Donna Hepp, Forest Supervisor, White Mountain National Forest, 719 North Main St., Laconia, NH 03246 are needed. For more information contact RESTORE: the North Woods, POB 440, Concord MA 01742; 508-287-0320.

Massachusetts

Citizen activists have prevented the logging of around 160 acres of old growth on Mount Wachusett in central Massachusetts. During a hike, Gordon Brownell, a founder of Watchdogs for an Environmentally Safe Town (WEST), came across what looked to him like old growth. WEST had been working to prevent the proposed expansion of a ski area operated under lease on the state-owned land by Wachusett Mountain Associates. Donna Brownell, WEST's president, quickly obtained preliminary confirmation of the old growth from Robert Leverett and then a preliminary report from Peter Dunwiddie of Massachusetts Audubon. WEST then organized a coalition to defend the old growth. Following in-depth assessments by Charles Cogbill and researchers from Harvard Forest, the Massachusetts Department of Environmental Management prohibited the cutting of trees above 1500 feet on the mountain. The old growth, which forms a necklace of ancient Red Oak, Yellow Birch, Sugar Maple, and Red Spruce around the mountain, is crossed by existing ski trails. WEST is still working to prevent construction of facilities that would encourage heavy use of those trails. Contact WEST at POB 690, Westminster, MA 01473.

Maryland

The state of Maryland in partnership with the Trust for Public Land has reached agreement with the Episcopal Diocese of Washington to purchase for \$4.5 million the land in the Seton Belt Home Farm still owned by the diocese. The Belt Woods purchase will buffer a 109-acre state-owned site containing about 40 acres of old-growth hardwoods.

Virginia

The pending Hematite Timber Sale in the George Washington National Forest's James River District will harm a recently discovered 3600-acre old-growth site (see *WE*, fall 1995). Two of the logging units are near the old-growth boundary, two overlap it. The latter two include a total of 10 acres dominated by Yellow Birch and Chestnut Oak respectively, believed to be 200-300 years old. Lesa Berlinghoff, project review coordinator for the Department of Conservation and Recreation's Natural Heritage Division, told the US Forest Service in a letter of 5 May 1996 that the cutting would not cause a "significant impact," given that only 0.4% of the old-growth site would be lost and that the community types are not rare. The regional forester has denied an appeal filed by Steven Krichbaum of Virginians for Wilderness (Rt. 1 Box 250, Staunton, VA 24401).

Oklahoma

In Oklahoma, the threat to thousands of acres of ancient Post Oak forest on private land (see *WE* fall 95) has become immediate. Chip mills have moved into Arkansas and logging companies are considering building a mill near Tulsa, Oklahoma. The old growth is a specific target. Furthermore, at this writing, conservation organizations, including the Oklahoma Nature Conservancy, do not seem to be aware of the threat.

Paradoxically, one of the reasons for the increased threat appears to be the success of activ-

ists elsewhere. On behalf of the Broadened Horizons RiverKeeper Project, Heartwood, and Save America's Forests, Ray Vaughan filed suit in federal court in September against the Tennessee Valley Authority (TVA) and the Army Corps of Engineers for failure to consider the secondary and cumulative environmental impacts of the log loading operations on the Tennessee and Cumberland Rivers. Within a few days of the filing of the suit, three log-loading operations pulled out of Tennessee overnight, Cielo Sand Myczack of Riverkeepers reports. Arkansas activists are considering a similar suit and other strategies.

For information on the Tennessee suit, contact Cielo Sand Myczack, Riverkeepers, POB 4826, Chattanooga, TN 37405; 423-267-3977. Professors David Stale and Malcolm Cleveland at the University of Arkansas (501-575-3159; fax 501-575-2642) can provide updates on the situation in Oklahoma. Oklahoma Nature Conservancy can be politely prodded at 23 West Fourth Ste. 200, Tulsa, OK 74103.

Iowa

For Kirk Brill, a high school teacher in Des Moines, Iowa, history has repeated itself. In the 1970s Brill and his students led a successful campaign to convince the Polk County Conservation Board to purchase Brown's Woods, 480 acres of unlogged and ungrazed hardwood forest in West Des Moines. Had the board not made the purchase, the owner would have sold the trees and subdivided the acreage. Over twenty years later, the same area was again in danger but from mountain bikers who were digging trails down the steep, erosion-prone slopes. With the help of students from five schools and other members of the surrounding communities, Brill convinced the Polk County Conservation Board to permanently ban the use of wheeled recreational vehicles in Brown's Woods. Brill believes their victory shows the power that one teacher and his or her students can have to save our remaining old-growth hardwood forests. Brill can be reached at 3833 E. 28th Street, Des Moines, IA 50317. ■

Wild Earth Associate Editor Mary Byrd Davis (POB 131, Georgetown, KY 40324) is the author of numerous environmental articles and books, the most recent being *Eastern Old-Growth Forests: Prospects for Rediscovery and Recovery* (Island Press, 1996).



illustration by Rob Messick

Grand Fir Mosaic

by Stephen J. Lyons

Thirty years ago in the Clearwater drainage loggers thought they were harvesting a renewable resource: the thick shadowy stands of 200- to 300-year-old Grand Fir (*Abies grandis*) that grew in north-central Idaho's fertile ashy soil. What they were creating instead was an unhealthy, infertile soil in which the dominant plant would be Bracken Fern (*Pteridium aquilinum*), potentially toxic aluminum-humus complexes would become a major mineralogical component, and most attempts to replant trees would fail. Today, this condition, called "Grand Fir Mosaic," occurs in an elevation zone of 4200 to 6000 feet and affects 500,000 acres of Idaho's forests as well as forests in southeastern Washington's Blue Mountains.

University of Idaho soil scientist Paul McDaniel first became aware of the large groves of Bracken Fern—one of the most widely distributed vascular plants in the world—five years ago. He and US Forest Service scientist Dennis Ferguson are part of a concerned group of people in Idaho who noticed that moisture-loving Grand Fir trees were not coming back. He looked closer at the soil conditions and was amazed at what his research unearthed.

"At first we thought it was a combination of factors: the pocket gophers that quickly move into a clear-cut area and feed on fresh tree seedlings, and the allelopathic nature of Bracken Fern." *Allelopathy* is the condition where plants release phytotoxins to ward off competing plants. In normal conditions, the fern is a small component in Idaho forest habitats, but the *Field Guide to Forest Plants in Northern Idaho* reports that Bracken Fern is "a very aggressive invader of disturbed sites," places burned, grazed, or logged. It also contains carcinogenic compounds—probably a combination of phenolic acids—and is poisonous to livestock if eaten over a period of several months.

McDaniel found the aluminum-bearing ash in these soils weathers rapidly, releasing aluminum that combines with the organic material in Bracken Fern. Resulting aluminum-humus complexes release aluminum to the soil solution, where plant roots take it up.

He explains, "...the ash is high in minerals that readily combine with the organic material of Bracken Fern. Normal carbon cycling that takes place in a healthy forest is altered by the plant and there is a significant increase in the amount of active aluminum present in the soil."

Silviculturist Ferguson, who works closely with McDaniel, agrees that pocket gophers and allelopathy are major players in the lack of conifers on these sites, but adds that they do not account for the nearly total lack of woody vegetation in cutover areas. "We kept looking and found that the aluminum-humus complex was another major factor."



Grand Fir Mosaic occurs in an elevation zone of 4200 to 6000 feet and affects 500,000 acres of Idaho's forests as well as forests in southeastern Washington's Blue Mountains.

Grand Fir Mosaic

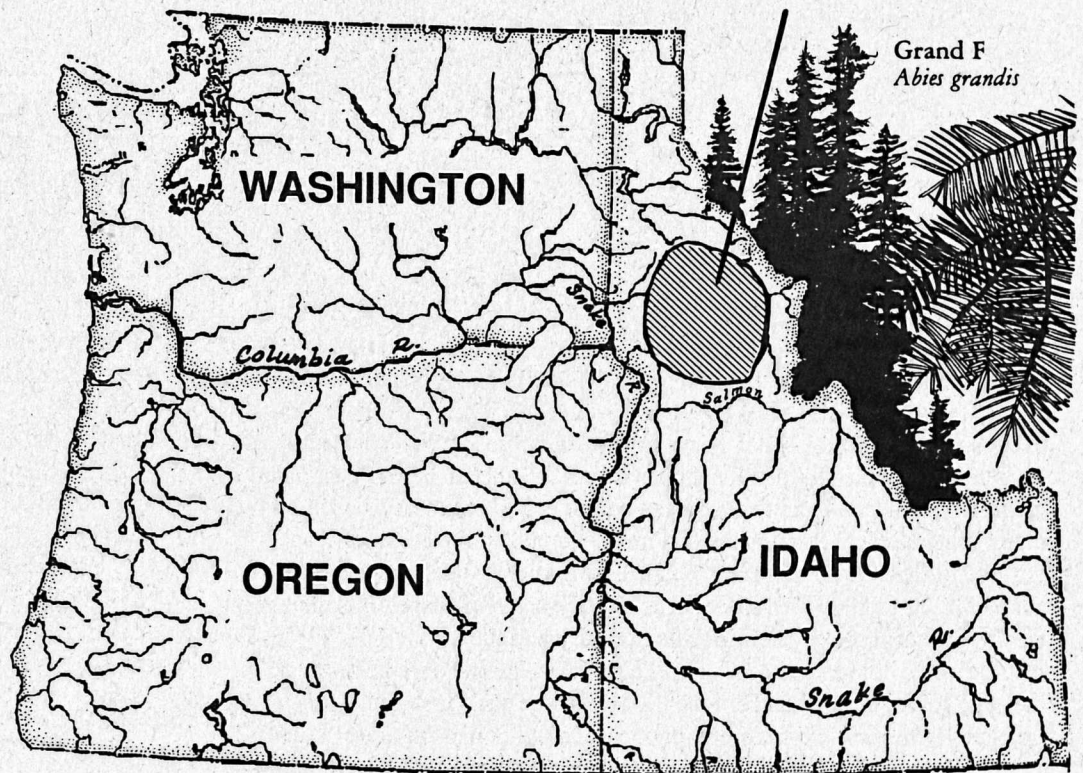
Aluminum is a plant toxin with no redeeming nutritive qualities. Plant a seedling in that environment, combine it with tree-hungry gophers who love to burrow in the loose, ashy soil, and you can forget renewing any resource other than Bracken Fern and some Western Coneflower (*Rudbeckia occidentalis*).

"It's surprising from my standpoint as a soil scientist that we can see such rapid changes in only 30 years," McDaniel says. "Normally we think of these types of processes as requiring hundreds of years."

Ferguson says past practices of clearcutting those ancient trees was a problem. Shade from the tall trees acts as a natural barrier against an infestation of ferns and gophers, both of which prefer open, sunny spaces. He recommends leaving shade by selective harvesting, and intense management practices during the first year following harvest. (These management practices include planting young seedlings immediately. Once trees reach a height of three to four feet they are usually safe from gopher predation.) Ferguson has published a key to help people know the signs of a Grand Fir Mosaic forest.

Successes from replanting different species in other Northwest habitats dominated by Bracken Fern are limited. Ferguson reports in a 1988 research paper, "Bracken Fern Inhibition of Conifer Regeneration in Northern Idaho" (written with Raymond J. Boyd), that the survival rate after seven years for Douglas-fir seedlings in a Bracken Fern-dominated area of western Washington was only 15%. "Heights of trees planted in plots where bracken had been eliminated were nearly twice the heights of trees growing in bracken-dominated plots."

Could these kind of problems occur with other tree species? Ferguson says, "Yes, definitely."



McDaniel will use a combination of field and laboratory research to learn more about the nature of the active aluminum-humus complexes in the soil. He will try to determine precisely what level of aluminum inhibits conifer regeneration. Results could aid in the timing of new plantings in the area. The UI-USFS test site is at Eagle Point in the Canyon Ranger District.

For additional information on Grand Fir Mosaic soil conditions, contact Paul McDaniel at the College of Agriculture, University of Idaho, Moscow, ID 83843; 208-885-6274. For additional information on Grand Fir Mosaic silviculture, contact Dennis Ferguson at the Intermountain Research Station, 1221 S. Main, Moscow, ID 83843; 208-882-3557. ■

Stephen J. Lyons lives in Pullman, Washington. His articles, essays, and poems have appeared in numerous magazines, including Sierra, E Magazine, and High Country News. This fall Washington State University published his book, Landscape of the Heart.

map by Chuck Ouray

Bovines and Bud

Anheuser-Busch and Public Lands

by *Todd Shuman*

ANHEUSER-BUSCH (A-B), the brewer of Budweiser and Bud Light, is a major corporate welfare rancher in the Sierra Nevada and the Owens Valley of California. A-B grazes 800 cow-calf pairs for three months (2400 AUMs) on the Whitney and the Templeton Allotments, both of which are in the Golden Trout Wilderness. These allotments are next to the southeast border of Sequoia National Park and at the southern end of the second largest unroaded chunk of wildland in the lower 48.

The allotments grazed by A-B-owned cattle harbor the northern reaches of the South Fork of the Kern River, which is federally designated Wild & Scenic, and Golden Trout Creek, core habitat for California's state fish, *Oncorhynchus aguabonita roosevelti*. The meadows and riparian stringers on the allotments also constitute important fawning, migration, and summer range habitat for parts of the Monache Mule Deer herd.

The Inyo National Forest (NF) monitoring record suggests that these riparian habitats are being significantly overgrazed by A-B. For example, utilization of two meadows on the Whitney Allotment in 1995 was documented at 79% removal of new sedge growth by weight! Likewise, the Big Whitney Meadow Complex (representing nearly 40% of total allotment meadow acreage, at an elevation of nearly 10,000') was grazed at a utilization level of 70% of weight—far beyond the legally allowable level of 50%.

Anheuser-Busch also has a poor record of compliance with the Inyo NF Trampling and Chiseling (T&C) Standard (which specifies that no more than 20% of any measured stream reach is to be trampled, compacted, or chiseled). In 1995, the four measured meadows on the Whitney Allotment had T&C values of 40.5%, 33.5%, 39%, and 51.5%, and four of the five measurements on the Templeton Allotment exceeded the 20% threshold.

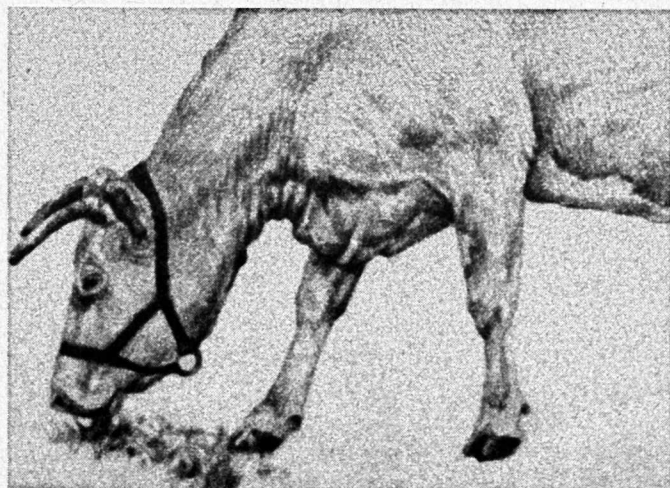
The combination of trampling and overgrazing resulting from the A-B ranching operation is a major barrier to aquatic species recovery on both allotments. Habitat degradation also harms Mule Deer on the Kern Plateau.

Anheuser-Busch netted over 12 billion dollars in sales in 1994, yet is paying minimal (below market value) federal lands grazing fees while causing cattle-induced habitat degradation. The inevitable question is, does a corporation of this size have any place ranching public lands at the economic expense of American taxpayers and the ecologic expense of Sierra wildlife?

For a more extensive report concerning this subject, contact the Golden Trout Wilderness Protection League, 1442 "A" Walnut St., Suite #240, Berkeley, CA 94709. Feel free to express your displeasure to August Busch III at Anheuser-Busch Companies, One Busch Place, St. Louis, MO 63118-1852 (314-577-2000); A-B's Sea World phone number is 1-800-23-SHAMU. ■

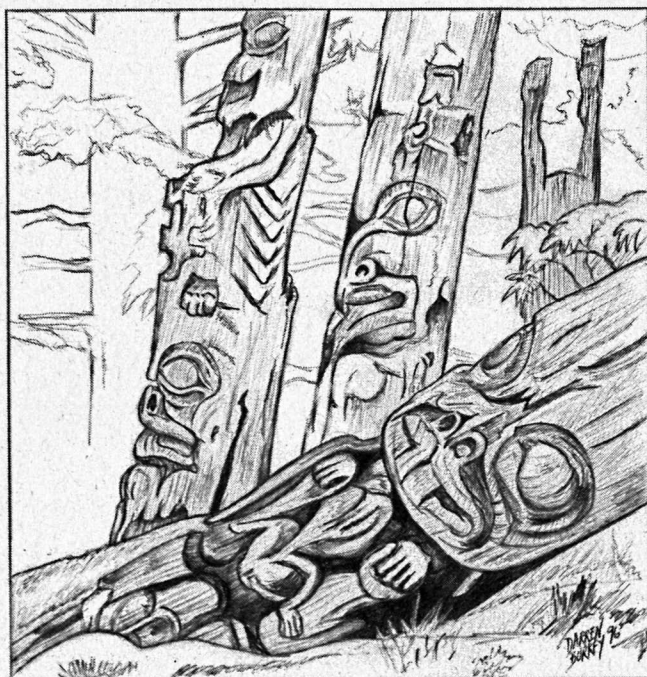
Todd Shuman is the executive director of the Golden Trout Wilderness Protection League.

illustration by Darren Burkey



A Look at Yaak

by Rick Bass



THESE ENTRIES are excerpts from *The Book of Yaak* (Houghton Mifflin, October 1996), which is a collection of essays about the Yaak Valley of northwestern Montana (right up on the Idaho and Canadian borders), and its need for protected Wilderness from a variety of perspectives: biological, sociological, economic, artistic, cultural, and spiritual. The Yaak ecosystem is a valley of about 470,000 acres; 97% of it is National Forest (Kootenai), and it is in my opinion the wildest valley in the lower 48, though it still does not have a single acre of protected Wilderness. The Kootenai River to the south separates it from the Cabinet Mountains, which are a more classical rock-and-ice Northern Rockies chain of mountains. Though you'll usually hear mention made of a "Cabinet-Yaak Ecosystem" (CYE), the two mountain ranges are significantly different and at present are unable to share much, if any, genetic migration. There are over 1200 miles of logging road in the Yaak—fragmentation is a growing danger—and there is only one documented contemporary instance of a Grizzly Bear crossing from the Yaak into the Cabinets.

The Yaak is a wet, drippy jungle at lower elevation—2500' to 7600'—and as such grows, or once grew, *big* trees. It is in a seam of biologic magic, lying between the Pacific Northwest and the Northern Rockies. There is no telling how much endemism is present, not yet noticed; and, despite the road-building and fragmentation, a mosaic of land and vegetative types survives unlike anywhere else I've seen in the Northern Rockies. The habitat diversity seems to go off scale, and if a student or scholar somewhere could figure out a way to quantify this, I'd love to know it. The Yaak seems to possess something—a magic—beyond the traditional indices of alpha, beta and gamma diversification...perhaps some fourth component, not yet (and perhaps never) quantifiable.

The *quality* of the diversity is astounding—not just in the birds, amphibians, plants and insects that swarm in the marshes during the quick explosion of summer, but in the megafauna; because the system is so rich (low elevation, yet northerly location—Bergmann's Rule rules*), there are incredible populations of carnivores, and a lot of the predators are big. Sometimes the valley seems to be *seething* with carnivores. Nearly everything eats something up here—not just the insects eating each other in the old-growth coniferous forests, but the giant owls, Great Grays and Great Horneds, as well as Barred, Flammulated, Screech, Sawwhet; Golden and Bald Eagles, massive ravens, Pileated Woodpeckers; and the mammalian carnivores: Grizzly Bear, Gray Wolf, Wolverine, Marten, Fisher, Black Bear, Mountain Lion, Badger, Coyote, weasels, skunk, Lynx, Bobcat, fox... Nearly every mammalian carnivore found in the lower 48, it seems, is found in this one lush valley. There are Bull Trout, too, and at the valley's base, giant sturgeon;

continued on page 22

*Bergmann's Rule is an empirical generalization (with quite a few exceptions) that geographic races living in cooler climates tend to have larger body sizes than races of the same species living in warmer climates. All else being equal, a larger body has a smaller surface to volume ratio and retains heat better than a smaller body.

illustration by Darren Burkey

Waterfall

Some nights my heart pounds so hard in anger that in the morning when I wake up it is sore, as if it has been rubbing against my ribs—as if it has worn a place in them as smooth as the stones beneath a waterfall. Sometimes a calm, smooth, placid expression can harbor more fury than an angular, twisted one. And sometimes serenity can harbor more power than anger or even fury. I know that I'm trying to get there—to peace, and its powers—but I just don't seem to be able to. The river keeps falling.

The sound of it, in my ears.

Winter Coyotes

At night in winter I like the lonely, scary sound of Coyotes. I like how it is after a day's work of sawing wood when light leaves and darkness comes, and the Coyotes begin to speak.

It's a feeling like falling. Your sweat freezes. It gets colder once the sun is down.

All day long you've been big, big as Dallas, sawing wood, or striding mountains, in the bright bold sunlight, and now you're falling. The trees seem taller; their reach extends almost to the stars. At such a time you may discover the true landscape, where you can project yourself only as far as your senses will carry you: a place where you apprehend the idea of size, and of what you are in the world.

The Totem Pole

It's spring, and I've been edged into the occasional depressions. The assault on the environment—all the taking, instead of giving, near this, the end of our century of taking—has pushed me in the way that earth is sometimes pushed by bulldozers. I've given it—the letter writing, the scheming and strategizing, the campaigning fight—my all. And the fight has taken it, my all: and changed nothing, it seems. It has cost me peace.

The greed of various politicians has led them to exuberantly court corporate lobbyists, and in 1994 corporations spent millions in public relations against the environment. It surprises me in the way it would surprise me to suddenly slip on ice. I didn't know so many of us could be this wrong.

I circle back, though, always, to my original thought, which is, people just don't know. The fight, after all, is going on in the backcountry. Nobody would vote for these things if they knew about them.

Given the short period of time we have here, how can anyone want to do anything other than good?

The geese outside my cabin window have been spending great stretches of time sitting idly, or so it seems, in the open parts of the marsh. Floating but not moving, as if anchored, they seem to be watching and waiting—evaluating something. They've been sitting still for days, looking south.

This morning my neighbor from seventeen miles away came by so we could go look for a tree that he can carve and whittle and sand

into a totem pole. It has to be just the right tree, taken early from the cycle of rot, regeneration, and growth and from a place where there are other felled trees. We didn't find one but we'll keep looking.

We went over the design of the creatures my wife and I want on the totem pole, and where we intend to place it: at the edge of the marsh in a forest so thick that tree branches will help hold it up. An almost secret place...where soft morning light will strike it, a place of dampness and shadow. A place of extraordinary lushness, where the totem pole itself can stand, slowly rotting and in that manner lowering itself back into the soil from which it came: but standing, like art, for a few years, first—for fifty, or even a hundred years.

We sketched out several animals: the creatures that use the marsh, of course—the citizens of this place. Moose, geese, ducks, deer. A lone wolf. A bear, down near the base of the pole, while bears still exist in the world. A raven, an owl, and curiously, a heron, though there are no herons in this marsh, as there are no fish. It's a higher elevation marsh, perched at the edge of a fault block, sitting a hundred feet above the river. It used to be a lake and I'm certain that when it was, fish were in it, and herons too. And what would someone think, were they to find the rotting remains of the cabin and the totem pole: that this cabin was once by a lake where there were fish and herons? Or that the totem-maker did not understand the world around him, did not pay attention?

The paired-up ducks stay close to the geese, as if for protection, but perhaps only companionship. Sometimes I think the geese are just resting—both from the exhaustion of the long trip here, and in preparation for the one that lies ahead, only five or six months away. I try to drink in the beauty, the grace, of the mere and miraculous sight of them—as if they are a thing that is here only for the moment, only this moment, and that if I do not see it now, drink it all in and feel it now, it will be gone, taken away.

I have to make peace with my art and my anger, with our lives and their brevity—and yet, for me, life still involves fighting, and I will never give any of this up willingly, nor do I understand how any of us can.

I keep staring at the sunlit throats of the geese: the black eye masks, the elegant hoods.

Now comes the part I like, the south winds of April waving the shadows of bare branches across the yellow wood of the cabin, the dried catkins from last fall waving on the ends of the alder branches, the loyal creak and tick of the stove, and the muscles of my young bird dog shining chocolate as he prowls the straw-colored edges of the marsh, the dead scent-filled grasses of last autumn. The songs of Wood Thrushes and Black-capped Chickadees, first back in the spring. I want to be a bird dog, a father, a stone man; a carved log back in the shadows, in the embrace of trees. I want that kind of strength—that kind of strength-in-decay. I dare not mourn so much that I forget why and how to live. ■

Moose, Elk, White-tailed and Mule Deer, even an occasional Woodland Caribou, and Mountain Goats, and Big-horn Sheep; Harlequin Ducks, hummingbirds, mergansers, loons, geese, three species of grouse on any given mountain...

The Yaak is craving scientific study—it's a long way from any university—and activism, too. It needs letters—needs legislative relief. It incidentally could use a ten million dollar grant, federal or private, to re-fit the mill in Libby from one that peels and then exports raw sawlogs into one that focuses on a value-added product derived from "small stems"—small-diameter fir and pine—but first and foremost the Yaak needs its remaining roadless areas protected. Retiring US Representative Pat Williams passed a bill through the House that would have protected over 150,000 acres of Yaak, but Montana's two Senators wouldn't vote on it, so the bill died.

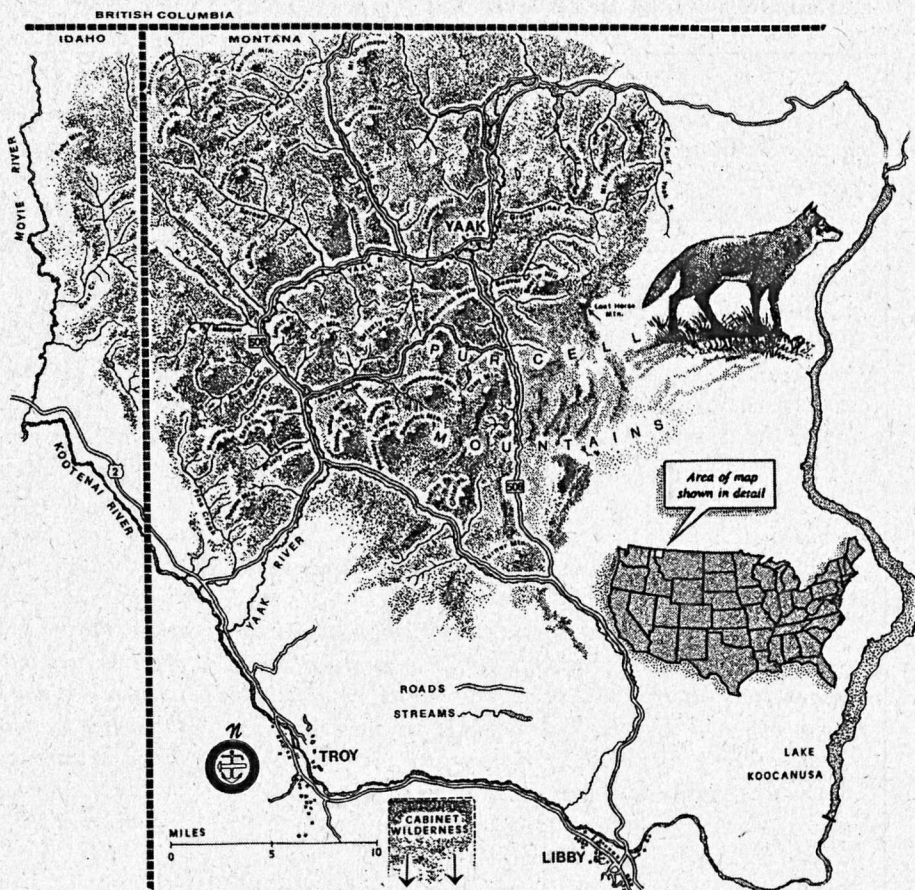
The Glacier Ecosystem, funneling down through the Mission Mountains, is by itself not sufficient to act as a corridor for genetic replenishment of the entire US Northern Rockies; Yaak is a critical, probably *the* critical, cornerstone for future genetic dispersal, due in part to its lower human populations. The Yaak can take Canada's wild genetic stocks and head them south into the Bitterroot-Salmon/Selway-Yellowstone country, or the Yaak can take Glacier's genes and funnel them farther west into Idaho's Selkirks and beyond. It's the pivot point, the central weigh-station for diversity in the Rocky Mountain West: the link between Canada and the US, and between the Rockies and the Northwest.

It's also an imperiled bottleneck: the widest roadless area at its southern tip is less than four miles across, and is unprotected. Four miles width is all the Grizzlies and other species have to pass through to achieve the genetic pioneering of those otherwise soon-to-be-barren islands to the south.

The remaining individuals in the Yaak are super-survivors, with genes as good as gold, disparate from the park populations: secretive, dark-forest, nocturnal genetic treasures that must be allowed to infuse their wild spirit into the rest of the West—not by helicopter airlifts, but naturally, through selective processes.

Below are the addresses of the nine politicians who, besides your own, most need to hear from you—who have been hearing about Yaak steadily for a long time now, and need to keep hearing about it. Thank you for helping with this project, which will aid all of the West. ■

Rick Bass is author of The Ninemile Wolves, Winter, In the Loyal Mountains, and many other published natural histories, essays, and stories. He lives in the aforementioned Yaak Valley.



Write to:

*Max Baucus
US Senate
Washington, DC 20510*

*Dan Glickman
Secretary of Agriculture
14th & Independence
Washington, DC 20250*

*Conrad Burns
US Senate
Washington, DC 20510*

*Hal Salwasser
Regional Forester
Box 7669
Missoula, MT 59807*

*Robert Schrenk
Forest Supervisor
Kootenai National Forest
506 Highway 2 West
Libby, MT 59923*

*Bill Clinton
The White House
1600 Pennsylvania
Washington, DC 20500*

*Governor Mark Racicot
State Capital
Helena, MT 59620*

*Al Gore
Old Executive Office Bldg.
Washington, DC 20501*

*US Forest Service Chief
Box 96090
Washington, DC 20090*



Aldo Leopold Foundation

A Focus on Ecological Restoration

by Charles S. Luthin

THE LEGACY of Aldo Leopold, renowned wildlife ecologist, conservationist and author of *A Sand County Almanac* (1949), continues to thrive in the minds and hearts of thousands of dedicated conservationists throughout the world. The Aldo Leopold Foundation, a non-profit organization founded by the children of Leopold, attempts to keep this legacy alive by promoting a "land ethic" as was so eloquently defined by Leopold. In undertaking this mission, the foundation engages in ecological restoration, education and scientific research on the private 1400-acre Leopold Memorial Reserve in central Wisconsin and surrounding landscapes. The centerpiece of the Reserve is the original Leopold "sand county farm" and "Shack," now a registered national historic landmark.

This article is, in part, a response to the article by Stephanie Mills (Michigan), and a commentary by Michael Soulé (*Wild Earth*, Vol. 6, No. 1, Spring 1996) regarding management on the Leopold Memorial Reserve. A few discrepancies in that article need be addressed. As Mills visited the Leopold Shack and Leopold Memorial Reserve in 1992, an update is in order.

As mentioned by Mills, Aldo Leopold pioneered the science of ecological restoration in the mid-1930s together with university colleagues at the experimental Arboretum of the University of Wisconsin, and privately on his own 80-acre farm along the Wisconsin River in Sauk County, Wisconsin. His "Shack Prairie" stands as one of the oldest prairie restoration efforts in the country. The Leopold family (through his daughter Nina L. Bradley) and the Aldo Leopold Foundation continue active ecological restoration on the Leopold land and on the Reserve.

Since 1978, when Nina and Charles Bradley "retired" to a home they built near the historic Shack of Aldo Leopold, they have been intimately involved in ecosystem restoration. In their first year, the Bradleys planted several acres of prairie on soil disturbed through the construction process and the dredging of a small pond in a natural kettle behind their home. Subsequently, they have guided restoration on or directly seeded over 20 acres of prairie on formerly cultivated soil. These areas are adjacent to or surrounded by areas with some semblance of native plant cover, albeit degraded. Through propagation and seeding of native species, destruction of invasive non-native species, and fire and brush management practices, large areas on and near the Reserve are improving in ecological health and species diversity.

*What a thousand acres of
Silphiums looked like when
they tickled the bellies of
the buffalo is a question
never again to be answered,
and perhaps not even
asked... Few grieved when
the last buffalo left
Wisconsin, and few will
grieve when the last
Silphium follows him to the
lush prairies of the never-
never land.*

—Aldo Leopold



As Matt Bremer, former Reserve manager, indicated in Mills's article, the philosophy on the Reserve indeed focuses on restoring natural processes, and fire is a tool used for large-scale management. The upland sites, glacial depositions of sands and silts, were dominated by semi-open oak savanna at the time of settlement, based on the original surveyors' records. In the intervening years, with the loss of large grazers and browsers (Bison, Elk) and suppression of fire during this century, coupled with disturbance by cattle grazing and fragmentation of the wooded areas, the dense young (<100 years) oak woodland has covered the sandy moraines. The Sand County Foundation, another landowner on the Reserve, is selectively removing brush and smaller trees on over 300 acres of its property in order to simulate the more open savanna landscape. Fire will be reintroduced into these forested sites once there is adequate fuel to carry fire.

In 1993, the Leopold Foundation, in collaboration with the nearby International Crane Foundation, developed a nursery of rare savanna-obligate species. Fifty species are maintained in the nursery, and the seeds are collected and sowed for savanna restoration on the Reserve, at the Crane Foundation, and in other nearby sites. Additional species are added every year, and the nursery will be expanded to one acre and 70 species in 1997.

Every year the Leopold Foundation undertakes the planting of two or more acres of prairie on formerly cultivated land on the Reserve, with seed collected from prairie remnants in the vicinity. With financial support from the Fish and Wildlife Service, our 1996 planting will encompass almost four acres and will include 21 species of prairie grasses and sedges and 73 forb species. Although this seems like a modest undertaking, anyone who has hand-collected and planted prairie realizes this is a labor-intensive task that requires considerable humanpower and volunteer assistance. The populous deer population on the Reserve has proven to be our greatest nemesis in reestablishing prairie, as they selectively and often completely cull certain forb species from our plantings.

The Aldo Leopold Foundation is facilitating large-scale ecological restoration on two distinct sites nearby. A mile from the Leopold Shack as the crane flies is a huge

wetland basin (3500 acres) that was ditched and drained 80 years ago. The once-meandering Leech Creek, which coursed through this vast marsh, was straightened and ditched, and the peat soils drained, tiled and cultivated. Energy- and chemical-intensive farming on these "mucklands" gives the farmers two crops every three years; during other years, drought, frost or flooding destroy the crops.

Through the "Wetland Reserve Program" (WRP) of the Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service), funds have been guaranteed as a special project ("Leopold Marsh") to offer the nine farmers in the basin a one-time payment in exchange for their signing a permanent conservation easement relinquishing any further cultivation on their wet fields. The Foundation is trying to convince the landowners (who have lost >75% of their crops this season to flooding) to enroll in the WRP. We have also secured some backup acquisition funding through private and federal sources in the event the farmers decide to sell their lands.

Restoration ecologists in the area are eager to help us with this massive wetland restoration. Numerous partners (private organizations, state and federal institutions, university faculty) have joined in the effort to promote restoration of the marsh, a site that will be dedicated to Leopold, who wrote eloquently about this very wetland in his well-known essay, "Marshland Elegy."

A few miles to the south lies the now-dormant 7300-acre Badger Army Ammunition Plant, a military industrial complex formerly producing propellants for munitions (1942-1975). The commander's representative at the plant, David Fordham, has invited the Leopold Foundation to organize a private-sector advisory council for the ecological restoration of over 1200 acres at this site. The plant lies in the heart of what was once known as the Sauk Prairie at the base of the Baraboo Hills, an area dominated by tallgrass and shortgrass prairie and oak savanna when first encountered by European settlers.

This year we have organized six meetings to plan the massive restoration effort. Participants have included the University of Wisconsin, the UW-Arboretum, the Wisconsin Department of Natural Resources, US Fish & Wildlife Service, The Nature Conservancy, International Crane Foundation, Prairie Enthusiasts, and Sauk County Natural Beauty Council. Henry Howe of the University of Illinois (cited by Soulé in his response to Mills) is a player in our restoration project. We

envision a long-term restoration effort (50-100 years) undertaken by this diverse group and other participants, using the equivalent-sized UW-Arboretum as our model.

We are as interested in the *process* of restoration as in the *ecological results* of the effort, and we will engage the nearby communities in the project so that they have a sense of ownership in the project. Community education will be an important component of the restoration process. We hope to have the opportunity to reintroduce large herbivores (Bison, Elk) and perhaps predators onto the site, as the Badger Plant is completely surrounded by tall fences.

These large-scale restoration efforts, combined with the good preservation efforts of the state and The Nature Conservancy in the Baraboo Hills and the protection and restoration on the Leopold Reserve, contribute to The Wildlands Project goal of ecological connectivity at a local level. Not only will ecological processes be enhanced and wild corridors be created, but biological diversity will be reintroduced into a landscape depleted of ecological health by humankind's former misdeeds.

As Aldo Leopold counseled, "Some day we may need this prairie flora not only to look at but to rebuild the wasting soil of prairie farms. Many species may then be missing. We have our hearts in the right place, but we do not yet recognize the small cogs and wheels. In our attempt to save the bigger cogs and wheels, we are still pretty naive. A little repentance just before a species goes over the brink is enough to make us feel virtuous. When the species is gone we have a good cry and repeat the performance." His children have created the Aldo Leopold Foundation to carry their father's message widely. The Foundation is attempting to save "every cog and wheel" and "preserve all the parts of the land mechanism" through its ecological restoration efforts and land management practices, as well as through educational programs and community participation in the restoration process.

The Aldo Leopold Foundation welcomes visitors to the Leopold land and Shack, but by appointment only. As a non-profit organization, the foundation depends on private contributions to keep the Leopold legacy alive. Our donors receive a modest newsletter. ■

Charles S. Luthin is Executive Director of the Aldo Leopold Foundation, E 12919 Levee Rd., Baraboo, WI 53913; 608 355-0279; FAX 608-356-7309; e-mail leopold@baraboo.com.



THE ORION SOCIETY

Knowledge That Binds

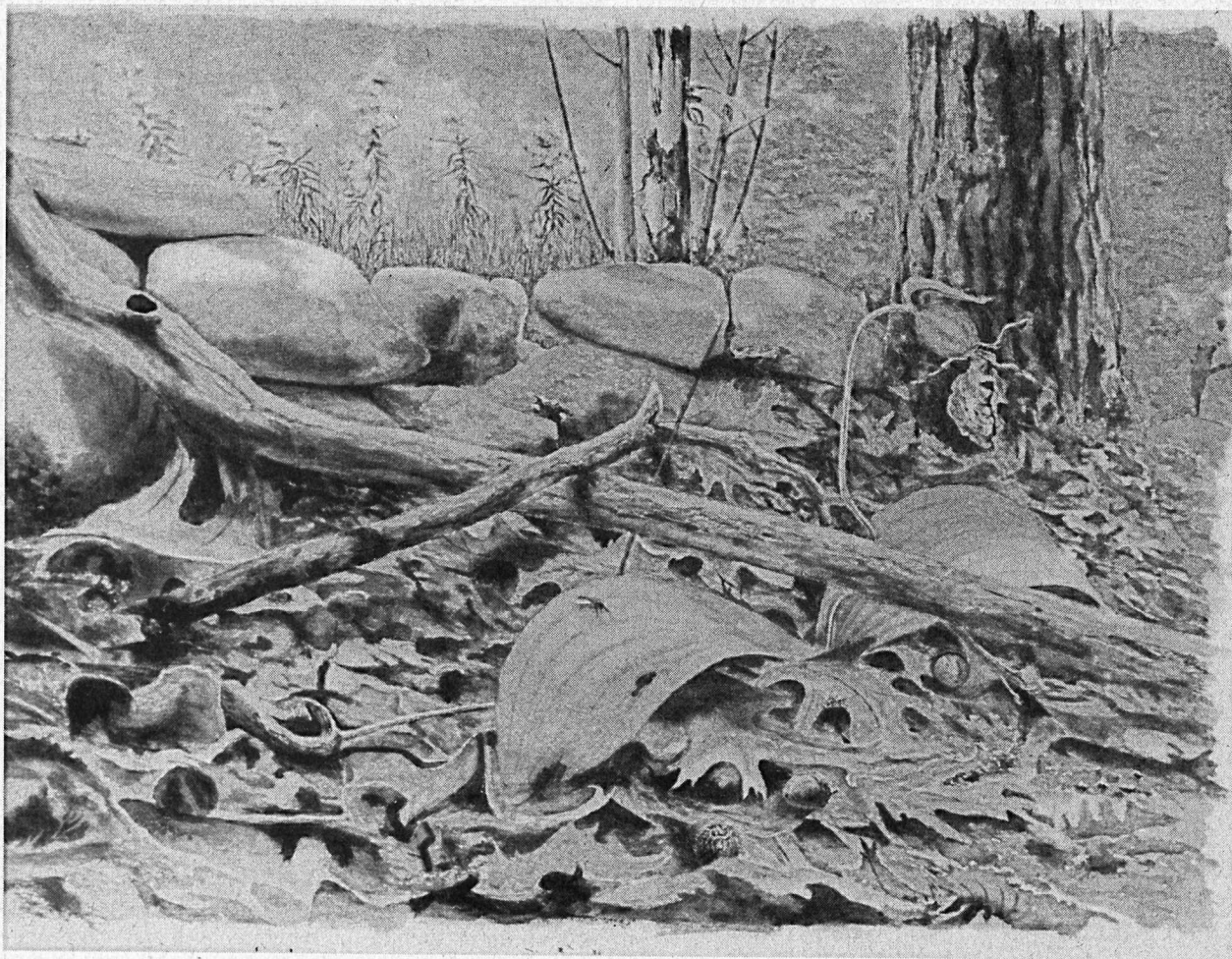
The Orion Society's Environmental Education Approach

by Jennifer Sahn

*Through encouraging the
kind of teaching and
parenting that swings the
doors of wonder and
exploration open wide, The
Orion Society is fostering a
regional sense of
connectedness, between
parents and children,
between schools and
communities, between
people and Nature.*

Perhaps the final test for how well we've lived on the planet is how much we know about the places where we live—the geology, local flora and fauna, the tall tales and coffee-shop gossip, and of what came before us. Maybe what we presently hear as sirens forecasting impending environmental crisis is really the sound of our communities calling us back, asking us to embrace the history of interaction between people and Nature and to do our part to bring humanity and human culture back into a mutually beneficial relationship with the Earth. To take in as much as possible about our communities—the delicately interwoven threads of human culture and natural history—and then to give back, through attentiveness, stewardship, and creativity, may be the noblest gesture humans can make toward the ecosystems we inhabit. But are we prepared as a species to heed the call, to believe that poking around in the yard or the woods across town or the empty lot down the block is the gateway to a fuller life?

The Orion Society is working to bring about this shift of thought, to focus concerns about Nature and environmental problems on the homeground that each of us inhabits, and to cultivate local knowledge and an awareness of regional environmental issues. On a more ethereal level, Orion strives to orient those essential human questions, like who we are and where we come from and what our purpose on this planet is, toward the places that shape and sustain us. The Society's approach to environmental education begins with young children. Our annotated bibliography of Nature stories, *Bringing the World Alive*, suggests that illustrated picture books of stories, poems, folk tales, and narratives will nourish the imaginative tendencies of young children while conveying important basic facts about how the world works—from how a garden grows to what makes clouds move across the sky. These books are more appropriate for sharing Nature with young children than their dreary "doom and gloom" global-warming-warning-sign and recycling-handbook counterparts because poetic words and artful illustrations are able to portray the world as a child sees it: a welcoming place where magical things happen.



Because children today are bombarded by artifacts of human culture—television and videos, computers, the latest trends in dress, Barney the purple dinosaur—their ability, much less desire, to spend time outside is waning. We need, as role models and friends, to help them learn about the world around them and to learn *with* them. In his essay “Beneath the Smooth Skin of America,” Scott Russell Sanders gives us courage to embark on this arduous journey of discovery, suggesting that “Children who can identify a brand of sneakers from fifty yards away can learn to identify trees and bushes, flowers and mushrooms. Any child or adult who can recognize a pop tune from the opening three notes can learn to recognize the songs of neighborhood birds. Anyone who can recite dialogue from a hit movie or follow the plot of a soap opera should be able to grasp the natural history of a bioregion.” Through encouraging the kind of teaching and parenting that swings the doors of wonder and exploration open wide, The Orion Society is fostering a regional sense of connectedness, between parents and children, between schools and communities, between people and Nature.

In the schools, our Stories in the Land and Watershed Partnerships programs promote using the local environment—the school yard, the Nature preserve, the city park,

the watershed—as the subject of environmental inquiry and the curricular glue to bind all the disciplines together. Many teachers today present the rainforest or recycling as the “environmental unit,” without tying the concept of “environment” to anything outside the classroom doors, and without forging links between those studies and other subjects such as history, math, art, or literature. Students in one of The Orion Society’s model classrooms in New Hampshire have been engaged in an in-depth study of the river that runs through the woods behind their school. They’ve read local literature about the river. They’ve taken many trips to the river’s edge, learning what grows there, who lives there, and what that place was like in times past. In addition to taking water samples and depth measurements home with them, they also return from these journeys with sketches and journal entries made while sitting quietly in their own special spots. Field trips to the local sewage plant and to a nearby mountain top to view their watershed from above have added further dimensions to their inquiry.

Another model classroom, this one in Idaho, has linked up with the local land trust and with naturalists and historians from their community to explore the stories—geographical, archaeological, agricultural, artistic—that characterize their place. Each student is documenting the

research with personal narratives and a portfolio of photographs taken in the field. In New Jersey, a class of eighth graders is creating a magazine based on their Orion-related studies, which will contain essays, poetry, artwork, and photographs that demonstrate to other students, faculty, and members of their community that there *is* Nature in New Jersey, and that there is a rich natural and cultural heritage to the place where they live, which often is written off as a semi-urban wasteland.

This strong commitment to reforming education in the schools grows out of a concern that if children fail to see that Nature exists not only in Yellowstone but outside their windows as well, if they grow up thinking that there is no relationship between what they do and what happens to the Earth, if they don't see the environmental issues at play in their own communities, then they may never embrace Nature as their home. They won't come to feel the sense of community and sense of place that will be so necessary in working through the delicate issues like land use and water rights that will be the true test of our environmental citizenship in years to come. By giving teachers the support and resources they need to teach interdisciplinary environmental curricula that focus on the local environment, The Orion Society continues to be a gentle reminder that every school system lies within an *ecosystem*, wondrously rich in resources and educational opportunities: the classroom *outside* the classroom.

On another front, our flagship publication, *Orion Magazine*, dedicates itself to the literary and artistic exploration of human interactions with and reactions to Nature. *Orion* finds its roots in a belief that these creative dimensions to our musings about the environment are a grounding and comforting counterpart to the literature of science, conservation, activism, and "shallow" ecology. It serves as an elegant, nonpartisan forum for the many different forms that an articulation of human responsibilities to the natural world can take. It's the only place we know of where you can find essays by Barry Lopez along with aerial photographs by Alex MacClean, or poetry by Mary Oliver and an article by prison gardener Cathrine Sneed. And as our concept of "Nature" expands to include developed places and even debased landscapes, we seek out the stories of these environments, and of the people who live there and who are working to restore them.

As a society deeply entrenched in a dysfunctional relationship with our planet, we need ways of expressing to both poets and politicians the necessities, intricacies, and complexities of the environment that we rely on and modify on a daily basis. The Orion Society's Forgotten Language Tour is an attempt to bring language back into a congenial relationship with the natural world by taking *Orion* writers on the road for school and com-

munity visits that consist of readings, workshops, and roundtable discussions. Public readings provide a chance for audiences to visit that place where language meets the land—to discover the deep-rooted connection between our evolving spirits and the larger patterns of geology, biology, and cosmology that shape our world. In April of 1996 we convened, in collaboration with The Library of Congress and Poet Laureate Robert Hass, *Watershed: Writers, Nature and Community*, a week-long meeting in Washington DC to explore further with representatives from grassroots organizations around the country the role that language can play in caring for and maintaining the integrity of our communities and our environment.

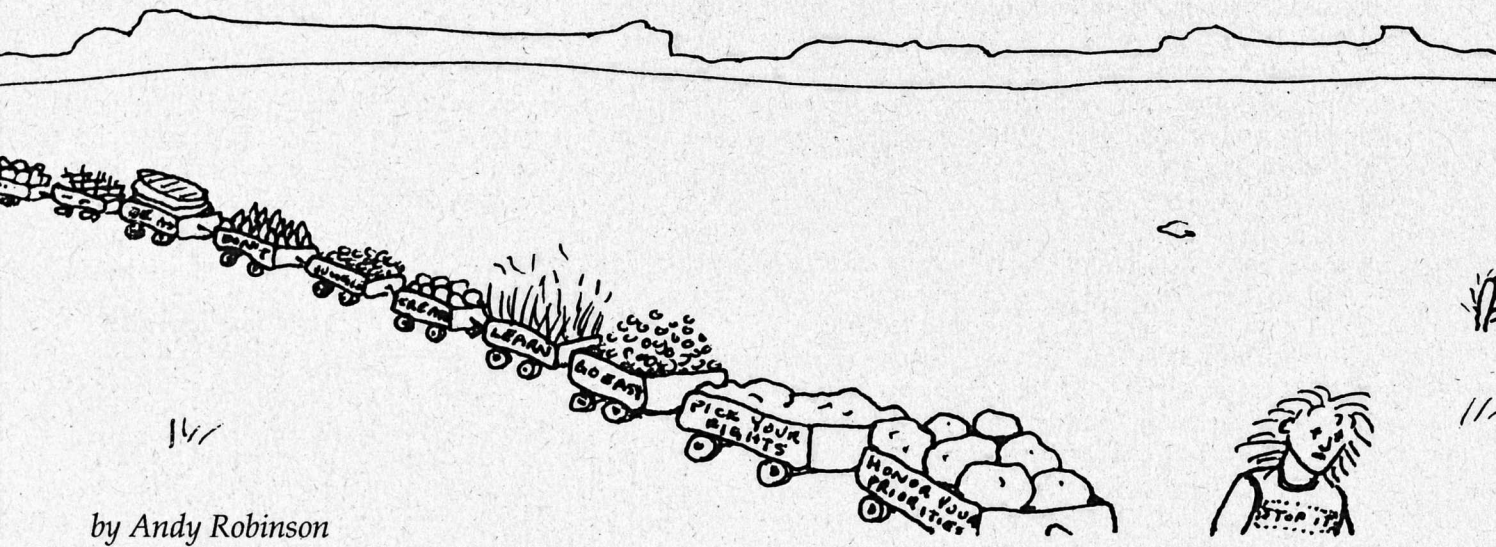
Each of The Orion Society's efforts focuses on spreading Nature literacy—a deep understanding of the places we inhabit and of the responsibilities we have to them. If we succeed, these programs will set in motion a re-evaluation of what it means to live well—prompting each of us to play a role in shaping and chronicling our own stories of who we are and where we live and *how* we live. This pursuit of local knowledge, and the binding connection that is forged by the inquiry, begins with learning the story of the view from your window. If you come to see yourself reflected in the rich panoply of intersecting story lines represented by paths of animal migration, shifting continental plates, and rivulets that carry water after rain, then it's possible to achieve not just a sense of place, but a sense of *belonging*. In his essay "Reinhabitation," Gary Snyder says that "knowing who we are and knowing where we are are ultimately linked. There are no limits to the possibilities of *who* and *where*, if you want to go 'beyond limits'—and so, even in a world of biological limits, there is plenty of open mind-space to go out into." This is precisely the ecological dialogue that is so desperately needed if we are to begin to play a participatory role in building a sustainable relationship between people and Nature for the centuries to come.

The Orion Society exists to help people feel connected to community, to place, to the Earth, and to guide them toward the kind of inhabitation that grants one a sense of purpose in this big, crazy, often chaotic, but ultimately natural world. ■

Jennifer Sahn is the assistant director of The Orion Society and an editorial board member for Orion Magazine. She and the other Orion Society staff recently made the exodus from New York City to the Berkshires in western Massachusetts. For more information about The Orion Society or Orion Magazine, write to them at their new home in Riverbank House: 195 Main Street, Great Barrington, MA 01230, or send e-mail to orion@bcn.net.

The Long Haul

Stamina, Persistence, Resilience



by Andy Robinson

MAGGIE KUHN, the founder of the Gray Panthers, once wrote, "I outlived my enemies and so can you!" We are often our own worst enemies, besieged by inner voices of doubt. "Who appointed you Atlas? Are you crazy? What makes you think you can save the world?"

Take it as your goal to outlive that voice. Real social change takes generations, and unless we're in it for the long run, we just skim the surface and nothing really changes. Be persistent, be tough, be flexible—especially in your fundraising. Here are a few humble suggestions to help you redesign your mind for the long haul.

DEALING WITH REJECTION

When I worked as a door-to-door canvasser for Oregon Fair Share, I was expected to talk with forty people per shift and recruit five members. For every enthusiastic person who said, "Great, let me write you a check," seven others said, "Go away." Some nights were easier, others were brutal. I spent very little time arguing or convincing; my job was to find the right people and leave everyone else alone. In some ways, rejection was helpful. The quicker the refusal, the sooner I could move on to the next house. The law of averages eventually bailed me out.

The odds of having your grant proposals approved are about the same: one in eight. At some point in your grant/proposal writing life—probably very early—you will face rejection. You've heard this before, but if you're like me, you need to hear it again: *Don't take it personally.* As Peter Bahouth of the Turner Foundation says, "If we turn you down, it doesn't mean you're a bad person. Everyone is doing good work, regardless of whether we can provide funds. The trick for any foundation is to find the excellent among the good." Martin Teitel puts it this way: "Maybe it would help people to understand that our job is more of a matching task than one of judging people's worth."

Over the years I've noticed that proposals that say, "Give us money or something terrible will happen," don't do nearly as well as those that say, "This is great work and we're going to do it with or without you. Here is your chance to join in and make it better."

—Martin Teitel, CS Fund

This article is adapted from Andy's new book, *Grassroots Grants: An Activist's Guide to Proposal Writing*, 1996, Chardon Press, PO Box 11607, Berkeley, CA 94712, (510) 704-8714.

For many activists, however, it's hard to separate the personal from the professional. Jon Jensen of the George Gund Foundation acknowledges reality in his essay, "Foundation Leadership," which appears in *Environmental Leadership* (Island Press, 1993):

The most important part of being a good grantmaker is being respectful of grantseekers and the work they are doing... They are not just presenting a project; they are setting in front of you their dreams, hopes, and, more than likely, a big part of their livelihood.

Given this situation, how can you *not* take it personally?

As a first step, you need to sort out the things you can, and can't, control. Most proposals are rejected due to lack of money, which has nothing to do with you, your organization, your project, or your writing skills. The vast majority of funders can't (or won't) allocate sufficient funds for every proposal they receive. If you send out grant applications, you will accumulate your share of rejection letters. That's the way it works.

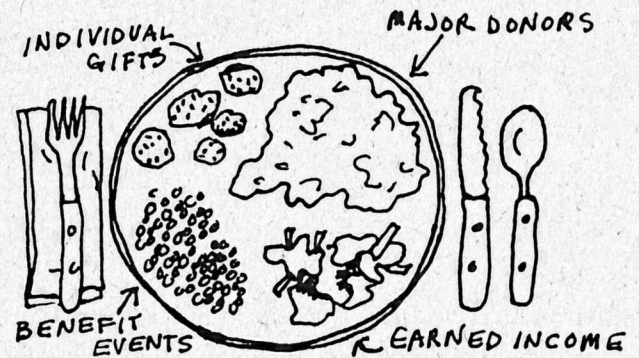
Of course, the best antidote for rejection is success. By targeting your proposals, you can greatly improve your odds. Over the past few years at Native Seeds/SEARCH, nearly 50% of our proposals were funded. Our success was based, in part, on our program, reputation, relationships, and the quality of the proposals we submitted; but the biggest factor was our *research*. Before we knocked on a foundation door with our proposal, we knew who was inside, what they cared about, and how they wanted to be approached. If we knew in advance that they wouldn't be interested in our work, we didn't knock.

If you take one message from this, let it be: *do your homework*. You will raise more money, waste less time, and feel better about your efforts.



AT SOME POINT IN YOUR GRANT/PROPOSAL WRITING LIFE - YOU WILL FACE REJECTION, DON'T TAKE IT PERSONALLY.

There's another, more subtle reason for doing a thorough job on the research. During my five years at Native Seeds, I built a prospect base of 250 foundations, corporations, and other funding sources. Over time, we applied to perhaps half the list. Several others we tracked for our long-term project, a conservation farm. The remaining prospects were marginal, but that file cabinet, stuffed to the limit with foundation guidelines and annual reports, was a great comfort to me. As I filed away each rejection letter, I would think, "Okay, if you don't want to work with us, we'll find someone else who does." In many cases, "someone else" was right at my fingertips. Rejection doesn't feel so bad when you have other options.



A DIVERSE FUNDING BASE IS THE BEST WAY TO ENSURE LONG TERM SURVIVAL.

DIVERSIFYING YOUR FUNDING

I recently read an article in the *Chronicle of Philanthropy* (11-30-1995) that described how the environmental movement is trying to revitalize itself by rebuilding from the grassroots up and increasing the emphasis on community fundraising. Sam Hitt, who heads Forest Guardians in Santa Fe, New Mexico, was quoted as saying, "Foundation support is like a drug. You get that check in the mail and you are on the ceiling for the rest of day, but then it goes away."

Most addictions will eventually kill you, and grant money is no exception. If your organization survives on foundation grants, it will die without them. Who, then, controls the fate of your group? No foundation can underwrite your work forever. Very few will fund you for more than two or three years in a row. You can improve your financial health by developing relationships with several grantmakers, but that won't protect you if their priorities shift. Issues rise and fall on the public agenda, and a lot of foundation money moves with the trends.

If you're serious about creating real change in your community, you must develop grassroots financial support. Change takes time and requires a steady stream of money. A diverse funding base of individual gifts, major donors, benefit events, and earned income is the best way to ensure the long-term survival and success of your organization.

Unlike most foundations, individuals have been known to support specific groups for decades. When I went to work at the local Planned Parenthood affiliate in 1988, we began transferring donor information from file cards to a computer database. Some of those cards had been marked on for twenty years! Many \$10 and \$20 contributors had, over time, become major donors, giving annual gifts of \$500 or more. Their commitment increased as their financial situation improved and they became more involved with the group and saw how their money was being used. In some cases, their children (and even grandchildren) were also donors. This happens when an organization lives to be sixty years old and maintains its relevance and vitality.

USING YOUR TIME AND ENERGY EFFECTIVELY

I once wrote on a job application, "I've learned to keep my sense of balance and my sense of humor under the usual constraints of not enough time and never enough money." It's a clever sentence, but in one sense it's a lie. When I wrote it, I felt overwhelmed by the problems we face, and I still do.

Take an honest look at the world—it's easy to be overwhelmed. Your goal, as activist-for-life, is to put that feeling in perspective and enjoy the victories you earn along the way. You need both balance and humor to survive, but mostly you need faith—faith in the power of change and your ability to create change. The following ideas will help you keep the faith and get the work done.

1. *Honor your priorities.* When I first met my wife, I told her the two things I couldn't tolerate were gross injustice and moldy dishes. In the intervening ten years, nothing has really changed. I've washed a lot of dishes and devoted most of my waking hours to organizing and raising money. Work is the biggest part of my life, because it gives me a sense of community and purpose. I am sustained by what I do all day.

Your priorities may be different. Learn what they are and honor them. If you spend time in meetings thinking about your children, go to fewer meetings and enjoy your kids more. If you feel the need to make things grow, put your hands in the dirt. If your faith is wavering, find quiet time and space to strengthen yourself spiritually. If you're exhausted, take a nap.

The main point is, figure out what moves you most and then do it. Burnout is caused by people doing what they *should* instead of what they *want*. Give your favorite organization whatever time you can afford—give it wholeheartedly and passionately—then draw the line. In the long run, you will have more time and energy to share.

2. *Pick your fights.* It pains me to say this, but you must develop an aversion to lost causes. If you can't see your way to victory—even if that victory won't occur for years or decades—pick another fight. To maintain your sanity and stamina, focus your energy where it will do the most good.

3. *Go easy on the ideological purity.* Don't get sucked into petty arguments with co-workers and allies. The history of the social change movement is filled with campaigns that failed

because allies could only agree—only!—on 90% of the program. If you're spending a lot of time arguing about turf, or the wording of your news release, or how to divide the credit, something is wrong. Check your ego at the door and focus on areas of agreement, not disagreement.

4. *Learn how to juggle.* Sort through the pile on your desk daily and put the most pressing items on top; deal with them first. Buy a calendar and use it. Don't go to meetings just for the sake of being there. Spend some time each day raising money. Keep track of the bank balance, but don't be obsessed. Say "thank you" whenever possible, for any reason. When you make a mistake, accept responsibility and solve the problem. Most of all, keep your wits about you. When in doubt, think.

Corporate gurus have a name for this strategy. They call it "muddle-through management," and it's gaining respect as a legitimate way to run a small business or even a nonprofit. It's especially effective for small, overworked, underfunded social change organizations with big ideas. Muddle-through management might be the best way save the world, which is a very muddled place.

5. *Create something good, then use it again and again.* Last year at Native Seeds/SEARCH, we submitted proposals to 62 funders. It was a lot of work, but not nearly as much work as you might think. We wrote proposals for eight projects, plus general support, then adapted them to meet the specific requirements of each foundation. Creating and refining these proposals took time, but once we had the right words, it was relatively easy to change the length, move the paragraphs around, and fit them into the required format. (For the record, 26 were funded, 20 were turned down, and 16 are pending as of January 1996.)

Recycling your work will save you vast amounts of time. In fact, you can take this strategy even further by pulling paragraphs or phrases from your proposals and using them in your direct mail solicitations, news releases, brochures, newsletters, and any other written materials. At Native Seeds, all 1995 membership renewal letters (six per year) were built from language first created for grant proposals.

6. *Don't be a drudge.* Last and best, give yourself lots of credit, then take a long break. Hike, swim, sleep, dance, ride a bike, go see a movie, make love with your sweetheart, cook an extravagant meal, stay up all night and read a good book. Forget about the sorry state of the world for a few hours, and revel in the wondrous state of the world. To quote Edward Abbey, "Be as I am—a reluctant enthusiast, a part time crusader, a half-hearted fanatic. Save the other half of yourselves and your lives for pleasure and adventure. It is not enough to fight for the land; it is even more important to enjoy it." ■

Andy Robinson (PO Box 3015, Tucson, AZ 85702) is a fundraising trainer and consultant, and the former development director of Native Seeds/SEARCH, a group working to find and save wisdom and seeds of Native Americans and native plants of the Southwest. He is currently assisting The Wildlands Project with major donor and foundation fundraising.

A Call For Leadership, Vision, and Purpose

by David N. Carle



Recently, I had the honor of spending a weekend with Brock Evans, a former vice president of the National Audubon Society. During one of our conversations, he told me that years ago when he applied for the Sierra Club position of Northwest regional director, he had to interview with a Sierra Club board member—the renowned Nature photographer, Ansel Adams. As Brock put it, “there I was, being interviewed by God.”

Do we have this kind of feeling and respect for the “leaders” of the environmental movement today? What are the traits that make a person a leader in the environmental community? Do we have any “gods” in today’s environmental movement?

WHAT IS LEADERSHIP?

As with most ambiguous subjects, there have been many attempts at defining leadership. The following are a few examples.

Paul Watson, captain of the Sea Shepherd Conservation Society, states:

“Command signifies leadership. Leaders must possess wisdom, intuition, sincerity, resourcefulness, and benevolence tempered with strictness and courage” (1993).

General George Patton Jr., arguably one of the greatest strategists of modern times, maintained that: “A leader is a man who can adapt principles to circumstances” (D’Este 1995).

According to author Garry Wills, winner of the 1992 Pulitzer Prize for general nonfiction: “The leader is one who mobilizes others toward a goal shared by leader and followers. In that brief definition, all three elements are present, and indispensable. Most literature on leadership is unitarian. But life is trinitarian. One-legged and two-legged chairs do not, of themselves, stand. A third leg is needed. Leaders, followers, and goals make up the three equally necessary supports for leadership” (1994).

A true leader is a unique person. Were this not the case, we would have a world full of leaders and no supporters to work toward a vision. Of course, there are different kinds of leaders. Paul Watson has identified nine types of leaders. Garry Wills has identified sixteen types of leadership. Whatever the number, these leaders have somehow found a way to appeal to and then motivate followers. Without supporters, a leader is sterile.

Bald Eagle by Darren Burkey

WHO NEEDS VISION WHEN WE HAVE PROCESS?

Many grassroots activists have been critical of mainstream national and regional environmental organizations. Why are they not effectively promoting the protection of imperiled species and wilderness? Why are they so quick to compromise, to cut political deals? The answer might be found in examining the differences between a leader and a manager.

J.P. Kotter, author of *The Leadership Factor* (1988), found that: "The key function of a leader is to establish the basic vision (purpose, mission, overarching goal, or agenda) of the organization. The leader specifies the end as well as the overarching strategy for reaching it" (1990).

Edwin Locke, chairman of the Department of Management and Organizations at the University of Maryland's College of Business and Management, contrasts this with a manager: "The key function of a manager is to implement the vision. The manager and subordinates act in ways that constitute the means to achieving the stated end" (1991).

With a lack of leaders and an over-abundance of managers presently situated in the environmental neighborhood of Washington, DC, most large national environmental organizations do not have a vision to implement. Without a clear vision, we get endless and pointless "process."

This is not to say that Washington needs to be purged of all managers. Indeed, many great leaders are successful because they have effective managers working with them. The strength of persons—or an organization, for that matter—is in their ability to identify their weaknesses and then take action to offset those weaknesses. Until mainstream national and regional environmental organizations recognize that they lack vision, we cannot expect them to provide leadership or a well-developed strategy to further the environmental agenda.

Machiavelli explained: "The skillful statesman always seeks to seize the initiative in domestic and foreign affairs and to cling to it tenaciously. He must do more than react to the maneuvers and pressures of others. Whenever possible it is he who must set the pace, who must see that every action of the enemy is a reaction to the behavior of his own forces which are operating according to clearly defined plans and purposes."

Successful campaigns require clearly defined plans and purposes. Managers tend to lack the vision to be able to develop clearly articulated plans. Without a visionary plan and purpose, interested supporters lack the emotional connection with the issue. As John Muir once said, "dry words and dry facts will not fire hearts." With the dismal record of the last few attempted national campaigns, including the National Forest Reform Initiative and Endangered Species Coalition, the environmental community may just be in a state of inertia.

SOME THINGS CANNOT BE COMPROMISED

The successful clean water, clean air, and land protection campaigns of the 1970s produced significant momentum for the environmental community. Yet, the community has forgot-

ten how the momentum was started. The perils of political complacency were noted decades ago by G.K. Chesterton, who wrote extensively on traditional leadership:

"Conservatism is based upon the idea that if you leave things alone you leave them as they are. But you do not. If you leave a thing alone you leave it to a torrent of changes. If you leave a white post alone it will soon be a black post.... Briefly, if you want the old white post you must have a new white post" (1959).

Those who rely on momentum need to realize that inertial movement decreases with time, through friction. Politicians continually "reinvent" themselves. Corporations return to their "core" business. Old products are used in new ways. All things that resist change are changed by that resistance in ways that may be undesirable. Unless change is managed, the vision can be compromised.

Change and compromise should not be confused with flexibility. Wood's introduction to the 1965 edition of Machiavelli's *The Art of War* asserts: "Flexibility, the ease with which one can continually adapt one's plans and behavior to the changing times and circumstances, is among the chief requisites of success on a domestic political level. Machiavelli constantly warns the leader against the half-way measure, the practice of taking a middle course, the attempt to have the best of two possible and diametrically opposed modes of behavior."

Many of the managers in the environmental community have abandoned the overarching visions of their organizations in an attempt to gain usually inconsequential "wins." They have moved toward "half-way measures" instead of being flexible and adapting to the changing circumstances while maintaining the overall organizational goals and vision. Some environmentalists have apparently forgotten that the definition of compromise states that both sides make concessions, which means both sides gain concessions. At the very least, they should be gaining as much as the other side in any "compromise." However, they should also remember that some things, such as species viability, clean water, and wilderness should never be compromised.

WHO ARE TODAY'S ENVIRONMENTAL "GODS?"

If you were interviewed for a position in one of the national environmental organizations today, would you view any of the interviewers as a "god" or a hero? The requirements to be a leader of a national environmental organization have apparently changed over the last 25 years. In the past it was activism grounded on a vision of protecting wildlands, waters, and the air. Today the primary requirements appear to be skills in strategic planning, networking, and fundraising. Activism is being discouraged, if not suppressed. The decision-makers have forgotten that action begets supporters, and supporters become activists. Too many of today's "leaders" are really managers.

How did the leaders of the past gain the reverence of the people of today? If we take the above definitions of leadership and apply them to leaders such as Ansel Adams, Robert

Marshall, and Marjorie Stoneman Douglas, we find people with a clear vision and well-defined goals who educated and inspired others. Ansel Adams brought his photographs of special places to the people, explaining that pictures were no substitute for the actual places which needed protection. Marjorie Stoneman Douglas brought to the attention of the public the destruction of the Everglades ecosystem and the societal need to protect it. Bob Marshall traveled to Alaska and immediately recognized the need to protect large wild areas for future generations. These people put a vision first and then developed support for that vision. Today, we honor them for their achievement and vision.

Through the lives, works, and words of great environmental leaders, another common thread is their understanding of history. Paul Watson explains:

"It is through history and anthropology that we can learn from mistakes of our ancestors. It is through history that we can resurrect the ecologically more positive lifestyles of our more enlightened ancestors. It is through history that we can learn the results, both success and failure, of the application of different strategies. The study of history also expands our knowledge of events past so as to draw us into the reality of the past...."

Leaders of the past made it a point to record their thoughts and experiences. Robert Marshall wrote extensively about his travels in Alaska. Ansel Adams has forever captured the raw beauty of wildness through his photographs. William O. Douglas left a literary legacy of his environmental thought and experiences for future generations.

This history goes beyond just people. In 1982, the National Audubon Society published a book entitled *The Fight to Save Wild Alaska*, a history of the Alaska lands campaign documenting the work that led to the protection of vast areas of Alaska. Has anything of the likes been published and distributed for the successful California Desert protection campaign? Even our few successes are slipping by almost unnoticed by the public.

Recording history is only half the equation. To learn from the past, you must *study* the past. How many activists today know how Olympic National Park was successfully wrestled out of the hands of the Forest Service? How Great Smoky Mountains National Park came about? Or how arose the present logging crisis in our National Forests? Part of the problem with today's environmental community might just be a lack of understanding of our roots. Are we a community suffering amnesia? Hundreds of books and articles document the environmental battles of the past. Unfortunately, too few activists read and learn these lessons.

Many of the obstacles that we face today were faced by our elders before us. Battles for the designation of Wilderness and the protection of wildlife have been fought many times in different places by different people. By studying the past, we can strengthen our planning for the future.

MAKING AN ANSWERABLE CALL

Leadership requires patience. Ansel Adams was on the board of the Sierra Club for years. Robert Marshall worked for the US Forest Service. John Muir fought until he died for the protection of unspoiled wildlands. David Brower has served in various leadership roles in numerous organizations for five decades. Overnight sensations seldom leave a legacy.

Think about the present leaders of the environmental community. Would anyone dare guess how many board and staff meetings Brock Evans has endured? Or Andy Kerr of the Oregon Natural Resources Council* or David Brower... how many times have they had to ask people for donations, answer phone calls, or encourage an inexperienced but promising activist? These leaders have all invested tremendous amounts of time and energy to further their visions.

Which brings up another point. Part of leadership is passing on the skills to the next generation of potential leaders. Think of how many people in the environmental community were "trained" by David Brower; how many wilderness activists were influenced by the words and actions of Bob Marshall; how many people have been inspired by the books of William O. Douglas. These leaders also went beyond this "inner circle" to offer words and visions to a larger audience. The result was thousands of people working tirelessly toward the leaders' visions.

There is a long list of requisites for leadership—he or she needs determination, focus, a clear goal, a sense of priorities, and so on. It is easy to forget the first and all-encompassing need. A leader most needs followers. When Shakespeare's Welsh seer, Owen Glendower, boasts "I can call spirits from the vastly deep," Hotspur deflates him with the commonsense answer: "Why, so can I, or so can anyone. But will they come when you do call them?" It is not the noblest call that gets answered, but the answerable call. (Wills)

Some of the most urgent calls have been answered. During the 1970s, 52 organizations formed the Alaska Coalition, which worked to pass legislation that protected 99 million acres of Alaska. David Brower and the Sierra Club awoke the nation and stopped the damming of the Grand Canyon. Under the guidance of Jasper Carlton of the Biodiversity Legal Foundation, activists have slowed the rate of species extinction by using the Endangered Species Act. When a group or individual offers a compelling vision, a clear purpose, and a plausible plan, people will follow.

Dealing with critics is also part of leadership. There is no shortage of criticism of the environmental community today. We should remember, though, that even great leaders of yesterday—including our founding fathers—were attacked in their time. When George Washington retired from the presidency in 1797, the *Philadelphia Aurora* editorialized:

*Andy recently retired from his position of ONRC executive director, but plans to carry on his conservation leadership in other capacities.

If ever a nation was debauched by a man, the American nation has been debauched by [George] Washington. If ever a nation was deceived by a man, the American nation has been deceived by Washington (Wandell and Minnigerode 1925).

Criticism should make a leader stronger. If you cannot answer the critics, how ever will you gain legitimacy to represent supporters?

PULLING THE NOODLE

Leadership requires a person of special qualities. A leader who is motivated, skilled, and visionary—but nothing more—will probably remain simply a motivated, skilled dreamer. However, a person who is able to translate the vision into action, and able to convey that action to others, will be able to implement their vision. One of the most important qualities of leadership is the willingness to take risks. Napoleon observed that, “If the art of war consisted in not taking risks, glory would be at the mercy of very mediocre talent.” Leaders such as John Muir, Bob Marshall, and Marjorie Stoneman Douglas all took risks, not the least of which was challenging their employers’ ways of doing business.

During a critique of a military training exercise, General Patton brought out a plate and a wet noodle, the noodle representing the troops. “Holding the plate up for all to see, he attempted to push the noodle across the plate and, failing, said: “Gentlemen, you don’t push the noodle, you pull it. In other words, you lead.” Over the past few years, the managers of the environmental community have attempted to push the noodle instead of leading.

Our community has a number of noble leaders, including Brock Evans, Dave Foreman, and Andy Kerr. New leaders are emerging. The managers presently in charge of many of the regional and national environmental organizations need to recognize the lack of vision in their strategic plans and encourage input from these emerging leaders. The mainstream national and regional organizations need some risk-takers.

Leadership is very important to a community that thrives on campaigns. Leadership through consensus is only as strong as the weakest participant. The ample modern-day examples of deferring to the lowest common denominator, thus holding the vision back, include the National Forest Reform Campaign, the Endangered Species Coalition, and the Northern Forest Alliance. Where leadership, vision, and purpose emerge, we have the North Cascades and Olympic National Parks, the White Mountain National Forest, and millions of acres of land forever protected in the states of Alaska and California. With knowledge of the past, and leadership in the present, we can ensure those values for future generations to come. ■

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Wilderness

Redux *Can Biodiversity Play a Role?*

by Donald M. Waller

Rather than accept this humility, two current scholars choose to assert instead that our ideas about wilderness are now so culturally and historically mired as to have become an albatross around the neck of those who strive to conserve Nature. In "The trouble with Wilderness, or getting back to the wrong nature," Bill Cronon (1995a,b) argues that ideas surrounding wilderness have become so encumbered with cultural and historical biases that "wilderness poses a serious threat to responsible environmentalism in the late 20th century." This essay was excerpted prominently in the Sunday *New York Times* magazine, as well as appearing in the book edited by Cronon titled *Uncommon Ground: Toward reinventing nature*. Baird Callicott (1991; 1994a) has made similar arguments with similar (good) intentions. These authors argue that we should dispense with what they consider to be obsolete notions of

wilderness in order to move the debate on to issues about how best to mesh our human culture and activities with natural environments. Both authors urge us to avoid using wilderness as a dualistic standard for judging Nature and ourselves, which, they claim, leads us to undervalue the opportunities we have nearer at hand to reconstruct our cities and countryside in a more ecologically benign manner. Cronon uses a metaphor of a tree in the garden to ask whether, by valuing distant and grand wilderness areas, we don't devalue the "humble places and experiences" nearer to home.

Ability to see the cultural value of wilderness boils down, in the last analysis, to a question of intellectual humility.... It is only the scholar who understands why the raw wilderness gives definition and meaning to the human enterprise.

—A. Leopold (1949)

These critiques come from serious scholars deeply concerned with our culture's inability to sustain economic activities within the biological world which seems increasingly to be threatened by them. Despite Cronon's unfortunate title, these authors also profess support for protecting existing Wilderness Areas. They choose to criticize wilderness to achieve what they consider to be broader and more important goals. It seems likely, however, that unfriendly critics will borrow their provocative statements to counter support for wild lands.

Here, I question the idea that concepts of wilderness are historically so static, or so confining, as to stymie further debate or progress on land-use issues. I will argue the opposite: that concepts of wilderness are currently undergoing a remarkable evolution to encompass a broader set of values and processes and that this broadening will increase rather than diminish the importance of wilderness values in future land use debates. Although I write as a scientist rather than as a historian or environmental philosopher, I marshal historical evidence to show that wilderness has already begun to serve a broader set of goals. I return in the end to ask how our concepts of wild and wilderness might better inform current approaches to rebuilding human settlements and restoring degraded habitats.

DO CONCERNS FOR WILDERNESS DIMINISH THE PROTECTION OF LOCAL ENVIRONMENTS?

Let us first question Cronon's initial premise: By idolizing wilderness and working for its protection do we, in fact, diminish our concern for, and protection of, nearer and more mundane environments such as our cities and farms? If so, then critics might be justified in focusing more attention on local issues and environmental justice. This premise appears to imply that our efforts to protect the environment represent a zero-sum game where additional concern for one area diminishes resources available to protect or restore other areas.

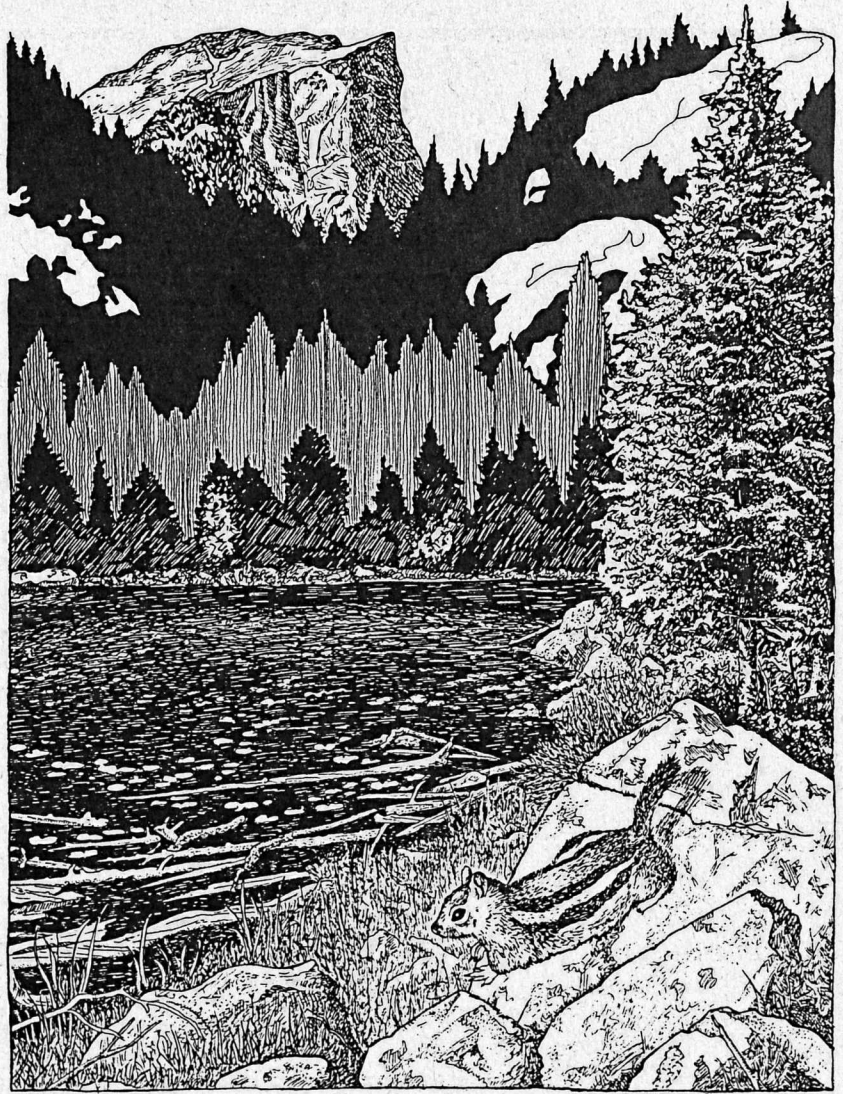
My own experience suggests that individuals who work passionately to preserve remote wild places such as the Arctic Wildlife Refuge are more rather than less likely to care strongly about their nearby forests and wetlands. While ecologically concerned citizens are inevitably torn among many worthy causes and may decide to allocate more time and energy to remote and wild areas, this should never be taken to imply that they lack interest or concern for local conditions or the welfare of their neighbors. Even those few who do loudly proclaim their "misanthropic" preference for the protection of big wild areas over other human values often do so simply to make an important point: that humans preoccupied with their own welfare and income customarily relegate only low priority to protecting wild areas. "Ecowarrior" Dave Foreman (1994), co-founder of the group Earth First!, notes that:

Wilderness advocates are not anti-people. Most of us support campaigns for human health and for social and economic justice.

Wilderness advocates also concern themselves with small, partially degraded, and local scraps of habitat. Did not John Muir plead passionately with his family to protect the small wetland on their farm (Wolfe 1945; Fox 1981)? Aldo Leopold, co-founder of The Wilderness Society and architect of the first US wilderness area, laments the "improvements" of modern agriculture in his essay "Illinois bus ride":

There are not hedges, brush patches, fencerows, or other signs of shiftless husbandry. The cornfield has fat steers, but probably no quail. The fences stand on narrow ribbons of sod; whoever plowed that close to barbed wires must have been saying, "Waste not, want not."

Far from devaluing local conditions, Leopold and other wilderness leaders plead for us to extend our ecological sensibility throughout our landscapes. If concern for wilderness does not weaken concerns for local environments, where is the rationale for de-emphasizing wilderness?



Evan Cantor '84

THE TREE IN THE GARDEN AND THE MEANING OF WILDNESS

Cronon concludes his essay by suggesting that we should all learn to “honor the wild” that surrounds us, including the tree in the garden which he argues is no less wild than a tree standing in an ancient forest. If we are to value wildness, then we should recognize it wherever it occurs and seek to restore it to our local environments rather than reserving it, at a distance, for special occasions.

Is the tree in the garden wild? In some senses, yes. It is derived from an unbroken line of ancestors that ultimately stretches back 3.5 billion years. Its genetic code embodies and records this evolutionary history, and it grows via the same intricate biochemical processes of respiration and photosynthesis that occur in its forest cousins. Depending on its species, our tree may also support a squirrel or two, a few birds, and legions of smaller creatures, providing an island of Nature amid yards and streets. Finally, the tree in the garden serves to symbolize the rest of Nature and, by proxy, our relationship to it.

Despite these similarities, however, the tree in the garden differs in several profound ways from a tree growing in a forest. The birds in this tree’s branches, the lichens on its bark (if, indeed, there are any), and particularly the nematodes, fungi, and bacteria that thrive around its roots are hugely different in number and likely in kind from those of any comparable tree growing in a forest. Furthermore, its flowers, fruits, and seeds face a far different fate (often death) due to a lack of appropriate pollinators and dispersers and the scarcity of “safe-sites” for germination and establishment. In sum, the tree in the garden is no longer wild because it has been removed from its ancestral ecological and evolutionary context. To paraphrase the poet Goethe’s phrase “Ein Mensch ist kein Mensch”: a tree removed from its context is not really a tree. While it may persist as an interesting artifact, its future is

oblivion—unless, of course, it happens to be a weed tree well-adapted to growing in cities, in which case its evolutionary prognosis may be excellent, at least in the short term.

Arguments over the meaning of wild, natural, and wilderness would seem academic and semantic except for the real implications they carry for how we manage our lands and waters. Cronon and Callicott fault our historic tendency to draw dichotomies of wild vs. tame, natural vs. unnatural. They remind us that with global climate change and the long-distance transport of heavy metals, persistent pesticides, and other pollutants, no area on Earth remains pristine or free of human influence. But does this diffusion of human impacts throughout our biosphere mean that we have lost the logical basis for protecting remaining forests, prairies, and estuaries? If nothing remains that is truly wild, and if humans are integral parts of the systems we seek to protect, how can we establish criteria to evaluate human behavior? What boundaries shall we place upon our own tendency to expand and subvert other biotic systems to our own ends? Shall we establish parks to protect rock quarries, dammed rivers, and hog farms? Shall we do whatever we please on the land and in our rivers and lakes as long as we agree to label these effects “natural?” These are the dilemmas posed by environmental relativism, now echoed in the reactionary press.

To avoid falling into either the trap of dualism or the quicksand of environmental relativism, we must recognize that *degrees of wildness exist*. Cronon begins his essay with Thoreau’s famous assertion that “In Wilderness is the preservation of the World,” but he then abandons wildness to discuss the historical and cultural roots of our ideas about wilderness instead. If wilderness is, admittedly, a very human construct laden with cultural meaning, wildness is just the opposite: that which is not, and cannot be, a human construct. Wildness existed before human cultures expanded and will exist long after human cultures have vanished. Wildness also persists in many

Is the tree
in the garden
wild?

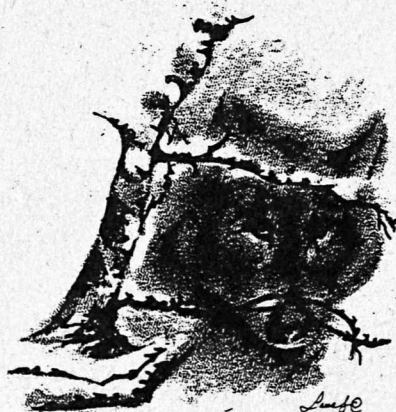


illustration by Laura Luzzi

corners of our acculturated cities and farms and within ourselves. However romanticized and idealized our notions of "wild" and "wilderness" are, there is and always will be a gap separating the artificial from the wild—the "otherness" that Cronon refers to.

Fortunately, we can define "wildness" in terms that are much less prone to misinterpretation and misuse than our use of "wilderness." Let us define an organism's, or a habitat's, wildness in terms of its ecological and evolutionary context, i.e., its habitual relationships to other organisms and the surrounding environment. For an organism to be considered "wild" (and often to persist at all) it must exist in an ecological context essentially similar to the one its ancestors evolved in. Importantly, this is not necessarily a context that provides the best survival rates or most individuals of a species, but rather one that permits persistence according to historical ecological dynamics. Any species exists only as a population of individuals, the separate survival and reproduction of which are themselves far less important than the viability of the meta-population (or lineage) as a whole. To persist, most wild species need relatively intact habitats that retain historical patterns of disturbance, connectivity, and ecological interaction. Habitats, then, also exist in degrees of wildness according to how greatly these patterns have been disrupted or displaced. This definition is explicitly historical in the sense that it stipulates a continuity (but not stasis) in reigning conditions. To ignore this evolutionary history by assuming that organisms can readily adapt to live in the radically altered environments we construct reflects biological ignorance, remarkable hubris or both.

Under this definition, isolated organisms removed from their natural context as we find in zoos and botanical gardens can never be considered wild. They lack the most crucial aspect of their identity, namely their interactions with natural habitats including conspecifics and the vast number of other species that constitute the world in which their an-

cestors evolved. Any plant or animal plucked from this context plays a far weaker ecological and evolutionary role. Such plants and animals demand external feeding and propagation, experience artificial breeding and selection, and are unlikely to leave any long-term evolutionary legacy. While such organisms, like the tree in the garden, will always retain vestiges of their wild evolutionary past, they also are prone to fundamental changes in character, as occur in domesticated plants and animals. A Chihuahua is no wolf, even if they share most of their genome, and deserves no protection from Defenders of Wildlife.

If Cronon had been writing about the state of wildness instead of our use of wilderness concepts, he surely would have made a different set of points. Perhaps he would have noted that no other large animal has ever existed on Earth in such vast numbers with such profound impacts on so many ecosystems (Vitousek et al. 1986). He might have joined top scientists like E.O. Wilson, Peter Raven, and Paul Ehrlich in emphasizing the appalling scale and irreversible nature of losses to biodiversity across the globe. Cronon might also have reported that only 11% of the world's lands remain wild, that only 3.9% of the US is protected as National Parks or declared Wilderness, or that our country has actually paved over more land than we have protected under Wilderness designation (Callicott 1994a). He might also have stressed how miserably our European ancestors failed to protect the original forests and prairies they encountered. We might have wished that a prominent scholar speaking to the subject of protecting the near and mundane would stress how imperiled even small remaining scraps of wild Nature are in today's political climate, where neo-conservatives rush to dump decades of legislation protecting rare species and habitats, accelerate mineral resource development in wildlife refuges, sell off entire National Parks, and accelerate the logging of old-growth forests under the pretense of "forest health."

CHALLENGES POSED BY ECOLOGICAL CHANGE

Environmental relativism also crops up surprisingly often in the context of ecological change. Both scientists and laypersons have long assumed that Nature, left to its own devices, reaches a balance or equilibrium. Early descriptions of ecological succession stressed the ability of many biotic communities to rebound from disturbance by passing through a predictable succession to converge on a stable "climax" community. Such ideas are also frequently associated with notions of ecosystem recovery or repair. More recently, ecologists have questioned ecological stability and convergence and have instead stressed the dynamic responses of plant and animal communities to disturbance and secular changes in environmental conditions (Pickett & White 1985). The ecologist Dan Botkin (1990) popularized this paradigm shift within ecology and termed the acceptance of non-equilibrium ecological dynamics "the new ecology." This academic paradigm shift might have gone unnoticed except that more popular writers such as Chase (1986), Callicott (1991), and Easterbrook (1995) leapt on these ideas to argue that our traditional notions of Nature are too static to suitably represent actual ecological conditions. Some of these authors went further to argue that because ecological change is unpredictable and often lacks set equilibria, we therefore have no guideposts to evaluate the status of ecological communities or our own management. Industries such as the Mobil Corporation have quickly capitalized on such ideas, quoting the ecologically fatuous ideas of Easterbrook (1995) to assert that "the notion of a fragile environment is profoundly wrong... The environment... is close to indestructible." Similarly, Proctor (1995) in an essay in Cronon's book interprets the lack of any balance in Nature to imply that there is no ecologically (or ethically) correct way to manage old-growth forests in the Pacific Northwest.

While ecological dynamics are an obvious challenge in many situations, it is seriously misleading to argue that ecological change is so disordered or random as to preclude any coherent or consistent approach to management. In fact, most ecological disturbances are rather predictable and form an integral part of managing those ecosystems. Ecologists, conservationists, and some land managers have long accepted these roles for disturbance within natural systems and incorporated this understanding into land management. Thus, those managing prairies and barrens vegetation routinely use fire, and those concerned with floodplain habitats and fish stocks strongly advocate approximating historical patterns of flooding. While professional disagreements often occur, few natural areas managers dispute the critical role such disturbances play in perpetuating the conditions necessary to sustain native species. Even two-thirds of a century ago, Adams (1929) concisely dispensed with the straw man of stasis in the context of preserving natural values:

Thus, when ecologists emphasize the need of setting aside reservations for the preservation of natural conditions they do not mean, and certainly do not expect, the conditions to remain indefinitely "balanced," fixed and unchanged or unchanging, because they know that it is utterly impossible, both theoretically and practically... to keep it free from all outside influences.

Human activities, however, in many instances cause ecological change too extreme in type or speed for native species to adapt or rebound. We continue to discover fresh ways that dozens of species are displaced or extinguished by profound changes in historical patterns of disturbance (e.g., dams and flooding, fire suppression, heavy logging in ancient forests). We must recognize the real and immediate ecological threats posed by such alterations and distinguish carefully between historically dominant and more novel types and patterns of disturbance. The threats here lie in the nature,

rate and extent of change rather than the occurrence of change per se. Similarly, we can use these differences to distinguish degrees of wildness among remnant habitats. With care, habitats can often be nudged back in the direction of greater, rather than depleted wildness, increasing the ability of these areas to retain species. Our job, then, is to recognize vectors of change in response to changes in internal and external conditions. We must then improve our abilities to favor those ecological changes that promote, rather than diminish, wild conditions (i.e., those capable of sustaining the species that historically occupied these habitats).

It is therefore absurd to claim that any changes we precipitate in the lands and waters around us are as natural and acceptable as any other. Botkin (1991), Alverson et al. (1994), and other ecologists argue specifically that to accept ecological change as inevitable does not imply that we should accept any kind of change. Real differences in conservation value exist among different areas (and thus among human actions affecting these areas). Lands also plainly differ in the degree to which their original biotic value has been degraded by direct or indirect human influence and in the opportunities we have to conserve what biotic value they retain. Once we accept that lands differ in conservation value, then we must also accept that protecting certain areas from further degradation is far more significant than protecting other areas.

ESTABLISHING BIOTIC VALUE IN AN ERA OF RELATIVISM

What is this biotic value? Can it be defined unambiguously in scientific terms, or are we merely substituting one metaphysical concept, now cloaked in the garb of science, for the metaphysical awe and reverence that Cronon documents as the legacy of wilderness? Most conservation biologists agree that criteria for biotic value must be developed

for prioritizing the conservation value of various lands, usually on the basis of an area's ability to help sustain native biological diversity. In fact, such assessments have been routine for years. The Nature Conservancy has set as its explicit goal the identification, purchase, and permanent protection of natural areas with the highest biotic value. They routinely rank species and community types according to quantitative criteria and assemble these data in their Natural Heritage databases (Noss 1987). Quantifying the biotic value of lands is also central to the routine business of writing environmental impact statements and to identifying critical habitat under the Endangered Species Act (ESA). In fact, assessing the biotic values for habitats of endangered species has become more important under Section 9 which allows "habitat conservation plans" to substitute for absolute protection of all suitable habitat (Beatley 1994).

Few conservation biologists are shy about devising scientific criteria to estimate biotic value, or doubt their importance in conservation. We rarely concern ourselves with questions regarding what is truly "natural," "stable," or "pristine," and consider debate over such matters to be empty. This is not to say that developing biotic criteria for conservation is simple or free of controversy. Our doubts and concerns are many, but they revolve chiefly around how unsure we are about levels of threat and the manifold effects of human management actions. We also accept that our scientific criteria can never be purely objective or free of cultural bias. That they are artifacts of our culture, however, in no way implies that what they seek to describe or quantify is an artifact or culture-bound. Species will persist and thrive or decline to extirpation and extinction in response to human activity, and there is nothing remotely subjective about the permanence of their extinction. Indeed, it is the epic proportion and rapidity of these losses that drives us to make the many imperfect judgments we must in deciding which areas most deserve protection.

SCIENTIFIC VALUES FOR WILD LANDS

Cronon ably describes how human values for wilderness (scenic grandeur, the chance to test oneself against primitive conditions, sublime beauty, etc.) have shifted historically. The presence of so many shifts, he argues, has left us with so many culturally inappropriate notions of wilderness as to make the idea misleading, divisive, and therefore counterproductive. Ironically, this argument comes just at a time when an entirely new set of concerns for wild lands has come to the fore to reinvigorate the wilderness movement. In particular, justifications and criteria for preserving natural and wilderness areas are turning away from scenic and recreational values to address instead the *biotic* values that wild lands sustain (Alverson et al. 1994, Noss & Cooperrider 1994, Waller 1996). One might agree or disagree with

Cronon's thesis that human values for wilderness have become obsolete, but the essay does little to inform the reader of how our notions of wild lands are expanding in the late 20th century to encompass this new realm of values and urgent justifications. These shifts have, in fact, given traditional concerns for wilderness a new lease on life and placed the designation of wild lands at the forefront of conservation thinking and action.

The science of conservation biology emerged as ecology, systematics, and wildlife biology struggled to confront the threats to both individual species and biological communities. As this science has progressed quickly in recent years, a surprising number of independent, yet interrelated, scientific justifications for conserving large and undeveloped lands have emerged (Alverson et al. 1994). For example, many of the ecological interactions crucial for sustaining plant and animal species depend critically on how

large, connected, and intact areas of habitat are. Smaller natural areas and those subject to human disturbance tend to lose a substantial fraction of their species via several distinct mechanisms even if they appear initially to be of high quality. Most obviously, large wide-ranging carnivores and ungulates sensitive to human activity require extensive home ranges and quickly disappear from smaller or fragmented habitats. Many smaller species of amphibians, mammals, and plants are also quite sensitive to human disturbance or human alteration of natural disturbance regimes. Species may be incapable of dispersing across open or inhospitable habitats such as roads, dissecting their populations into smaller subunits which are increasingly vulnerable to genetic and demographic hazards. Neotropical migrant songbird species have suffered serious declines across eastern North America in apparent response to cumulative habitat losses



Gambel's Quail sheltering in chained junipers, Arizona by Bob Ellis

and fragmentation. As edge habitats have increased, the nest predators and parasites favored by such edges have also increased, drastically reducing nest success. Smaller areas are also less able to sustain historically dominant patterns of natural disturbance (e.g., fire and wind throw), causing further losses of species dependent on these disturbances. In their stead, farming, roads, channelization, and other forms of development enhance opportunities for the weedy and often exotic species that increasingly dominate our landscapes, further displacing many native species. While many of these changes are delayed or tend to occur slowly, their collective impacts have already been dramatic. Their future impacts will likely be catastrophic.

Thus, habitat loss, fragmentation, and other forms of degradation represent clear and present threats to a large fraction of our already impoverished biota. All these phenomena strongly support a consistent approach to conservation that emphasizes the preeminent need to maintain large and/or connected wild areas relatively free of human disturbance. Only such areas are capable of supporting larger, more viable and interconnected populations of rare and threatened species and perpetuating the ecological processes that sustain other elements of biodiversity. While some elements of diversity may be sustained in smaller areas, and certain species clearly need particular habitats, most conservation biologists readily agree on the fundamental importance of protecting large blocks of suitable habitat as a first defense against further species losses. While Cronon and Callicott (1991, 1994) criticize wilderness designations for their "man vs. nature" dichotomy and the alienation it promotes, many species sensitive to habitat loss and disruption demand such separation if they are to survive at all.

Although conserving wildlife has always existed as an accessory justification for wilderness, few of our Wilderness Areas and only one of our National Parks (Everglades) have been expressly designated to preserve biotic values. In

addition, scientific and lay concerns for these biotic values have themselves expanded from a few vertebrate species (the "charismatic megafauna") to embrace broader concerns for biodiversity. These findings have also recast the agenda of many conservation organizations, including The Nature Conservancy.

How do scientific approaches to conservation accord with more traditional approaches to managing wilderness? Large, relatively undeveloped areas with low road density are correspondingly wild in aspect and suitable for both Wilderness designation and protecting biotic values. Although backcountry recreation has been, and continues to be, a major justification for designating these areas, Wilderness Areas are managed to reduce human activities and disturbance. Thus, in many respects, goals for Wilderness Areas mesh well with the goals of conservation biology. This is not always the case, however, particularly since traditional Wilderness Areas have usually been placed in habitats of little economic value, such as mountainous regions or deserts. While "rock and ice" locales clearly serve aesthetic and recreational ends, they conspicuously neglect lowland areas and biologically productive habitats that collectively sustain far more species. This shortcoming, though, reflects historical contingencies rather than any deficiency in the wilderness concept itself. If they are to serve an increasingly biotic role, future wilderness designations should focus on lowland forests, prairies, and wetlands that are so conspicuously absent from our current system.

Some critics argue that aspects of the designation process limit the number and location of Wilderness Areas and constrain their management. Rather than allow wilderness to serve only as a weak vehicle for protecting biodiversity, perhaps we should pursue different designations aimed explicitly at this goal. For example, the UN designates Biosphere Reserves around the world intended to protect biodiversity. Similarly, Solheim et al. (1987) and Alverson et al. (1994) used biotic principles to design "Diver-

sity Maintenance Areas" (DMAs) for Midwestern public lands. We invented this term and devised an independent set of management principles for these areas to deliberately distance our proposals from conventional wilderness areas in this region. This, however, was a judgment that we consider particular to this situation. We also see virtues in broadening the wilderness concept:

The merits of associating ecosystem protection with wilderness lie in their very close interconnection in fact, the centrality of a hands off policy for achieving biotic health, and our proven willingness as a society to take strong legal measure to protect lands of exceptional value, called wilderness, for nonmarket reasons. These hallmarks of wilderness would well serve biodiversity. (Alverson et al. 1994, p. 243).

To allow for differences in primary purpose and styles of management, we could establish different categories of wilderness. Interestingly, Aldo Leopold also came to accept scientific justifications for wilderness (Meine 1988). After initially justifying wilderness primarily for its contributions to recreation (Leopold 1921), he embraced a broader set of cultural and historic values (Leopold 1925) before finally arriving in his essay "Wilderness as a Land Laboratory" at the idea that the most critical role for wilderness was the scientific one of serving as a control to judge the effects of human impacts (Leopold 1941).

Although justifications for Biosphere Reserves and DMAs are based strictly on science rather than the grandeur of scenery or the romantic opportunity to prove oneself in a wild and remote setting, Cronon questions whether biodiversity truly represents a scientific value:

Although at first blush an apparently more "scientific" concept than wilderness, biological diversity in fact invokes many of the same sacred values. (p. 81)

Here, the essay appears to argue that biological criteria for wilderness serve merely as a cover for deeper individual motives that remain at base metaphysi-

cal. In light of such criticism, we must make a concerted effort to distinguish the coherent and powerful scientific rationale we have for conserving wild areas from other more immediately self-serving human values.

ARE SCIENTIFIC AND TRADITIONAL HUMAN VALUES FOR WILDERNESS COMPATIBLE?

By suggesting that scientific arguments act as a cover for sacred values, Cronon seems to imply either that scientific justifications are insufficient or that moral and scientific justifications for wilderness are somehow incompatible with one another. Such positions are at odds with the personal history of many of the individuals most directly involved with the wilderness movement in America. Is it simply a coincidence that so many of these individuals were excellent field naturalists? One could start with Thoreau and recall his patient and perceptive observations of ant warfare, the details of tree dispersal, and the process of ecological succession (a term he apparently coined). One might also consider John Muir who, as the Archbishop of Nature worship in the late 19th century, must be considered to be at the center of those ascribing sacred values to wild lands. Yet this is the same man who began his career as a successful inventor and machinist, gained college training in botany and geology, and convincingly demonstrated the glacial origin of high Sierra valleys in California such as Yosemite (Fox 1981, Wolfe 1945). Finally, Aldo Leopold was a scientist of considerable stature as well as a major spiritual and moral leader of modern environmentalism. This remarkable man moved seamlessly from justifying wilderness primarily on recreational grounds to more holistic points of view where land and species should be protected according to our best scientific understanding for both scientific and ethical reasons. More than any other individual, Leopold embodies the philosopher-scientist who

sought, and found, deep resonance between his commitment to scientific and moral principles.

It is also instructive to consider the contemporary example of Dave Foreman, a founder of Earth First! and chief spokesman for "The Big Outside." In his *Confessions of an Ecowarrior*, Foreman (1991) traces the evolution of his own thinking and moral stances relative to conserving wilderness. Interestingly, despite a personal history rich in wilderness exploration and defiant moral stands on behalf of wilderness, Foreman settled firmly on biotic justifications for wilderness as being most appropriate in the sense of being both scientifically sound and morally defensible. Indeed, he now spends much of his effort extending and defending concepts of wilderness explicitly in the context of protecting biological diversity (Foreman 1994) and working with biologists to promote the ambitious Wildlands Project (Foreman 1992).

The concordance between conservation science and moral values emerges forcefully in what has been termed the "New Conservation Movement" (see other issues of *Wild Earth*, especially volume 1#2). This movement has arisen in direct response to the emergence of conservation biology and the accompanying realization that conventional approaches to conserving wild lands based on scenic beauty or the potential for rugged recreation are failing to adequately protect species diversity, particularly in species rich habitats with little scenic or recreational value. These twin developments are related, of course, in that conservation biology provides a strong scientific basis for the new conservation movement and that both recognize the special importance of habitat area, landscape context, and biotic interactions for conserving biodiversity. Although some environmentalists have yet to embrace this shift, it is an increasingly dominant theme within many conservation organizations. It is noteworthy that leading conservation biologists such as Michael Soulé and Reed Noss spearheaded The Wildlands Project.

The concordance between conservation science and moral values emerges forcefully in what has been termed the "New Conservation Movement."



Thus, many of the chief proponents of wilderness have been expert naturalists who drew on their intimate familiarity with the subtlety and nuance of natural systems to argue persuasively for conservation. Although inclined toward science, most of these individuals freely invoked moral or spiritual bases for the protection of wild lands without considering such arguments to be in any way antithetical to their scientific outlook. Perhaps their deep understanding of wild species and natural events contributed to their moral perspective rather than vice versa. One might argue that scientific rationales for protecting wilderness are also mired in a particular cultural and historical context, but it would be difficult to argue that biotic values are more parochial than recreational values. Rather, it would appear that biotic justifications for wilderness represent a significant extension of ethics and mesh well with more traditional values such as aesthetics, recreation, or personal redemption. Furthermore, biotic values have gained cogency due to escalating threats to species diversity and biotic systems. At the same time, scientific arguments for conservation benefit from increases in our knowledge regarding how biotic systems respond to various human-induced assaults.

PROSPECTS FOR ECOLOGICAL RESTORATION

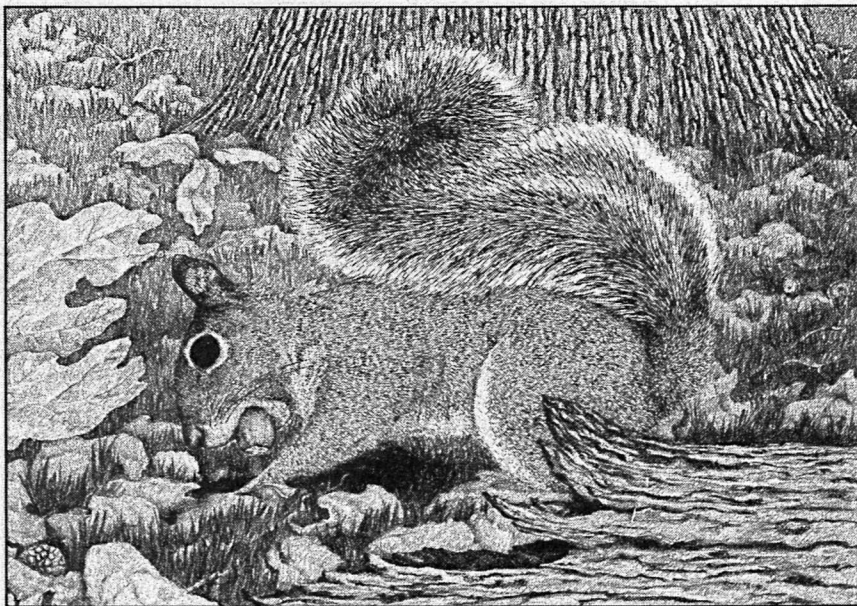
Rather than posing a serious threat to responsible environmentalism, I have argued that wilderness defined as large, connected, and relatively intact ecosystems should form the backbone of any ecologically informed conservation program. If there is a trouble with wilderness, it is that we do not have enough of it and that we continue to devalue it as we have historically. Cronon and Callicott propose that we expand upon this meager base by granting greater value to the Nature that persists in our nearby fields, forests, and cities and examining how our everyday lives affect this Nature. This is, of course, natural and useful. Surely wilderness is now too scarce to represent a vastness to be loathed and conquered; and Wilderness Areas are far too valuable, for ecological and social restoration, to be marginalized as representing only arenas for outdoor recreation or romantic icons of an earlier cultural era. Their value stems instead from the ecological integrity they embody. One cannot find this integrity in "the tree in the garden," severed as it is genetically from its conspecifics and ecologically from other species. One has difficulty even

finding it in 40 and 80 acre remnant patches of forest or prairie. We must accept the very real differences that exist in the degree of wildness of the lands and waters around us and use the better examples as foci to begin the important work of restoring more Nature to our cities and countryside. To blame wilderness for the concepts others have heaped on it is to blame the victim instead of the aggressor.

The intent of authors like Cronon and Callicott is to clear away obsolete perspectives and so prepare the way for the serious business of devising more politically feasible ways to live benignly on the land. These authors are worried that, by expending so much time and effort on what they see as the narrow issue of wilderness, American society has compromised its ability to enrich and restore our more mundane habitats. While I have questioned the presumption that worrying about wilderness prevents us from valuing nearer and plainer habitats, I do not question the importance of learning how better to manage human disturbed landscapes. Like most conservation biologists, I join Leopold and Meine (1992) in suggesting that:

a mature conservation/environmental movement will work across the full spectrum of land types, from the wild to the semi-wild to the cultivated to the settled to the urbanized, and will recognize the relevance of each to all the others.

These goals will demand the best of our science to determine what will, and what will not, suffice to conserve species diversity. They also demand firm commitment of our values. As we approach these difficult tasks, however, we should be catholic about accepting notions compatible with our general goals. Similarly, we should avoid both artificial dualisms and environmental relativism, which ignores the clear differences in conservation value that exist among lands according to their location, the species they support, and their past history of management.



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Gray Squirrel (*Sciurus carolinensis*) by D.D. Tyler

As conservation moves away from its historical job of simply preserving the best remaining natural habitats to encompass the broader work of managing and restoring a full spectrum of natural communities, we face a host of questions regarding active versus passive management. It may be unsafe to assume that, left alone, natural areas will recover and sustain biodiversity. In some cases, we must accept the responsibility for various forms of active management and restoration. In doing so, however, we must be careful to test our ideas as we go by applying our management and restoration efforts in the form of experimental treatments in a process now termed "adaptive management." For both economic and ecological reasons, we should strive to apply the lightest touch possible. Here, it is important to recognize that smaller and/or more degraded areas usually require far more active efforts to manage and restore their natural values than do larger areas (Alverson & Waller 1992). This itself constitutes a powerful argument in favor of conserving large areas free of chronic human disturbance.

Ecological restoration has sometimes been compared to gardening. The difference between restoration and gardening lies in their goals. For gardening, this is clearly the artifice of some aesthetic ideal. For ecological restoration, our goals are more subtle and complex, namely creating habitat for native species and restoring the ecological processes that sustain those species. While many restored areas are too small or fragmented to sustain full complements of the species that originally inhabited them, they serve well to remind us, like the tree in the garden, of the larger biotic context of which they, and we, are a part. We must never confuse such small synecdoches, however, with the wilder habitats they only represent. We share our planet with myriad other forms of life, many of which demand large and ecologically intact habitats to survive. If we are to accept Cronon's suggestion to encompass all areas, from the city to the wilderness, as "home," let it be a home that we are willing to share generously. ■

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Reinventing Nature? The End of Wilderness?

A Response to William Cronon's Uncommon Ground

by George Sessions

The top priority for anthropocentric postmodernists is promoting social justice and "multiculturalism." In the process, they tend to downplay the magnitude of the ecological crisis and the importance of protecting the Earth's ecological integrity.

AT A GREEN CONFERENCE in the late 1980s, I was discussing the global ecological/human overpopulation crisis with a leading Ecofeminist writer. Her response was to say she didn't believe there was an ecological crisis or an overpopulation problem. "Given the present intellectual climate," she claimed, "isn't it all a matter of how you look at it?" At the time, I felt that I had just stepped, like Alice, "through the looking glass"! In retrospect, I now realize I had come face to face with the views of postmodern deconstructionism, an orientation held by many academic Ecofeminists.

There are apparently many shades and versions of what is called postmodernism, even including now an ecocentric postmodernist environmental ethics. But in its more extreme version, postmodern deconstructionism is a 1960s spinoff from Marxism; a contemporary form of anthropocentric humanism which espouses cultural relativism, an antipathy to science, and a preference for cities. Actually, the humanistic bias against both nonhuman Nature and a scientific understanding of the universe extends back through Enlightenment humanism to Greek humanism with Socrates. For all his philosophical brilliance, Socrates, unlike Thoreau, rarely left the city, saying (in Plato's *Phaedrus*) that "...trees and open country won't teach me anything, whereas men in town do."

Most postmodernist theorists have a humanities or social science background which predisposes them to see reality exclusively through human social and cultural lenses. In order to gain an ecological perspective, the ecologist Aldo Leopold proposed in the 1940s that we learn to "think like a mountain." But for most postmodernists, there is no standpoint beyond human cultures. Postmodern deconstructionists hold that Nature is a social construction (or "social category"); that there is no genetically based "human nature"; that there is no objective truth—all theories and statements (even by scientists) reflect only the interests of power elites; and that since Nature is a human social construction, humans can "reinvent Nature" (and "reinvent humans" for that matter) in any way that suits our immediate interests and desires.

The top priority for anthropocentric postmodernists is promoting social justice and "multiculturalism." In the process, they tend to downplay the magnitude of the ecological crisis and the importance of protecting the Earth's ecological integrity. (For a more extended critique of extreme forms of postmodernism, see Sessions, "Postmodernism, Environmental Justice, and the Demise of the Ecology Movement?" in *The Trumpeter*, summer 1995.)

ANTHROPOCENTRIC HUMANISM AND THE ECOLOGICAL CRISIS

The anti-wild Nature orientation of anthropocentric humanism, in its various guises, led the ecologist David Ehrenfeld to write *The Arrogance of Humanism* in 1978. Likewise, in his early ecophilosophy book *One Cosmic Instant* (1973), the Canadian naturalist John Livingston vented his frustration with the humanist mind-set:

No man [human] is so far removed from nature as the liberally educated humanist, because the cosmos centers on his mind, and the mind of man is the measure—and the envelope—of all things ... The run-of-the-mill humanist is incredibly ignorant of, and thus indifferent to, his biological context; and he is even somewhat reluctant to be reminded of it. He is ... anthropocentricity in its most highly developed form (pp. 216-17).

In the 1960s, UCLA historian Lynn White Jr. (the first ecocentric environmental historian) argued that Christianity together with various "post-Christian" humanisms, such as Marxism, have provided the Western cultural basis for the ecological crisis with their anthropocentrism and belief in perpetual progress through continued human domination over Nature. White pointed out that, as a result of these anthropocentric views, "despite Copernicus, all the cosmos rotates around our little globe. Despite Darwin, we are not, in our hearts, part of the natural process. We are superior to nature, contemptuous of it, willing to use it for our slightest whim" ("Historical Roots of our Ecologic Crisis," *Science*, 1967). As a remedy for our religious/ecological problems, he urged a return to the ecocentric views of Saint Francis, who preached "the equality of all creatures."

As a further counterpoint to Western anthropocentric humanism, some writers in the Western humanities tradition—such as D.H. Lawrence, Aldous Huxley, Robinson Jeffers, and Gary Snyder—began in the 1920s to develop an ecocentric "posthumanist" position (see Del Janik in *Deep Ecology for the 21st Century*, pp. 104-12). This ecocentric Nature writing tradition has recently blossomed to include Edward Abbey, Barry Lopez, William Kittredge, Terry Tempest Williams, and many others. While academic literature programs around the country have begun to move away from deconstructionism and toward an ecocentric "ecocriticism," the greening of most academic philosophy programs has yet to occur (for the new literary ecocriticism, see Jay Parini, "The Greening of the Humanities," *The New York Times Magazine*, October 29, 1995: 52-53; Lawrence Buhl, *Environmental Imagination*, 1995).* Because most academic philoso-



phers have been trained in Western anthropocentric ethical traditions, philosophy textbooks and anthologies designed for courses in ethics tend to reflect an anthropocentric social justice bias. In sections on "ethics and the environment" in these textbooks, the standard whipping boy used to be biologist Garrett Hardin with his "Lifeboat Ethics" paper calling for human population control. Now most of the sections in these textbooks close with the paper by the Indian Social Ecologist Ramachandra Guha ("Radical American Environmentalism and Wilderness Preservation: A Third World Critique"), who rejects concern for the Earth's ecological integrity and argues that environmentalism ought to be concerned primarily with social justice issues (for an ecocentric critique of Guha's paper, see Arne Naess, "The Third World, Wilderness, and Deep Ecology," in Sessions, *Deep Ecology for the 21st Century*, pp. 397-407).

*Editor's note: See also the anthology just published by University of Georgia Press (330 Research Dr., Athens, GA 30602-4902), *The Ecocriticism Reader*, edited by Cheryl Glotfelty and Harold Fromm.

CONSERVATION BIOLOGY AND THE POSTMODERNIST ATTACK ON WILDERNESS

In the 1990s key postmodernist ideas have been used as a basis to question the rationale for protecting the Earth's remaining wild areas. For example, Donna Haraway's postmodernist views (in *Simians, Cyborgs, and Women: The Reinvention of Nature* (1991) served as the inspiration for a three-year research project on Reinventing Nature, sponsored by the University of California Humanities Research Institute at UC Irvine. Conferences were held at UC Berkeley, UC San Diego, UC Santa Cruz, UC Davis, and UC Irvine from 1992-94. William Cronon (professor of environmental history at the University of Wisconsin, and editor of Weyerhaeuser Environmental Books) played a major role in the UC Irvine conference. Long excerpts from Cronon's paper in the UC Irvine anthology (Cronon, *Uncommon Ground*) have appeared in *The New York Times Magazine* (8-13-1995) and *The Sacramento Bee* (9-17-1995) with such provocative headings as "The Trouble with Wilderness," "Inventing the Wilderness," and "Is Wilderness a Threat to Environmentalism?"

Three key books which deal with the postmodernist/conservation biology/wilderness controversy are Stephen Kellert and E.O. Wilson (eds.), *The Biophilia Hypothesis*, Island Press, 1995; Michael Soulé and Gary Lease (eds.), *Reinventing Nature?: Responses to Postmodern Deconstruction*, Island Press, 1995; and William Cronon (ed.) *Uncommon Ground: Toward Reinventing Nature*, Norton, 1995.

In 1984, the Harvard biologist E.O. Wilson published *Biophilia*: the hypothesis that there is a genetic basis for the human need for, and love of, wild Nature. Paul Shepard had earlier claimed that there is a genetically based human ontology that involves bonding with wild Nature (see Shepard, *Nature and Madness*, 1982; M. Oelschlaeger [ed.] *The Company of Others: Essays on Paul Shepard*, Kivaki Press, 1995). The fifteen essays in *Biophilia Hypothesis* further explore Wilson's thesis as a scientific hypothesis. Wilson claims in his essay that the most serious aspect of the ecological crisis is the loss of biodiversity (p. 35). Shepard's essay points to the negative consequences resulting from the breakdown in modern society of the distinction between wild and domesticated Nature.

The genetic "human nature" theories of Shepard and Wilson have become the basis of the new field of "ecopsychology": as environmental education theorist David Orr [of Oberlin College] explains in his provocative essay "Love It or Lose It," both Wilson and Erich Fromm agree "that biophilia is not only innate but a sign of mental and physical health." Developing some of the criticism of megatechnology in Jerry Mander's *In the Absence of the Sacred* (1991), Orr claims that "biophobia"

is increasingly common among people raised with television, Walkman radios attached to their heads, video games, living amidst shopping malls, freeways, and dense urban or suburban settings.... Serious and well-funded

people talk about reweaving the fabric of life on earth through genetic engineering and nanotechnologies...still others talk of reshaping human consciousness to fit "virtual reality... Biophobia is not OK for the same reason that misanthropy or sociopathy are not OK...

Reinventing Nature? (edited by Soulé and Lease) is the anthology that resulted from the UC Santa Cruz conference. The conservation biologist Michael Soulé (chair of the UCSC Environmental Studies program) and Gary Lease (dean of Humanities) are concerned that postmodernism's "relativistic anthropocentrism now sweeping the humanities and social sciences might have consequences for how policymakers and technocrats view and manage the remnants of biodiversity and the remaining fragments of wilderness ... contemporary forms of intellectual and social relativism can be just as destructive to nature as bulldozers and chainsaws" (pp. xvi, 159). Most of the contributors are not sympathetic to postmodernist visions of reality, assuming instead that the world "really does exist apart from humanity's perceptions and beliefs about it" (p. xv).

Paul Shepard's "Virtual Hunting Reality in the Forests of Simulacra" is a thoughtful critique of the views of the deconstructionists Derrida, Rorty, Lacan, Foucault, and Lyotard: "The deconstructionist points with glee to the hidden motivations in these 'falsifications' of a past and perhaps inadvertently opens the door to the reconfiguration of places as the setting of entertainment and consumption." Postmodern deconstructionists reduce the reality of the world to human language webs, signs, simulacra and semiotics; plastic trees and human spectacle; and the hyperreality of Disneyland.

The UC Berkeley philosopher Wallace Matson recently offered a new interpretation of the history of Western philosophy which sheds important light on these issues (*A New History of Philosophy Vol II*, Harcourt Brace, 1987, pp. 275-6). Matson calls Descartes's approach to philosophizing, which begins with the data of human consciousness, the *inside-out* approach. When a philosopher begins with human consciousness as the starting point, there is no escape to the reality of a world "external" to human consciousness (Descartes cheated!): the philosopher remains locked inside the human cranium, resulting in a philosophical solipsism. The other main approach in Western philosophy Matson calls the *outside-in* which "begins with an account of the world and, at the end, or near the end, explains mind and its knowledge in the terms developed in that account." As a Spinoza scholar, Matson finds the "outside-in" approach the most philosophically defensible. It accords with a contemporary cosmological/evolutionary scientific understanding of the universe, and also with everyday common sense, for that matter. Ecophilosophers over the years have pointed to Descartes as a major source of our anthropocentric ecological problems. French deconstructionist epistemology, following the "inside-out" tradition of Descartes and continental phenomenology (and leading to a denial of a real world existing independently of, and historically prior to, humans), is at best arbitrary, and more likely it is nonsense.

WILLIAM CRONON AND THE UC IRVINE "REINVENTING NATURE" CONFERENCE

Three of the environmental historians contributing to Cronon's UC Irvine *Uncommon Ground* anthology (Carolyn Merchant, Richard White, and Cronon himself) had engaged in a major prior debate over the proper tasks of environmental history with the leading environmental historian Donald Worster. In his paper "Seeing Beyond Culture" (*Journal of American History* 76, 1990, 1142-47), Worster accused Cronon and Merchant of attempting to turn environmental history into anthropocentric cultural history. They attempt to:

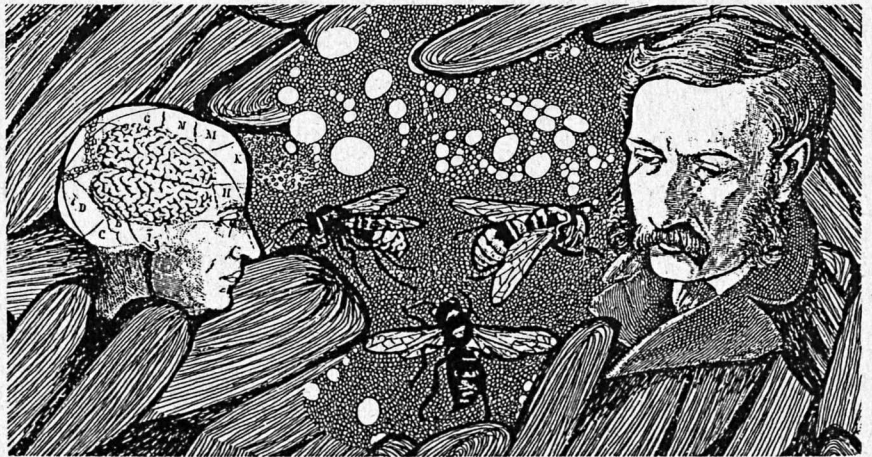
reduce environmental history to social history and to embrace the latter's causal arguments and moral concerns—the importance of gender, race, class, and so forth. In so doing, Cronon would redefine environment as cultural landscape, a move that would encompass virtually every place on earth, even hospitals and military bases. And in writing about those cultural landscapes he would apparently have us concentrate far more on telling how each social group, and finally each individual, living in that landscape saw it or felt about it...we might spend so much time distinguishing the different interpretations people have had of, say, the North American forest that we would forget about the forest as an independent entity. No landscape is completely cultural; all landscapes are the result of interactions between nature and culture. (p. 1144)

The environmental movement has been the scene of an on-going ideological battle since the 1970s centered around retaining its primary ecocentric focus on protecting the Earth's ecological integrity for all species versus shifting the focus toward a narrow anthropocentric urban pollution and social justice agenda. It is well documented that Marxist/leftist intellectuals and activists had little or no interest in environmental issues—either urban pollution or wilderness/biodiversity concerns—throughout the Ecological Revolution of the 1960s. During this period they criticized the environmental movement for diverting attention from social justice issues. However, after Earth Day 1970, as the environmental movement continued to gain strength and public support, leftist intellectuals and activists began to seize upon the public successes and high visibility of the environmental movement to try to co-opt it in the service of their social justice agenda.

For example, in the 1980s, activists promoting Murray Bookchin's anthropocentric Social Ecology position (a spinoff from the Marxist social justice movement but concerned as well with urban pollution problems) began joining, and attempting

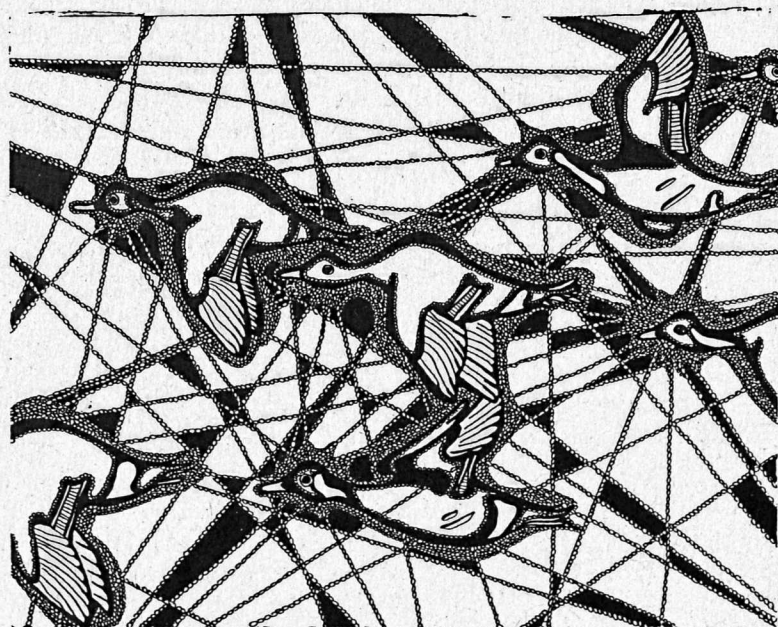
to dominate the agendas of the Earth First! and US Green movements. The New York Green activist Lorna Salzman pointed out that the Bookchin-inspired Left Greens, through high-handed tactics, took over the US Green movement during the late 1980s. She complained that the Left Greens developed a US Green platform that "does not pay even lip service to the accelerating multiple global ecological crisis...it banishes ecology to the periphery." Salzman warned that "what the Left succeeds at, all too well, is subverting any promising movement or philosophy for their own purposes" (for a discussion of the Leftist developments in Earth First! and the US Greens, see George Sessions, "Radical Environmentalism in the 90s," *Wild Earth* 2, 3 [1992]: 64-70).

Leftist journalist Mark Dowie, in his widely acclaimed book *Losing Ground: American Environmentalism at the Close of the Twentieth Century* (MIT Press, 1995), applauds "the shift in emphasis from the natural to the urban domain...the central concern of the new movement is human health" and claims that the American environmental movement, by focusing on protecting the Earth's ecological integrity, has been racist. He proposes that the environmental movement of the future be led by people of color (exemplified by the 1991 People of Color Environmental Leadership Summit) whose primary interests to this point have been equity issues involving toxic waste sitings in urban areas (for a critique of Dowie's book, see Sessions, "Political Correctness, Ecological Realities and the Future of the Ecology Movement," *The Trumpeter* 12, 4 [1995]:



191-96). The picture that is emerging is of a social justice-oriented Leftist movement with no initial interest in environmentalism that is now attempting to co-opt and redirect environmentalism toward an urban pollution social justice agenda. Unable to overcome their narrow ideological anthropocentrism, together with their apparent fixation on social and political power and control, the Left seems determined to cancel out the emerging ecocentric sensibility.

Cronon and the other Irvine participants seem largely oblivious to the rising tide of criticism throughout the academic world of the Disneyland theme park approach to "reinventing nature," which goes hand-in-hand with the multinational corporate attempt to create a world of universal consumerism.



As the only truly radical movement of the 20th century (as environmental historian Stephen Fox points out), it is perhaps understandable that the ecocentric Thoreau/Muir/Leopold/Carson-inspired environmental/ecology movement would eventually come under siege from both the left and the right ends of the political spectrum: the right denying that there is an ecological crisis, promoting continued economic growth while trying to destroy the environmental movement; the left apparently also ideologically blinded to the seriousness of the ecological crisis and attempting to co-opt the movement toward its social justice agenda. Meanwhile, world scientists' pro-

fessional organizations, conservation biologists, The Wildlands Project, supporters of the Deep Ecology movement, and many global, national, and local environmentalist groups try to stay the course. Of course, it is ultimately self-defeating for the international environmental movement to focus on social justice, or even urban pollution, if attention is thereby diverted away from providing realistic solutions to the various aspects of the global ecological crisis. It comes down to a matter of ecological perspective in which urban pollution problems are seen as a subset of the larger global ecological crisis.

As a way of heading off the Leftist social justice takeover of the environmental/ecological movement, and helping to insure that these movements cooperate constructively with each other, Arne Naess has proposed that the international Green movement be thought of as being composed of three movements: (1) the peace movement, (2) the social justice movement, and (3) the ecology movement. It promotes only confusion, he claims, to identify the Green movement (and its various component movements) with the ecology movement.

While Naess (along with many other environmentalists and Deep Ecology supporters) is very concerned with issues of peace and social justice, nevertheless he claims that "considering the accelerating rate of irreversible ecological destruction worldwide, I find it acceptable to continue fighting ecological unsustainability whatever the state of affairs may be concerning the other two goals of Green societies" (see *Deep Ecology for the 21st Century*, pp. 267, 413-14, 445-53).

Most of the contributors to Cronon's anthology are sympathetic in various degrees to the anthropocentric postmodernist approach. For example Richard White discusses the fight for protection of the last of the ancient forests of the Pacific Northwest in terms of those who work (the loggers) versus recreationists, ignoring the protection of the ancient forests for their own sake and for the protection of biodiversity; Giovanna Di Chiro promotes the conflating of environmentalism with social justice; Katherine Hayles discusses the convergence of virtual reality and simulacra with experiences arising from the nonhuman natural world.

It seems appropriate that this conference was held at UC Irvine, the heart of Los Angeles and Orange County. In a long rambling introduction to *Uncommon Ground*, Cronon describes the group's visits to Disneyland, Sea World, and the South Coast Plaza shopping mall with its Nature Company. Cronon likes cities, and he quotes with seeming approval a tourist brochure that describes Orange County, and Irvine, as deliberately planned Disneyland theme parks. According to Cronon, the residents of southern California have built their own artificial Eden. But even Cronon, it seems, cannot maintain the postmodernist's supposed neutrality of cultural relativism and

illustration by Jim Nollman

has to describe this southern California artifice somewhat with tongue-in-cheek, acknowledging that they can never achieve total control. The "otherness" of non-human Nature will ultimately assert itself.

Cronon and the other Irvine participants seem largely oblivious to the rising tide of criticism throughout the academic world of the Disneyland theme park approach to "reinventing Nature," which goes hand-in-hand with the multinational corporate attempt to create a world of universal consumerism. There is also little acknowledgment of the tremendous environmental damage caused by the continual expansion of these immense industrial cities, of which the Los Angeles complex is a prime example. (Theodore Roszak, in developing Lewis Mumford's critique, provides this kind of criticism of industrial cities in *Person/Planet*, 1978.)

Papers by Candace Slater and Carolyn Merchant accuse environmentalists of trying to return to a lost Eden of pristine wild Nature. This kind of analysis largely misses the point, in that it is insensitive to the biological need to protect and restore large areas of wild habitat for other species. Further, this is not the only possible interpretation of human Edenic impulses. Kansas State architecture professor Gary Coates has argued that the attempt to create a totally artificial world on Earth (a Disneyland theme park world) and to escape to outer space is actually a "distorted expression of our desire to return home to Eden" (see Mander, *In the Absence of the Sacred*, pp. 148-58).

Cronon's paper "The Trouble with Wilderness or, Getting Back to the Wrong Nature" in *Uncommon Ground* starts out by claiming that our concept of wilderness has to be rethought or "reinvented" in that it is a human or social construction. But by the end of the essay, Cronon is vacillating between the more extreme postmodernist claims that there is no reality beyond our human words and signs, and that there is a nonhuman reality apart from, and independent of, humans. While arguing that humans should pay more attention to the environmental concerns of the landscapes they inhabit, he sounds like more traditional conservationists and conservation biologists when he claims that:

By now I hope it is clear that my criticism in this essay is not directed at wild nature per se, or even at efforts to set aside large tracts of wild land, but rather at the specific habits of thinking that flow from this complex cultural construction called wilderness. It is not the things we label as wilderness that are the problem—for nonhuman nature and large tracts of the natural world do deserve protection—but rather what we ourselves mean when we use that label ... I also think it no less crucial for us to recognize and honor nonhuman nature as a world we did not create, a world with its own independent, nonhuman reasons for being as it is. The autonomy of nonhuman nature seems to be an indispensable corrective to human arrogance. (pp. 62, 67)

But by beginning to take ecological realities seriously, Cronon is forced to move a long way from the postmodernist

"reinventing nature" theme (derived from Donna Haraway's *Cyborg Manifesto*) which originally inspired these conferences. Haraway was a participant at the UC Irvine conference and had originally argued that humans should reject our organic origins and become "cyborgs": a merging of humans with machines and megatechnology. Nature should be "reinvented" by collapsing the distinction between the wild and natural, and human artifice; the very distinction Paul Shepard claims we shouldn't be discarding.

William Cronon closes his paper on wilderness by claiming that "wildness can be found anywhere" as if to temper his earlier remarks about protecting wild lands. Given his predilection for city life, perhaps here he is agreeing with Australian Ecofeminist Freya Mathews who has suggested that "perhaps here, in the heart of metropolis, Nature is at its wild-est." Cronon quotes Gary Snyder as saying:

A person with a clear heart and open mind can experience the wilderness anywhere on earth. It is a quality of one's own consciousness. The planet is a wild place and always will be. (p. 69)

Snyder has claimed that this quotation was taken out of context, and could be misread to mean that we could totally domesticate the planet and there would still be wildness. There probably would still be wildness, but with 80 to 90% of the Earth's biodiversity destroyed, it would be of little ecological significance.

The UC Davis "Reinventing Nature-Recovering the Wild" conference in October 1993 featured Snyder's paper "The Rediscovery of Turtle Island" (published in Snyder, *A Place in Space*, 1995). Snyder criticized postmodern deconstructionists by faulting those humanists (of a "Christian, Marxist-intellectual, or semi[idiotic]" persuasion) who see the natural world as "primarily a building-supply yard for human projects." The argument has been made that few, if any, areas on the face of the Earth are "pristine" in the sense that they have not been occupied at some time or another by humans. Given this situation, the argument goes, they should continue to be inhabited and developed. Snyder, on the other hand, makes the very important point that wilderness areas are not pristine in the sense that they have not been historically modified by humans. He suggests that "pristine" should "now be understood as *virtually* pristine." The wild flow of evolutionary processes and biodiversity remains in these areas, and they should be protected primarily for these reasons (for further arguments along these lines, see the exchange between J. Baird Callicott, Dave Foreman, and Reed Noss, "A Critique and Defense of the Wilderness Idea," *Wild Earth* winter 1994/5).

Worster's 1990 exchange with Cronon and others of the new breed of anthropocentric environmental historians apparently has had some effect in modifying their more extreme postmodernist positions. In the spirit of Leopold's ecocentric suggestion that humans learn to "think like a mountain," Worster concluded his "Seeing Beyond Culture" paper by claiming that:

The foremost philosophical challenge of this age, in my view, is to escape the state of nihilism, relativism, and confusion that modernistic history, and modernistic everything else, have left us in. That requires an ability to step outside ourselves, our dreams, artifacts, and domineering drives, to discover and acknowledge another, objective reality that we have not created nor ever fully controlled... One of humankind's oldest intuitions is that the realm of nature has an objective, independent order and coherence; that we are to some extent a part of that order...that, in any, case we ought to respect it. (p. 1146)

Elsewhere, Worster agrees with Arne Naess, and E.O. Wilson and other conservation biologists, that "we must make our first priority in dealing with the earth the careful and strict preservation of the billion-year-old heritage achieved by the evolution of plant and animal life. We must preserve all the species, sub-species, varieties, communities, and ecosystems that we possibly can. We must not, through our actions, cause any more species to become extinct" (in *Deep Ecology for the 21st Century*, p. 425).

The great debate that now has to be waged, that will decide the fate of the Earth in the near future, is between a Disneyland theme park mega-technological consumer future with transnational corporations in control, and one in which human societies have been scaled back, humans live sane biophilic lives, and huge sections of wild Nature and biodiversity have been protected and restored. ■

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New Moon Tongue

*Faint new moon arc, curl,
again in the west. Blue eve,
deer-moving dusk.
Purple shade in a plant-realm—
a million years of sniffs,
licks, lip and
reaching tongue.*

—Gary Snyder

from *Mountains and Rivers Without End*

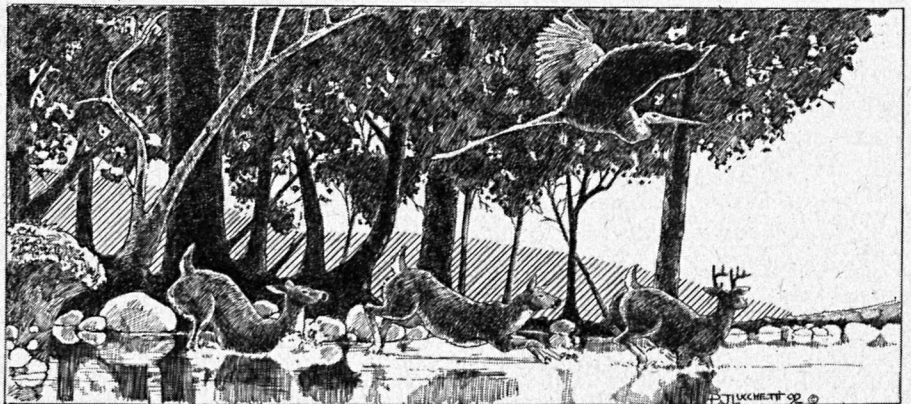


illustration by Peter Lucchetti

"The Trouble with Wilderness"

Uncommon Ground Needing to be Re-trodden

by Bennett Stark

William Cronon's article "The Trouble with Wilderness" in *Uncommon Ground: Toward Reinventing Nature* consists of two parts. The first is a discussion of the transformation of the idea of wilderness in history as our relation to wild lands has changed. The second, with which I take issue in this article, deals with the effect of the idea of wilderness on the current environmental movement.

The second part is irksome, if not troubling. The problem lies not so much in what is said, but what is not said. Cronon criticizes "contemporary environmentalism" for romanticizing wilderness. "The trouble with wilderness," Cronon argues, is that humans have no place in it save that of its defilement. The idea of wilderness, Cronon states, "poses a serious threat to responsible environmentalism," and unless environmentalists disabuse themselves of the idea, "we seem unlikely to make much progress in solving these [ecological] problems."

To the extent that the "moralistic dualism" of pristine Nature, on one hand, and of despoiling humans standing outside of Nature, on the other, is manifest in the actions of environmentalists, and to the extent that this dualism has resulted in harm to the environmental movement, the first part of Cronon's article is instructive. Those individuals whose reasons for "saving the wilderness" stem from such a "moralistic dualism" might benefit from reading this portion of Cronon's article. However, these same people will likely experience confusion upon reading the second part of "The Trouble with Wilderness."

The author suggests that the "habits of thought" of the vast majority of current environmentalists reflect this "moral dualism." Cronon does not distinguish ecologists as a group—biologists, agronomists, botanists, climatologists, and others—who *may* have a realistic view of wilderness and the role of our species in it. Nor does Cronon consider that a substantial number of environmentalists who are not ecologists *may* also have a realistic understanding of humans within wilderness.

While the author makes reference to "responsible environmentalism" and thus acknowledges it exists, the reader looks in vain for balance and an instructive context. Nowhere does Cronon discuss "responsible" environmentalists, e.g., the work of ecologists studying ozone depletion in the atmosphere, or erosion of the Earth's topsoil. While Cronon indicates once that the Earth may end in ecological disaster or nuclear holocaust, nowhere does he discuss the complexity of the ecological difficulties global civilization faces. Nor does he refer to works such as *Agenda 21: The Earth Summit Strategy To Save The Planet*.

Confusion and misinformation abound in our society, and I fear that...Cronon's article will contribute to it.

In the introduction to *Uncommon Ground*, Cronon identifies the general public as an audience he especially wishes to reach. Although the first part of "The Trouble with Wilderness" is instructive, the general public would do well to avoid the second part. The risk to general readers is that they will attach a level of significance to moral dualism which has not been demonstrated and which it does not warrant. Also, inasmuch as the author does not discuss the critical nature of the ecological problems with which civilization is confronted, general readers may obtain an incomplete, inaccurate understanding of the environmental crises facing us. For the general reader, I suspect, the effect of reading this portion of "The Trouble with Wilderness" will be a trivialization of the complexity of our ecological problems. Confusion and misinformation abound in our society, and I fear that this portion of Cronon's article will contribute to it.

Also in the introduction, Cronon states that "environmentalism" for the purposes of the articles in *Uncommon Ground* is understood to be "primarily environmental ideas in American popular culture (post-WWII) rather than on the more systematic of those who have devoted their professional lives to understanding the environment." Unfortunately, Cronon does not alert the reader of his restrictive definition where it is necessary—in the text of "The Trouble with Wilderness." Obviously, if the author wishes to discuss "American popular culture," and *not* the entire movement including the efforts of ecologists, he should state this clearly at the beginning of the "The Trouble with Wilderness."

Whether we use the restrictive definition or not, the second part of "The Trouble with Wilderness," has methodological problems. Cronon does not have an adequate explanatory structure in which the adverse effect of his "moral dualism" upon the policy-making process can be assessed. Nor can the reader determine the significance of Cronon's moral dualism relative to other factors that might negatively affect the policy process. Thus, the transition from the realm of ideas and imagery in literature and visual art in the first part of the article to the realm of policy-making in the second part is never satisfactorily made.

To the extent that individuals have idealized the wilderness *sans* human involvement, the "moral dualism" Cronon describes has probably had *an* effect on the environmental movement. However, it is not clear how much of an effect it has had. It may be significant or it may be negligible. Without demonstrating the extent of this effect, Cronon would have us accept on faith that it is significant. It is *not* even clear that the effect has been negative when taking into account the entire period since 1872 when the federal government established the first national park.

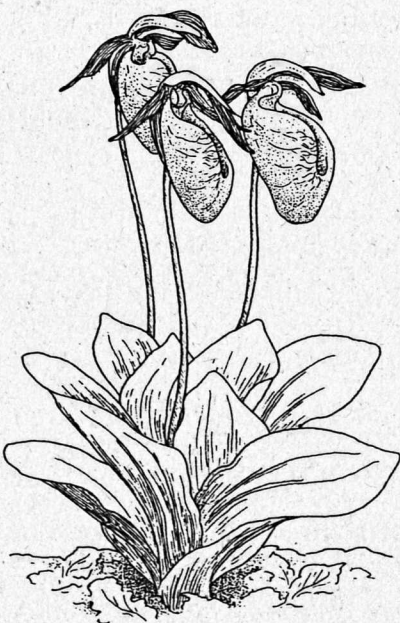
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Aldous Huxley in *Brave New World Revisited* described a society resembling our own: a society whose millions of citizens believe they have much more power than they actually do, who are rendered largely passive in political participation and social action by television, mass spectator sports, sundry consumer items, and an unresponsive government, largely dominated by moneyed special interests. Whether a society of such individuals remains our evolutionary destiny as we head into a perilous new millennium remains to be seen.

Cronon's "The Trouble with Wilderness" will contribute to the omnipresent confusion in our society. It may lull some people into inaction, or to the extent it moves people to social and political action, such action may be misdirected.

The author could have avoided the difficulties I have discussed had he simply confined "The Trouble with Wilderness" to a discussion of the transformation of the idea of wilderness in history, without claiming its effect on the environmental movement. He might otherwise have avoided these difficulties had he demonstrated the effect of moral dualism on the policy-making process and, inasmuch as he expressed a particular interest in reaching the general public, had he provided an appropriate instructive context. ■

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Pink Lady's Slipper by Libby Davidson

Green Confusion

In Search of a Consensus on Wilderness

by Sarah Vonhof

A debate on wilderness can be likened to a debate on religion. Though most Christians agree that their goal is salvation, individuals debate different philosophies on how to achieve that salvation. There is a solution at hand, however. People can simply attend the church of their choice, accepting the precepts of the religious sect representative of their personal values and ideas of religion. But with the debate on wilderness, we have only a handful of areas or "churches" where we can go to "worship." We can't manage each area throughout the country differently to satisfy different wilderness "religions" without jeopardizing the integrity of the National Wilderness Preservation System. Instead, we have to find a non-denominational wilderness religion, a philosophy that will guide us in the difficult task of wilderness management.

I read the debates on the wilderness idea in *The Environmental Professional* and in *Wild Earth*. Callicott presented a critique of the wilderness idea, which he sent to both publications, though in different forms (1991a, 1994). Rolston (1991) replied in *The Environmental Professional* and Noss (1994) and Foreman (1994) replied in *Wild Earth*. Then Callicott replied again (1991b, 1995). To all of these distinguished professionals I reply, "I'm confused!"

If I'm confused, after a graduate course in wilderness management and a semester of independent research in wilderness, then what about the general public—and the 104th Congress? I know I'm "green"—an environmentalist. But what about the "brown" fellas (wise use advocates) and the average non-profit organization members who make donations mainly to get a cool tote bag? Where does this discussion leave them?

I can understand the disparity in attitudes between an environmental group (greens) and a commodity interest group (browns). It troubles me, however, that there seems to be disagreement within the environmentalist or conservationist camp about the concept of wilderness. If there is not a consensus among the "greens," then how can there be a consensus out there in the field, where someone must write and implement management plans? Both the definition and the concept of wilderness we adopt have a direct effect on the management of Wilderness Areas. The wilderness experience and the wilderness condition are managed based on goals of what a Wilderness Area should be. The goals, or values (supposedly public values), we choose to manage for are determined by our concept of wilderness.

I choose to employ continua in searching for a consensus because of the innumerable wilderness definitions, wilderness concepts, and wilderness experiences. If some broad area of agreement intersects these continua, representing a guiding philosophy, then I believe effective wilderness management is possible.

Zoning Wilderness Areas into inner cores, outer cores, and buffer zones may provide opportunities for recreation while still protecting biodiversity.

WILDERNESS DEFINITIONS

Nash (1982) said it best when he said that the only way to define wilderness is not to define it at all: wilderness is a state of mind. But the definition in the federal Wilderness Act "...an area where the earth and its community of life are untrammelled by man, where man is a visitor who does not remain..." was the result of a congressional consensus formed after nine years of debate (Hendee et al. 1990). The federal definition serves as a half way point on the continuum of wilderness definitions. To the left are the more biocentric or ecocentric definitions of wilderness, including Foreman's (1991) "primeval" wilderness outlined in *Confessions of an Eco-Warrior*. To the right are the more anthropocentric definitions (not to imply that the federal definition is biocentric), including those whose primary value is wildness. With this definition continuum in mind, we can approach the concept of wilderness.

WILDERNESS CONCEPTS

The interpretation of any definition of wilderness stems from a concept of wilderness. The wilderness concept can be viewed along a continuum as well. At one pole is wilderness; and at the other is civilization. The aforementioned debate is over the concept or idea of wilderness.

Callicott (1991a, 1994) charges that the wilderness idea is inherently flawed in that it perpetuates the false human/Nature dichotomy. Rolston (1991) replies that the dichotomy is real, and is exactly what makes wilderness important. I agree with Rolston. Historically, humans have conquered the wilderness. Part of our fascination with wilderness is still as a challenge to overcome. On the other hand, wilderness can also provide the setting for a spiritual bonding with Nature where humans can temporarily escape the sights and sounds of civilization. Either way, the human/Nature dichotomy exists.

If, as Callicott (1991a, 1994) suggests, we replaced the wilderness concept with the biosphere reserve concept and lived in and around reserves, then the wilderness idea would cease to exist. Wilderness would no longer be the antithesis to our civilization. We need civilization to remind us how special wilderness is. "When all was wild, there was nothing to measure wildness against" (Coufal 1990). Thus the wilderness idea is bifurcated. We need to visit wilderness, experience its wildness, but not live there.

As the nation's population expands, there is an increasing "demand" for more room to spread out, more land... for agriculture, and more water for everything" (Reed and Flamm 1990). Wilderness areas are already threatened by development, resource extraction, and even recreational over-use. How can we save currently designated Wilderness Areas in the face of these threats? How can we retain wilderness values while accommodating recreation? Part of the answer, I believe, lies in finding a guiding philosophy for management.

Frome (1995) states that many agency personnel "lack philosophy or feeling for wilderness." Wilderness cannot be managed simply as another commodity because too many intangible values are associated with it. Wilderness managers need a guiding philosophy based on an area of consensus on a wilderness definition, concept, and values. From such a consensus, guiding management principles can be derived, which will enable the retention of those values.

WILDERNESS EXPERIENCES

With regard to recreation, wilderness management is essentially management of the visitor experience. Visitor experience is, in turn, based on values and expectations that stem from one's definition and concept of wilderness. Indeed, each of us will have different expectations of a designated Wilderness Area. The wilderness manager must attempt to satisfy a broad range of visitor expectations. McCloskey (1990) attempted a taxonomy for the different values, benefits, and uses of wilderness in order to find guidelines for managers. "In order to manage wilderness well, one must understand why people want to have wilderness and what they are seeking to find there" (McCloskey 1990).

In the text *Wilderness Management*, Hendee, Stankey, and Lucas (1990) present a continuum called the recreation opportunity spectrum, which classifies recreation experiences from primitive to urban. This is what I refer to as the wilderness experience continuum, the poles of which also correspond to wilderness and civilization. Wilderness management influences the quality of the wilderness experience, for example, through decisions on what level of solitude is provided and whether there are constructed trails or only bushwacking.

Based on the expectations of users and on the desired conditions of a Wilderness Area, a manager writes a plan. This plan includes numbers for carrying capacity and biological indicators. It also includes goals and objectives which are supposed to represent the public interest. Again, though, defining the goals, or setting the objectives, is based on value judgments, which in turn are based on the manager's philosophy of wilderness. Without an area of consensus on definitions, concepts, and experiences of wilderness, how can that plan be written or implemented? An area of consensus between government agencies, conservation organizations, and wilderness users would ensure cooperation with a management plan.

AN AREA OF CONSENSUS

Although I'm not working with any mathematical points to connect, the idea of an area of consensus may be visualized as in Figure 1. The shaded area intersecting all continua could represent a shared range of wilderness definitions, concepts, values, and experiences. Within this area of consensus may lie a guiding philosophy for wilderness management. But what does this mean for manag-

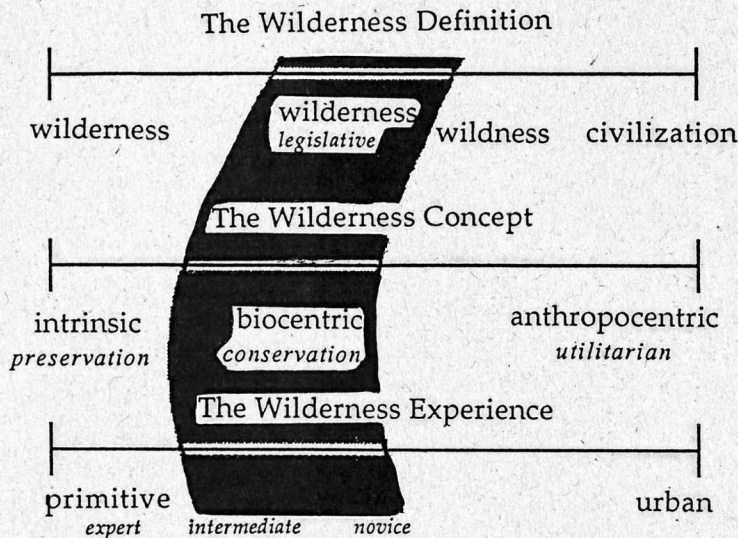


Figure 1. Within an area of consensus may lie the guiding philosophy for wilderness management.

ers and management plans? How do we transform this consensus from theory to practice?

Perhaps the answer lies in zoning wilderness according to wilderness values and recreation experiences. This idea follows the biodiversity reserve design presented by Noss and Cooperrider (1994) and also by Noss (1992) for The Wildlands Project. This management scheme would also accomplish the goal of conserving biodiversity, though it would not replace the concept of wilderness with the concept of biodiversity reserves, as Callicott (1995) suggests. Different wilderness zones would accommodate different values and expectations. There could be inner cores where humans are not allowed, outer cores for wilderness recreation only, and buffer zones for multiple use activities. Because my emphasis is on wilderness recreation management, I will focus on outer cores rather than inner cores or buffer zones. Inner cores would ensure the preservation (not to imply the cessation of change) of intrinsic ecological values. Buffer zones would represent utilitarian values, being managed for multiple uses. Recreational experiences could be classified by their impacts (biological and social) and guidelines developed for acceptable and unacceptable activities in each zone.

Outer cores would protect conservation and biocentric values. These outer cores could be further classified with regard to recreational activities and experiences. There could be expert, intermediate, and novice zones. Expert zones would be closest to the inner core, with the others radiating outward toward the buffer zone. I should note that the management guidelines outlined here are by no means comprehensive. Other factors, such as wildfires/prescribed burns, salvage logging, and subsistence hunting, also affect the recreation experience and would be addressed in management

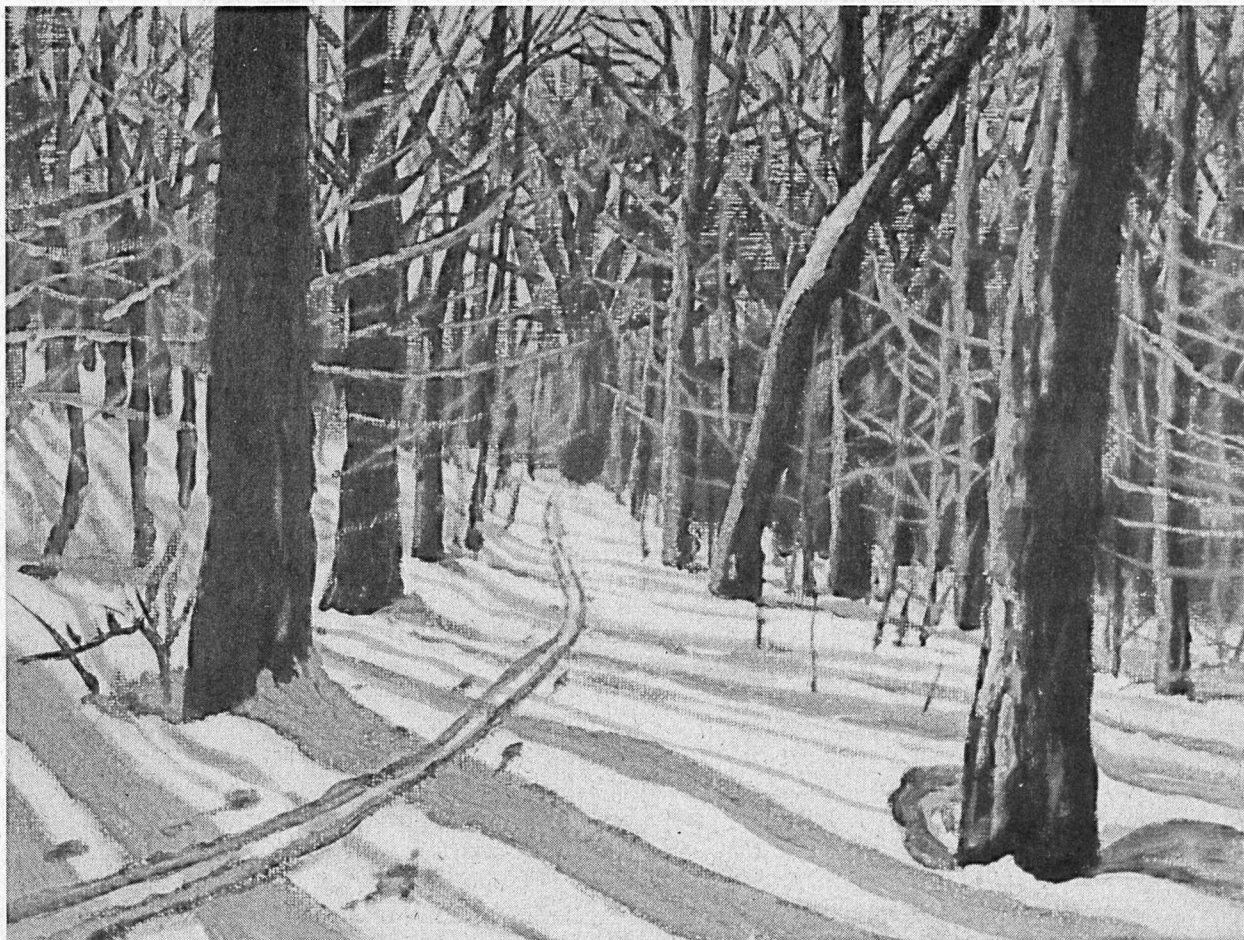
plans. The examples below allow comparison of three types or levels of wilderness recreation experiences.

The expert zones would provide the most primitive wilderness experience. There would be no trails, only trailheads at which to register. There would be no facilities. Expert wilderness zones would require a permit and a certificate of skill, training, or experience in primitive survival techniques and wilderness ethics. The permit system would not only identify visitors (for safety reasons) but also limit them. The opportunity for solitude in expert areas would be excellent. To enhance the feeling of solitude, no bright colored equipment (tents, clothing, packs) would be permissible. Management would take a "hands-off" approach and simply monitor the general conditions and impacts on the wilderness.

Around the expert zones would be the intermediate zones. These would provide a semi-primitive wilderness experience. Intermediate areas would have trails, but no trail markers. The trails would be constructed only with natural materials. Bridges could be built out of fallen trees. Maps would substitute for the lack of trail markers. Facilities could include small clearings for campsites, but not lean-tos or outhouses. A recommendation would be made that those embarking on a trip through an intermediate area have some experience backpacking and some outdoor skills. There would be a moderate opportunity for solitude. These areas, depending on demand and carrying capacity, might have a permit system. Management involvement would be less obvious than in the novice areas, following the minimum tool rule (Hendee et al. 1990). Visitor education promoting wilderness ethics would be an important part of management.

Outermost areas would be novice zones, which would be desirable to the greatest number of users. They would have constructed trails, trail markers and maps. Bridge or trail construction could be completed with pressure-treated wood, and other not-so-natural materials, though every effort would be made to make structures blend in. A novice wilderness experience would not require a great deal of skill or outdoor experience. Camping, hiking, and backpacking might be the common activities. Some facilities, such as campsites, lean-tos, and pit privies or outhouses could be available. Opportunities for solitude would be fair. Management would be involved in the maintenance of trails, campsites, and outhouses. However, wilderness ethics would still be promoted to help visitors understand how to camp or hike without degrading the environment.

Again, expert, intermediate and novice are only three classifications of wilderness experiences that could occur



within outer core zones. These zones would allow for a spectrum of definitions and concepts of wilderness. Still, the guiding management philosophy would be derived from an area of consensus on wilderness values.

CONCLUSION

Any successful management approach will have to have a little something for everyone. Zoning Wilderness Areas into inner cores, outer cores, and buffer zones may provide opportunities for recreation while still protecting biodiversity. Wilderness management cannot be effective without a guiding philosophy. An area of consensus on wilderness definitions, wilderness concepts, and wilderness experiences may provide the framework for this guiding philosophy. The wilderness manager working within this area of consensus would be able to fulfill many expectations for recreational experiences, and still maintain a spectrum of wilderness values. ■

Sarah Vonhof recently completed a master's degree in Forest Resources Management at the State University of New York—College of Environmental Science and Forestry. This paper is the culmination of an independent research project during her graduate work. She thanks Professor James E. Coufal for his guidance in the study of wilderness philosophy and environmental ethics and for his review of earlier drafts. As a Ph.D. student, Sarah will explore the stewardship paradigm in environmental ethics.

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illustration by Bill Amadon

The Trouble With Cronon

by Bill Willers

William Cronon, a University of Wisconsin history professor, has dealt quite a blow to the environmental movement. Not even Alston Chase, whose weighty books¹ have provided so much ammunition for the "Wise Use" Movement, has made such a sudden and detrimental impact on the wilderness concept as has Cronon with his essay *The Trouble With Wilderness*. The piece, which is the lead essay in his anthology *Uncommon Ground: Toward Reinventing Nature* (1995, W.W. Norton & Co.), is all the more pernicious in that it is being widely reproduced and excerpted. Not only has a version appeared in the *New York Times*—thereby rendering it acceptable fare for the mainstream²—but also in *Utne Reader*, the bimonthly that claims to present the reader with "the best of the alternative media." The decision by *Utne Reader* to print Cronon's essay (in a 4-page adaptation titled *Getting Back to the Wrong Nature: Why We Need to End Our Love Affair with the Wilderness*, in its May-June 1996 issue) gives the author's views credence within a small segment of society one would expect to be most inclined to honor and protect wilderness both as concept and as physical reality.

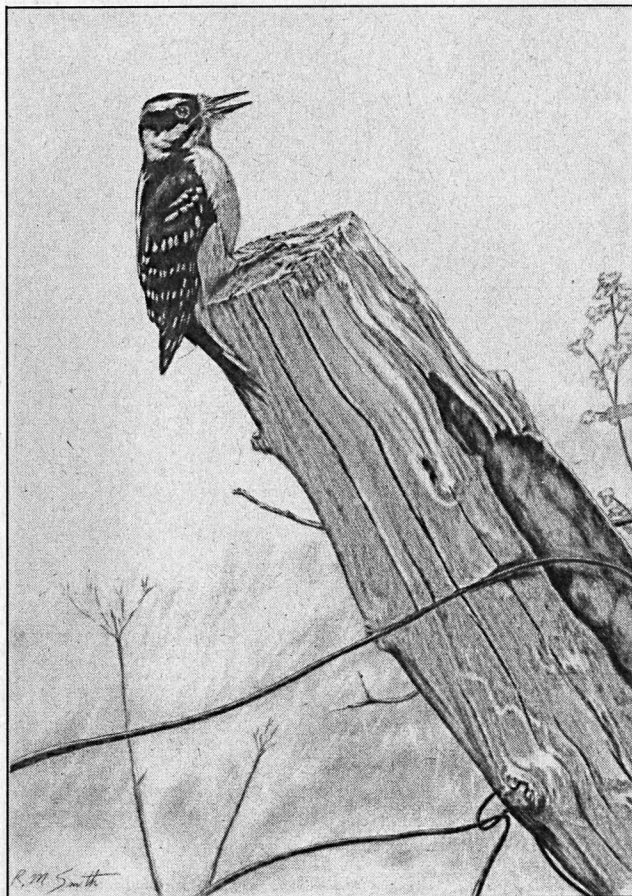
The contemporary wilderness movement adheres strongly to two basic truths: that wilderness (or, more to the point, its essential trait, which is 'wildness') is an indispensable aspect of organic evolution, and, on a more philosophic level, that it is the essence of a creation possessing inherent rights. Cronon, it appears, does not know this. With regard to the character and driving force behind the current wilderness movement, he seems grossly uninformed. How odd that his anthology, which deals with a biological topic, and which claims to be leading us "toward a reinvention of nature" (would it actually be possible to come up with a more arrogant subtitle?) includes but a single essay by a biologist, the other 14 being by authors in various areas of history, communication, philosophy, literature, geography, and landscape architecture.

The degree to which Cronon's arguments parallel those of Alston Chase is remarkable. "Wilderness," Cronon declares, "is quite profoundly a human creation...(and) a product of...civilization, and could hardly be contaminated by the stuff of which it is made." Compare that to the assertion of Chase (who refers to wilderness as an "artifice") that "as humans are merely species (sic) like any other, anything (they) do is no less 'natural' than anything else." Cronon claims that the idea of wilderness serves as a foundation for a long list of seemingly unrelated environmental concerns, and "that is why its influence is so pervasive

Apparently lacking appreciation for the biological significance of wilderness, Cronon writes about the subject purely in terms of social and cultural values and understanding.

¹*Playing God in Yellowstone* (1986); *In a Dark Wood* (1995).

²In a subsequent *New York Times* article by Jay Parini, Cronon was pronounced one of America's "gurus" in environmental education.



and, potentially, so insidious.” Like Chase (who has expressed the view that the “Wise Use” Movement arose from “a sense of victimization [due to] biocentric extremism”), Cronon connects the success of the Wise Use Movement with wilderness advocacy. In a reply (in the journal *Environmental History*) to criticism by some fellow historians, Cronon writes that “because we have not always been careful to keep in balance the preservationist and conservationist wings of the movement...it became possible for those with no real sympathy for the environment to seize ‘wise use’ and use it toward their own ends. The idea of wilderness is partly to blame for this.” How astonishing it is to read that the Wise Use Movement—this resurrected and updated version of the old “Sagebrush Rebellion,” spawned and nurtured by the most rapacious right-wing elements of society—has waxed well because of the wilderness concept! In fact, the Wise Use Movement has been successful because it is fueled from the seemingly bottomless pockets of every extractive industry wanting unlimited access to the public lands. Without that corporate financing, the Wise Use Movement as the organized effort we see would not exist, wilderness idea or not. Without the media spin and image manipulation that industry’s billions can buy on Madison Avenue, the wilderness concept could not have been so adeptly spun into a picture of the enemy of human endeavor.

Apparently lacking appreciation for the biological significance of wilderness, Cronon writes about the subject purely in terms of social and cultural values and understanding. In our country, he tells us, since industrialization led to the demise of the frontier, “to protect the wilderness was in a very real sense to protect the nation’s most sacred myth of origin (and) to retain frontier values and experience.” With Cronon (as with Chase) wilderness has become a place where wealthy urbanites who don’t work the land go as consumers to escape city life and to project “leisure-time frontier fantasies onto the American landscape.” He complains that “the romantic ideology of wilderness leaves precisely nowhere for human beings actually to make their living from the land.”

Cronon’s attack on the wilderness concept is less vitriolic than Chase’s—one might say subtler—thereby making it more palatable to the casual or neutral reader. Both authors, though, extol the virtues of rural workers of the land in making the argument that wilderness advocacy is, as Cronon puts it, “mainly for well-to-do city folks.” In Cronon’s opinion, “country people generally know far too much about working the land to regard *unworked* land as their ideal.” One gets the impression that such reference to country folk is supposed to elicit in the reader mental images of a peasant tilling the soil from behind a mule, and that this image of low-impact simplicity is supposed to translate into a valid argument against elitist wilderness advocacy. But it’s a lame argument, because in our high-tech culture “working the land” has come to mean transforming vast, complex native landscapes into horizon-to-horizon monocultures, and tilling the soil from immense, air-conditioned, stereophonic machines while applying a wealth of chemical nightmares from the laboratories of such as Dow and Monsanto. One need not elaborate on this but merely draw attention to some of the effects of “working the land”—cow and sheep-battered prairies and waterways, denuded mountain ranges, poisoned soils, and the like. And the association of wilderness protection primarily with rich urbanites seems like a bad joke to anyone who knows first hand the small armies of dirt-poor volunteers who populate small grassroots wilderness groups around the country. Anyone wanting a good look at the heart and soul of contemporary wilderness advocacy would do well to spend a few days at Cove-Mallard*—not in the offices of The Wilderness Society** or with the owners of Mercedes-Benz automobiles sporting Wilderness Society stickers.

Central to Cronon’s argument is that dwelling on the concept of pristine wilderness tends to blind one to the Nature that surrounds our daily lives “in the seemingly tame fields and wood lots...in the cracks of a Manhattan sidewalk...”. This condescending suggestion that the masses are too obtuse to appreciate the significance of Nature at small scale is absolutely galling, for it is precisely the individual most capable of see-

*In case anyone has missed the news, Cove-Mallard is a hotly contested National Forest area in central Idaho. The Forest Service has been trying to have this critical wildland roaded and logged but has been largely thwarted so far by wilderness defenders. —Ed.

**William Cronon was recently added to The Wilderness Society’s board of governors. —Ed.

ing the Universe in a blade of grass who develops the respect that leads to wilderness advocacy as we see it at the end of the 20th century. Certainly it should be obvious even to the casual observer that as the New World Order's growth mania accelerates, it is Nature at *large* scale—what we have come to call “wilderness”—that is at greatest risk and therefore likely to generate major concern. Nor are wilderness advocates rooted in the past, as Cronon claims. In fact, precisely the opposite is true. Wilderness advocacy recognizes that something of inestimable value is being lost. The focus is not merely on saving what wilderness remains but on restoration of degraded lands to a healthier state. Efforts among wilderness advocates now largely center on conditions that could exist several centuries from now. Indeed, the current wilderness movement, while certainly aware of past environmental conditions, is future-oriented to a degree that is rare in this present culture of ours with its primary focus on short-term thinking.

“Wilderness,” Cronon writes, “serves as the unexamined foundation on which so many of the quasi-religious values of modern environmentalism rest.” What he intends by “quasi-religious” isn't clear. Does he mean “spiritual”? In any case, the reference to “unexamined foundation” suggests that careful examination is being rejected and so, therefore, is science. How similar this is to Alston Chase's claim that such wilderness advocates as David Brower, Rachel Carson, and Aldo Leopold (whom Chase labels “new pantheists”) “not only rejected modern science but also...suggested (that it is) only by mystical communication with nature that we truly understand her.” The unstated assumption being made by both writers is that spiritual connection with the natural world in itself constitutes a rejection of scientific methodology. The assumption is absolutely false; the two are in no way mutually exclusive.

With strong Eurocentric bias, Cronon argues that up until the 18th century, wilderness was considered to be a desolate waste (what about the attitudes of the Native American nations?), and that advocacy on behalf of wilderness grew along with urbanization—this to support his view that wilderness is largely a mental construct of city folks. He misses the fundamental fact that things gather value as they become rarer, and that it is natural for concern to rise as what was only recently taken for granted is seen to be disappearing on all fronts, even as its biological importance is becoming clear. No, concern about the loss of wilderness is not about protecting “the nation's myth of origin” or “the last bastion of rugged individualism.” Scratch defenders of wilderness and you most emphatically do *not* find nationalists but people whose commitment is bioregional to global—based on living systems rather than on political boundaries. Moreover, their concerns are focused not on their own rugged individualism but on conditions that will exist in the distant future, well beyond their own lifetimes.

Cronon's understanding of wilderness advocacy seems to have hit an impenetrable wall at about the time of Teddy Roosevelt.

In scrutinizing Cronon's widely publicized views regarding wilderness, it is difficult to ignore that he is editing a series advertised as “Weyerhaeuser Environmental Books,” published by the University of Washington Press and, according to personnel at the Press, funded by Weyerhaeuser. Though Weyerhaeuser supposedly exercises no editorial control over the texts in this environmental series, the Weyerhaeuser name has deservedly become virtually synonymous with environmental destruction. In this century, the company has clearcut some four million acres and exported a fortune in raw American logs. Weyerhaeuser is the fourth worst timber company for releases into the environment of toxic substances³.

Cronon's argument that “the romantic ideology of wilderness leaves precisely nowhere for human beings to actually make their living from the land” is an exceedingly odd statement given that so little of the planet remains uninhabited and unmanaged by human beings. Of *course* there's room for people—in all that territory outside of what little wilderness remains. Cronon appears to be implying that people, being part of Nature, have a right to be essentially *everywhere* to “make a living.” If you stand back, though, and look at how the natural world functions, you see that no species (save now for our own) is found everywhere. Only the human has spread as indiscriminately, and with such detrimental effects to other life forms, as cancer (which, incidentally, is part of Nature, too).

For Cronon, “ideas of nature never exist outside a cultural context;... the question ‘Whose nature?’...emerges as central;... the nature we study must become less natural and more cultural.” But then, the question ‘Whose culture?’ must also be raised, for when major corporations own mass media, enjoy powerful political connections, and have accumulated wealth heretofore never dreamed of, they can behave as if the culture were largely their own.

Cronon may be correct that *ideas* of nature don't exist outside of cultural understanding, but Nature in all of its self-governing complexity most certainly does. It is Nature in the form of internally regulated systems at grand scale, free of human manipulation, that wilderness advocates are struggling to defend and to restore—regardless of whose culture happens to be preeminent at the moment. ■

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³From research by George Draffen for the book *Railroads and Clearcuts—Legacy of Congress's 1884 Northern Pacific Railroad Land Grant*. (For information, contact Northwest Ecosystems Alliance, POB 2813, Bellingham, WA 98227; 360-671-9950.)

Eco-Forestry or Protected Status?

Some Words in Defense of Parks

by Ken Wu

IN THE 1990S, the tremendous growth in the environmental movement has been accompanied by numerous changes within the movement, many for the better but some for the worse. Among the detrimental changes has been an increasing tendency among certain segments of the environmental movement, including some engaged in struggles against wilderness destruction, to downplay the need for parks and protected areas. Many such individuals and groups are either fighting wilderness destruction in a vacuum, that is, with no clear alternative to the destruction, or are calling for "eco-forestry" and other forms of supposedly benign, environmentally-friendly resource extraction. I hope to show here that a call for anything other than protected status in priority wild areas is to the detriment of native biodiversity. I'll examine the primary arguments against park establishment that some environmentalists use and the strategic consequences of not advocating parks.

A REBUTTAL TO SOME PRIMARY ARGUMENTS AGAINST PARKS

Much of the lack of advocacy for protected areas can be attributed to ignorance. Many activists simply do not have an overview of the status of endangered ecosystems in North America, and are unaware that it is precisely in parks and protected areas that ecosystems are healthiest and most secure from environmental destruction. Hence, they do not understand the importance of directly campaigning for protected status, as opposed to mere moratoria on the destruction which usually get lifted later.

However, it is the philosophical criticisms of parks and protected areas that must be most vigorously addressed, for the development of such anti-wilderness environmental arguments is on the rise, as exemplified by William Cronon's essay, "The Trouble With Wilderness," in the recent anthology *Uncommon Ground: Toward Reinventing Nature*.¹ Dave Foreman, David Johns, George Wuerthner, Mike Matz, and Reed Noss have already responded to many critiques of the wilderness concept and Wilderness Areas in The Wildlands Project anthology, *Place of the Wild*.^{2,3,4} as well as in *Wild Earth*.^{5,6,7} and there is no need for me to repeat their refutations. Still, I would like to add a few insights of my own, because I think it is crucial that such misguided criticisms of parks (the most common Canadian wilderness designation) are refuted once and for all before they gain a further foothold in the movement. The environmentalist arguments against protected areas, and my rebuttals, are as follows:

The philosophical criticisms of parks and protected areas must be most vigorously addressed, for the development of such anti-wilderness environmental arguments is on the rise...



Copeland Mountain, Rocky Mtn. National Park by *Evan Cantor*

1. The concepts of parks and wilderness separate humans from nature when, in fact, humans are a part of nature. Thus, parks reinforce the man/nature dualism of western civilization.

Of all the arguments against protected areas, this one takes the cake for being ill-considered and just plain illogical. That human society *should be* in harmony with Nature does not mean it is in harmony—far from it, thus the whole environmental crisis. There's a difference between what *should be* and what *is*. Industrial society with its automobiles, factories, DDT, and shopping malls is certainly not one with Nature, and by using the word *wilderness* we are not somehow creating a dualism; a dualism already exists. There is a world of a difference between a parking lot and a prairie, a clearcut and an old-growth forest. Human civilization has already separated from Nature, from the wilderness; the task is to put humans back into harmony with Nature by developing an environmentally harmonious society *and* by protecting Nature in wilderness parks *while industrial society still exists*. Wilderness advocates didn't create the human/Nature dualism; agriculture, technology, and industrial society did by destroying Nature, thereby creating an obvious distinction between wilderness and human society. We must recognize this wilderness/civilization dichotomy if we are to overcome it. Creating parks, protecting the Nature that people are supposed to be a part of, is the most important step in transcending that dualism.

2. "Eco-forestry" and environmentally harmonious lifestyles and practices are needed, not more parks. It is not humans per se that are at fault, but rather the ways we live that are destructive.

Fair enough. Hunting/gathering lifestyles have more or less allowed the ecosystems in which they occur to remain intact. Arguably, such lifestyles are environmentally-harmonious. However, eco-forestry, permaculture, and organic agriculture with the use of today's advanced technologies and with the present human overpopulation are far cries from hunter/gatherer lifestyles.

In eco-forestry, large numbers of trees, up to the annual growth of the forest, are removed and used for lumber. This is in contrast to the small number of trees, if any, removed by hunter-gatherers to make the odd boat or building. True, where a swidden (slash and burn) agricultural system is also practiced along with hunting and gathering, as in many tropical aboriginal cultures, many more trees are taken. This may represent the beginning of a primarily agricultural lifestyle in such peoples, which would certainly be environmentally destructive, as with all agriculture. Agriculture is the destruction of native organisms in an area and their replacement by one or a few species useful for humans. However, in *primarily* hunting/gathering societies, swidden takes only tiny fractions of the forest cover, which are quickly reclaimed when the small patch clearings are abandoned in a couple years. In contrast, through

selection logging and commercial thinning, which are much more practical possibilities than eco-forestry in an industrial society, trees far in excess of the annual growth may be removed, to the point where forest interior conditions are lost. Tree removal aside, problems of road building, habitat fragmentation, soil compaction, erosion, stream damage, and the introduction of exotic species arise even with selective forestry practices. Nor should indigenous practices of burning tracts of forests to provide better grazing for ungulate prey be used to justify alternative forestry practices. Increasing numbers of studies are revealing the differences between logged and burned areas,⁸ such as changes in soil chemistry, successional species composition, and the presence of gradients of defoliation in burned areas but not logged areas. Clearly, wild Nature and areas used for forestry are not the same. Eco-forestry may be needed in areas not available for protection, but such practices are not appropriate everywhere and are not a replication of natural processes.

Some opponents of protected areas cite the example of indigenous peoples living in harmony with Nature to deny the necessity of protected areas in which human habitation is prohibited. Fine, let's have protected areas that include the protection of native hunting/gathering tribes. Most wilderness advocates would support the continuance of indigenous hunter/gatherers living in protected wilderness areas, as long as the native peoples possess traditional technologies and populations (as with several tribes in tropical Africa, Asia, and South America). Few protected area advocates, however, would support native peoples with industrial technologies and larger populations harvesting resources in protected areas, especially not for commercial purposes. This is where ecocentric environmentalists often differ from more anthropocentric environmentalists, who support native peoples with chainsaws, bulldozers, rifles, steel traps, and snowmobiles extracting resources in proposed protected areas. Support of native hunting/gathering lifestyles does not negate the need for protected areas. Rather, it is a justification for protected areas that include hunter/gatherers.

Proponents of native sovereignty may object to the notion of native people living in parks controlled by colonial governments, whether here in North America or elsewhere in the world. Native sovereignty may be a legitimate right, but in the meantime before the ruling governments are either pressured into accepting native sovereignty or are overthrown, it does neither the environment nor native people any good to have corporations destroy wilderness. Parks are the best means within the present society to prevent this.



3. Changing society to become environmentally harmonious is the crucial task, not creating more parks that exist parallel to consumer society without challenging its fundamental basis. Industrial society will eventually destroy protected areas anyway through pollution (ozone layer depletion, greenhouse effect, acid rain, etc.) and by opening park borders in times of resource scarcity.

This is a critique used by both reformists and radicals. Its two main problems are that it confuses the means with the ends and that it is strategically unsound. First, from an ecocentric perspective, the continued existence of Earth's complete natural biodiversity is the most fundamental goal. To achieve this goal, we must advocate *both* the protection of this biodiversity in wilderness parks—a particular means that is also identical to the ends—and the establishment of an environmentally harmonious society so that pollution and population growth don't destroy protected areas and the rest of Nature. Thus, when one pushes for new environmental laws to regulate logging practices or to curb pollution or, more fundamentally, when one works to dismantle industrial society, it is to ensure the long-term security of protected areas and all species, including humans. Yet, the critics of protected areas, believing the primary task is the survival of the human species, do not see any reason to protect wilderness; a world with the basic necessities for survival—clean air, water, soil, and renewable agriculture—is all that is needed to secure the human existence. The existence of the world's vast array of biodiversity in functioning ecosystems (some species may be reserved in genetic banks), is for the most part not a necessity for human survival; the garden vision, as critiqued by Roderick Nash,⁹ is seen as sufficient.

To some critics, wilderness protection is simply a means to "save the planet," meaning to secure human existence, while the reform or replacement of industrial society is the most crucial task for ensuring human survival. Such people have confused the means of creating a green society to secure wilderness with the ends.

illustration by Lia Kass

In addition to being anthropocentric, this critique is strategically unsound. If, as many confused park critics claim, protection of more wilderness would be great but society must be changed first, then it will simply be too late for most wild areas and species by the time The Revolution succeeds. Already, most of the parks and designated Wilderness Areas in the US and in southern Canada are surrounded by agriculture, clearcuts, and urban development. If it weren't for the protective designations, these natural areas would be long since destroyed.

4. Our parks have failed miserably in halting the loss of biodiversity. Most parks, too small to begin with, are located in high elevation areas of rock and ice or lands otherwise unsuited for human use, while the most productive and diverse low elevation ecosystems have been largely left out. In addition, parks have been subject to industrial tourism that has destroyed much of their biotic integrity.

As George Wuerthner points out: "The fact that our present preserve system does not work as well as it should does not mean that it could not work."¹⁰ That our parks are too small to maintain healthy populations of all their species doesn't mean we should not advocate parks; it means we fight to get bigger parks, as in the proposed Northern Rockies Ecosystem Protection Act. That parks are rarely established in old-growth forests or prairie grasslands doesn't mean we stop advocating the creation of parks; it means we work to get old-growth forests and prairie grasslands protected. For example, here in British Columbia, the tremendous push by the public to protect old-growth rainforests has resulted in significant tracts of prime, low-elevation old growth being protected in recent years, such as the Carmanah, Megin, Stein, Khutzeymateen, Boise, Kitlope, Mehatl, Skagit, Clendenning, and Niagara Valleys, as well as South Moresby. These are not lands marginal for human use; they are worth billions of dollars in timber value. That some parks contain ski resorts, grazing, and logging doesn't mean parks are useless; it means we fight against ski resorts, grazing, and logging in parks. Moreover, to say that parks have failed is to accept a very narrow and uninformed view of ecosystem protection. Alpine and subalpine ecosystems, which have their own unique species that are just as important in their own right as old-growth endemics, have been reasonably well protected. All other ecosystems partly protected by parks—including the small and moderate-sized tracts of productive, economically valuable lands—also represent partial victories. Park creation is a process, where all areas protected thus far are victories while still more and larger parks must be created to complete an ecologically viable system of protected areas.

Ultimately, if one believes that Nature has intrinsic value and that humans cannot improve it, then there really is no truly environmental option other than to leave wilderness as

is, and to secure it from future human alteration; this is the definition of a protected area, or what is often called a "park." Some people have a problem with the word *park*, because it holds a connotation that wilderness is for human recreation; fine, then let's call them "Ecological Reserves" or "Wilderness Reserves." But to not advocate the protection of an endangered ecosystem because of a name, and thus allow it to be clearcut or strip-mined, is a crime.

5. Nature needs human management to stay healthy. For example, exotic species must often be controlled, prescribed burns must be set in isolated habitats, predators must sometimes be controlled to allow endangered species to recover their populations, and new individuals must be introduced into small, isolated populations to prevent inbreeding. Thus, because nature must be managed, there is fundamentally nothing wrong with managing a landscape through selection forestry, controlled grazing, or limited agriculture.

This argument is made by some conservation biologists and land managers who realize that active management of some wild areas is necessary to maintain their natural character. Humans have so disrupted natural populations and processes that human intervention is often needed to correct past mistakes. The difference between correcting and managing *human-induced mistakes* on Nature and managing *Nature itself*, however, is huge. One can still advocate parks even if the areas of concern need such corrective management; their protective status should nonetheless forbid the managing of Nature itself. Unfortunately, some people lump both managing human mistakes and managing Nature under the general concept of "management," and support "alternative" forms of commodity extraction in place of protective status, thinking that such activities are fundamentally no different from prescribed burns or the elimination of exotics.

Many of these anti-park arguments are used in William Cronon's influential essay, "The Trouble With Wilderness." I shall leave other authors in this issue to debunk Cronon's claims.

IMPLICATIONS OF FAILING TO ADVOCATE PARKS

With the main philosophical arguments against protected areas out of the way, the strategic implications of not calling for full protection can be examined. Environmentalists' failure to call for protected status commonly has one of two "best-case" consequences:

1. A moratorium is placed on the destruction, whether by court injunction (in the US) or by simple government decree (in Canada). Moratoria can always be lifted, so the same fight will be repeated all over again, except that political circumstances may not be as favorable the next time around; new anti-environmental politicians may be in power, the "Wise Use" backlash may have grown, or the

environmental movement may be on the downswing. Moratoria are not solutions.

2. A half-baked solution results in which the pristine status of the area is compromised. This may include smaller clearcuts, limited road building, or, very unlikely, implementing the alternative forestry suggested by the environmental group (which, as already discussed, is not a replication of Nature). These half-baked solutions are often harder to overturn than the full-scale onslaughts, as such reforms may render complacent much of the more moderate environmental movement. Meanwhile, the wilderness is progressively eaten away at a reduced pace.

CONCLUSION

Clearly, direct calls for the establishment of protected areas are necessary if wilderness areas are to be saved once and for all. Of course, there is no guarantee that protected areas will not be opened up in the future for development, but there is no guarantee on anything in society; protected status is the most secure way to ensure the survival of native biodiversity.

Sometimes in building a coalition with non-environmental groups that share an opposition to a proposed development, a direct call for protected status may destroy the alliance. Some locals may be against the development of gas wells in their area but still want to continue grazing their cattle, or may oppose logging plans but still want to commercially trap. In such areas, environmentalists must use their judgment in deciding whether the coalition is worth temporarily forfeiting a protected area. In any case, the ultimate goal of the campaign should be complete protection once the immediate threats are defeated. In addition, one must question whether a coalition with other groups is desirable in the context of the overall campaign, especially if such groups oppose all protective designations and will end up becoming the opposition after the common threat is defeated. As a general principle in wilderness campaigns, the sooner one calls for complete protection, the better. ■

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Rooms and Their Airs (*Camere et Aer Ipsius*)

Air out the quilt. Down remembers the wind.

Remake the bed. Down remembers its nest.

Open a window for northerly winds that have swept across sweet water.

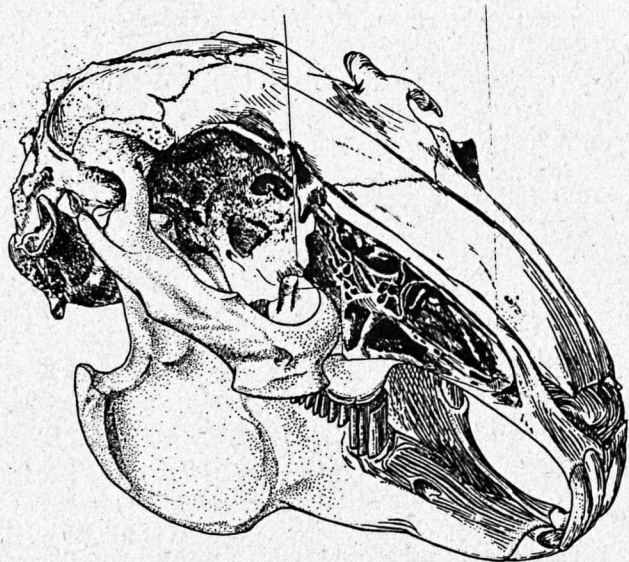
Open a window. Rain falling on good land is good for melancholy.

Prepare a fish. If the skin's not thick, it lived in shallows that run among stones.

Eat fish with wine and raisins. Your thirst, too, might be derived from grapes.

Conserve the bones. Nothing you do here will be forgotten.

—Jody Gladding



Rabbit Skull by Kirsten Nielson

Conservation Biologists Challenge Traditional Nature Protection Organizations

by Michael McCloskey

Since the mid-1980s the field of "conservation biology" has emerged with great impact. Its leaders have marshalled the findings of field research around a program representing their ideas of how to protect biodiversity. This research is valuable and its implications need to be heeded. The aim of protecting biodiversity is one that all those interested in protected areas will share.

However, their approach poses challenges to traditional organizations championing Nature and protected areas, such as national parks and wilderness areas. Many of the traditional approaches are criticized in the literature of conservation biology.

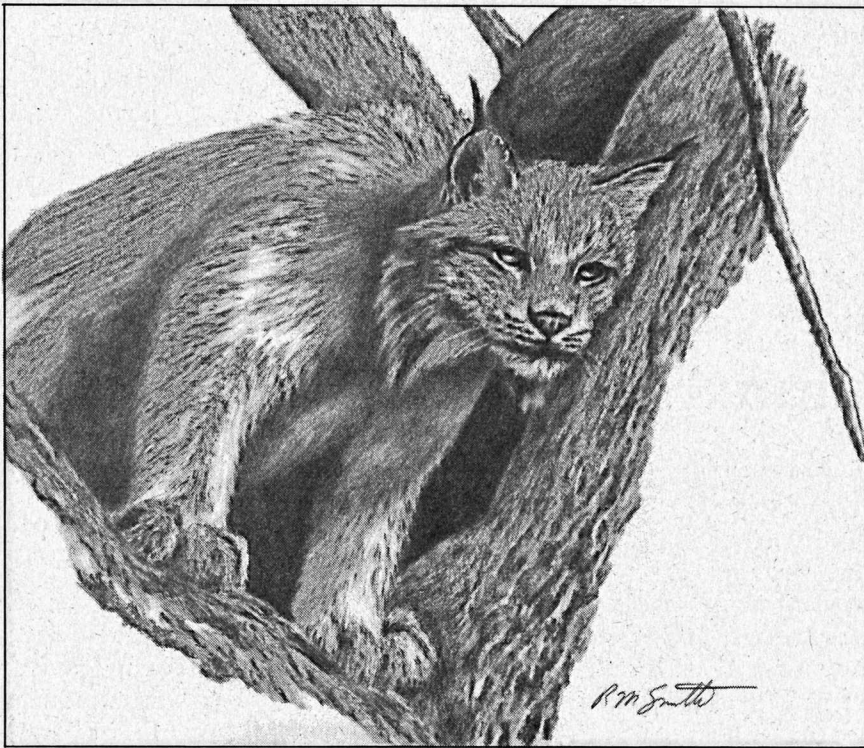
In this emerging literature, the preservation of biodiversity is put forth as the *raison d'être* for protected areas. Every other reason for having them is treated as secondary, if not trivial and old-fashioned. Little interest is shown in the rich culture of values accumulated over more than a century that explain why so many protected areas exist (over 70 such values are discussed in the taxonomy of wilderness values I have prepared).¹ The diversity of reasons for having protected areas has expanded the constituency for them.

Moreover, in conservation biology the systems of national parks and protected areas are not judged in terms of these reasons which explain why we have the areas that we do have and why they are located where they are and are of the size they are. Viewing the product of so much history through a new lens (representing a kind of presentism), these observers are quick to judge the existing system wanting in terms of achieving their new biodiversity goals. They assert that the parks are not in the right places; they are not large enough; they are often too far apart; they are not managed properly; they are not buffered from outside influences; and sometimes they represent damaged goods.² One commentator decries "...drawing lines around areas and trying in vain to hold them forever in the condition in which they were found."³

They observe that a large number of major habitat types are not represented at all in the US National Park system, pointing out that 33% of the potential natural vegetation types are not represented. They observe further that US Forest Service Wilderness Areas fail to represent 40% of the terrestrial ecosystems (as laid out in the Bailey-Kuchler scheme). Having noted that 35% of designated Wilderness is still open to grazing, they then assert that only about 3% of the land area of the United States is really strictly protected (in contrast to 11-12% nominally protected).⁵

Their disdain for what has been achieved so far is evident. One of them characterizes the notion of reserves as "anachronistic."⁶ He asserts that "Amenity preservation has resulted in parks as ecological islands, crown jewels without a crown."⁷ He dismisses the achievements represented by existing systems as "...token environmental reform."⁸ Those interested in esthetics and recreation are sometimes lumped together with those interested in profits and maximum yields.⁹ The very idea of "set asides" is attacked because it could engender "...a feeling of free license elsewhere."¹⁰

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This disdain for historic accomplishments has been encouraged by overblown credit given to the "worthless lands" theory propounded by Alfred Runte.¹¹ While there have always been those who wanted to limit reserves to lands devoid of economic value, it is a distortion of history to assert they always succeeded, and even Runte does not contend that has been the case. Certainly Yosemite contains valuable water power sites, as does the Grand Canyon. It is unfortunate that the report of the IUCN on the Caracas conference gives credence to the notion that "In the history of protection in North America, parklands have largely been limited to what is considered barren and economically useless for other purposes."¹² If this thesis ever tended to be true, it was primarily in the early history of protected areas.

As the park and conservation movement came to play a more active role, reserves have included more of value. Hard fought contests in the 1930s over establishing Kings Canyon National Park and Olympic National Park certainly involved lands of value for dams and timber, as did earlier efforts which succeeded in expanding Sequoia National Park. While commercial interests often succeeded in getting some areas they coveted dropped from park proposals, this does not mean that conservationists got nothing, or that parks got only worthless lands.

Most of the contests over protected areas in the period after World War II involved spirited struggles over lands that were far from being commercially worthless. The battle over Redwood National Park stands as the ultimate example of valuable lands going into the park system; \$1.3 billion worth of timber was set aside there. Most struggles today over wilderness designation involve conflicts over lands valuable for timber or minerals.

While we may easily acknowledge that the present system of protected areas is inadequate and reflects the historical interests that produced it, to heap scorn on systems that are, nonetheless, very valuable is counter-productive. Referring to the lands in the system as "worthless" suggests they are now worthless to the nation as protected areas. Additionally unhelpful is to have them pilloried as flawed, limited, mislocated and mis-managed.

It will be all too easy for the public to conclude that protected area systems should be dismembered if this is the message they get from leaders in the biological community. In fact, this is exactly what the National Park system's critics in Congress were advocating in the Hefley bill (HR 260). They were saying, in effect, "weed out the old system before anything more is added."

Unwittingly, some voices in the biological community are playing into their hands. What these conservation biologists really want is a vast expansion of the system of protected areas, but their rhetoric may instead feed efforts to shrink the system's size.

In contrast to the 11-12% of the US currently in protected areas of some type, leading conservation biologists are calling for setting aside an average of 50% of every eco-region in protected areas (in wilderness or buffer zones).¹³ Their "...calculations of the area necessary to represent all species and ecosystem types in a region can run as high as 99%, but are usually in the range of 25 to 75 percent."¹⁴ They not only want to maintain viable populations of all native species, but to do so in their "natural patterns of abundance and distribution."¹⁵

Doing the latter requires devoting a majority of all habitat to its original uses, prior to European settlement. To restore the Florida Panther, these conservation biologists want to place 60-70% of the states of Florida, Georgia, Alabama and South Carolina in reserves.¹⁶ To assure the Grizzly Bear's recovery in the lower 48 states, they want to allocate 60% of the Northern Rockies region to protected status.¹⁷ They want to put 50% of the Oregon Coast bioregion into reserves.¹⁸ And they feel that 25% of all rangeland belongs in reserves.¹⁹ Perhaps the idea of protected areas is not so anachronistic after all.

And while they want to establish "...more or bigger parks, wilderness areas and other reserves," they also want to "...manage better the semi-natural matrix (multiple use public and private lands) that covers most of our country."²⁰ And they want to do all of this on a continental scale, with a planning horizon of 10,000 years.²¹ They want a moratorium on all habitat degradation while these new plans are being put in place.²²

Those putting forth these expansive ideas know they sound "utopian," but they warn of the consequences of thinking only

"...in terms of what is politically 'reasonable [or] practical...'"²³ They caution that "...we had better be very clear about the consequences of pragmatism for both species and ecosystems: They will soon disappear, along with Earth's habitability for *Homo sapiens*."²⁴

Thus, notice is served on society: follow their course or accept responsibility for the consequences. Biological imperatives are posited which demand what "must" be done, with some saying these demands are "non-negotiable."²⁵

This posture represents a kind of neo-determinism: they are bearers of truth; society either conforms or pays the price. There is no room here for social choice or uncertainty.²⁶

Yet, by their own admission, much is uncertain, and thinking on some matters has been reversed. How is one to know how much of their program may be undermined by new findings? How much is based on scientific knowledge and how much on personal preference?

The field's founder, Michael Soulé, has specified that conservation biology exists to do a job: it is mission oriented; yet *Conservation Biology* editor Reed Noss admits that some of what they advocate is "untested."²⁷ Noss says that "We do not yet (and may never) know what we are doing."²⁸ He states that "ecosystem conservation is problematic,"²⁹ "we remain dangerously ignorant about natural ecosystems,"³⁰ "Ecosystems are more difficult to classify than species"³¹; and "no accepted classification of ...ecosystems exists in the United States."³² Moreover, "greater ecosystems are not self-evident."³³ These admissions leave one wondering about how to persuade the public that their case is sound.

For example, although the case for connections between preserved blocks is well established, the case for wildlife corridors as one way of providing connections is less well established. Corridors are suggested to facilitate genetic exchanges among populations in different locations; some think they ought to be wide enough to support their own resident populations.³⁴ Yet skeptics point out that little has been proven about their value, especially at a regional scale.³⁵ They point out that corridors may also spread disease, edge-loving species, and wild-fires, and pose a higher mortality risk for wandering animals.³⁶ The skeptics observe that corridors may also be expensive to maintain.³⁷ Michael Soulé admits that there are "no answers yet" for these concerns.³⁸ Is this an idea ready for its debut in a broad-scale way (as contrasted to being tested and refined)? Notwithstanding these questions, many are ready to proceed.

All of these *idée fixe* come at a time when other long held notions of ecology are being discarded. It was long believed that the more diverse ecosystems (in terms of species richness) were more stable and resilient, yet that correlation is now in doubt.³⁹ Diversity and stability may not go hand in hand. Even David Tilman's recent data defending a variation of the stability hypothesis are not reassuring. The variation in diverse ecosystems may leave individual species at risk.⁴⁰

Among the earliest ideas of ecology was that habitats progressed through successional stages of vegetation to reach a climax which would represent an equilibrium state (except for

disturbances that would start the process over). This notion of climax communities has now largely fallen out of favor among ecologists. Now equilibrium theories "... have been largely replaced by dynamic paradigms."⁴¹ Nature is seen as "...full of uncertainty and episodic at different spatiotemporal scales."⁴² "...Nature is a shifting mosaic ... [and] is essentially in flux..."⁴³ "Species composition of vegetation varies continuously in time and space..."⁴⁴ "Because chance [disturbance] factors and small climatic variation can apparently cause very substantial changes in vegetation, the biota and associated ecosystem processes for any given landscape will vary substantially over any significant time period—and no one variant is more 'natural' than the others."⁴⁵ Indeed, if the climates of regions are changing with the global buildup of greenhouse gases, all sorts of changes may be triggered in plant communities. Habitats on mountain tops and in low-lying coastal areas may no longer be suitable; plants in the US will need to migrate northward; some biologists have suggested that "preserves themselves may need to move."⁴⁶

As implications of chaos theory in physics have seeped into ecology, one is left wondering whether reserves can be built around expectations that any given plant or animal community will be assured of a future there. Minor perturbations might displace them, and climate change may wreak havoc.

The collapse of the equilibrium model and the diversity-stability supposition, along with the cloud being cast by impending climate change, all raise fundamental questions about the context for tackling major new challenges to protect biodiversity. Instead of knowing more about what to do, it almost seems as if we know less about what to do and how to plan for the future.

Despite these uncertainties, the advocates of a major scale-up in preservation want to change some of the ways protected areas are managed. Most advocate "hands-on management," with some boasting that "we can engineer nature at nature's rate..."⁴⁷ Cautions are issued, however, about avoiding "over-management."⁴⁸ Hands-on management is justified to block agents that would undermine biodiversity and to restore habitats.⁴⁹ Edward Grumbine advocates varying approaches according to local conditions, with no consistent standards.⁵⁰

Michael Soulé advocates managing wildlife in protected areas through various means, including culling, artificial transfers, and immunization. He calls for eradication of exotic biota.⁵¹

Donald Waller urges re-thinking the prescription for managing wilderness so that it is managed from a biodiversity perspective rather than just for esthetics and recreation.⁵² He also suggests that some additional human intrusions may be justified if more land can be preserved for biodiversity purposes, leaving the door open for limited snowmobiling and cutting firewood in designated Diversity Maintenance Areas (DMAs).⁵³

Conservation biologists support active programs to eliminate exotic species in reserves and to re-introduce native species.⁵⁴ Restoration of damaged range habitats might also entail use of mechanical treatments or herbicides.

In discussing reserves on rangelands, Reed Noss and Allen Cooperrider suggest some restrictions on recreational activities, such as backpacking, which are perceived to have discernible impacts.⁵⁶ In buffer zones around reserves, they would allow light grazing, selection forestry, non-motorized recreation (including fishing and hunting), and small-scale subsistence agriculture.⁵⁷

For forested areas in reserves, including new designations they contemplate, they would encourage natural fire regimes. In small reserves, they would use prescribed burns⁵⁸; in large reserves, they would take the "let burn" approach. Where necessary to create enough gaps for reproducing early successional habitats, they would fell trees to simulate treefalls,⁵⁹ though generally only at the edge of reserves or in buffers. Donald Waller would try to "...sustain disturbance regimes typical of the region without losing species..."⁶⁰ This would entail efforts "to maintain patterns of disturbance and habitat patches similar to those that have occurred historically..."

William Baker, however, warns against rushing into heavy burning programs while so little is known about the historical frequency and size of high intensity wildfires. He says "...it is premature to undertake extensive manipulative restoration action using either prescribed disturbances or mechanical means, as these may only produce undesirable alteration."⁶¹

In general, these changes in management prescriptions involve more intrusiveness than is now authorized in Wilderness Areas and a de-emphasis on recreation. They also mean vesting more authority in managers to decide what is warranted in the name of biodiversity protection. The approach assumes that large amounts of data are available from monitoring to adjust approaches so that management can be adapted to apply new knowledge (i.e., adaptive management). Still unclear, however, is on what basis, or under what guidelines, we should trust managers with so much discretion, particularly in light of past mistakes and tendencies to cater to local commercial interests.

CONCLUSION

Leaders in both communities should foster a rapprochement between traditional Nature protection organizations and conservation biologists. The former need to learn more biology, and the latter need to learn more about how to get results. Both could benefit from listening to each other. Less hubris and presumption may also help. A symbiotic relationship might then develop. ■

Michael McCloskey is the Chairman of the Sierra Club. He presented a longer version of this paper to the North American Regional Meeting of the IUCN's Commission on National Parks and Protected Areas in Lake Louise, Alberta, in October 1995.

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19. *Ibid.*, p. 254.
20. *Ibid.*, p. 130.
21. *Ibid.*, p. 88.
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26. Duke University political science professor Lynn Maguire warns that proponents of this kind of thinking "...must be wary of confounding advocacy of [their] goals ... with scientific analysis of various means of achieving them. Not only would this be an inappropriate use of scientific analysis ... but it would be a perilous tactic, since much of the science of landscape ecology is more at the state of plausible hypothesis than of well-established theory." See *Environmental Policy and Biodiversity*, ed. by R. Edward Grumbine (Island Press, Washington, DC, 1994), p. 270; but Edward Grumbine asks: "How can conservation biology survive the inevitable checks and balances of American politics?", id., p. 13.
27. Noss, op. cit., pp. 84, 94.
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Using Biodiversity as a Justification for Nature Protection in the US

by R. Edward Grumbine

INTRODUCTION

To fathom the last twenty-five years of growth in awareness of biological diversity in the US, take this simple test. Ask yourself the following questions:

- 1) What were two primary goals of environmental activists in 1970?
- 2) What were three species threatened with extinction at the time?
- 3) Was the term "ecosystem" in your personal lexicon on Earth Day 1970?

Your response to the first question likely includes air and water pollution, as these problems were receiving much attention at the time of the first Earth Day. Congress had already passed several laws to address such concerns and additional legislation was forthcoming. The second question was probably more difficult to answer—the Endangered Species Act as we know it today did not exist. You might have mentioned Whooping Cranes, Bald Eagles, or Bison, but most citizens were just beginning to wake up to the loss of species as a critical problem. As for the final question, you probably would not have had a solid working definition of "ecosystem" unless you had taken a college course in biology. In 1970, few activists in the nascent environmental movement had yet to embrace scientific ecology as an organizing principle.

If you were to ask yourself these same questions for 1996 your answers would be surprisingly different. Though pollution is still perceived as a threat by most Americans, many more environmentalists would now highlight the loss of biological diversity as a key problem. For question #2 you would have no trouble listing numerous species—Northern Spotted Owl, Peregrine Falcon, Grizzly Bear, Snail Darter, Mission Blue Butterfly, Kirtland's Warbler, or any of a dozen other commonly known endangered life-forms. And though your definition of ecosystem might not pass muster with a Ph.D., you would have little trouble describing it as a community in which plants and animals interact with the physical environment.

In the mid 1990s, after the 25th anniversary of Earth Day, loss of biodiversity is at center stage for many concerned citizens, activists, scientists, and managers (Grumbine 1992). This was not the case in 1970. The current emphasis on biodiversity has grown from a complex mix of cultural factors which are easy to highlight but difficult to untangle. First and foremost, there has been since the first Earth Day an unprecedented growth in scientific understanding of biological diversity, the ecological functions that diversity serves, and the biological consequences of environmental deterioration. This new knowledge has in turn been bolstered by trends in US environmentalism that reflect broad changes in American social values.



Conservation biology, the science of scarcity and diversity, would not be needed if not for significant loss of lifeforms.

As historian Samuel Hays (1987) has observed, the first Earth Day marked the high water mark in the metamorphosis from conservation to environmentalism in the US. Americans, with greater amounts of education, disposable income, and leisure time were beginning to view *game* as *wildlife*, value *nonconsumptive* outdoor activities (e.g., photography) equally with *consumptive* pursuits (e.g., hunting), and voice stronger concern about resource *protection* as well as resource *management*. During the 1970s and 1980s, as environmental groups gained members, larger budgets, and lobbying clout, their agenda expanded from countering threats to specific parks and wildernesses to include concern for general environmental problems such as population growth, resource consumption, pollution, and energy policy. Arguments challenging human-centered values also grew stronger, to the point that a new field of a philosophical inquiry—environmental ethics—began to flourish (Nash 1989). Overall, more Americans began to actively question whether *progress*, defined simply as endless material growth, could really be sustained into the future.

Today, another phase in the evolution of American environmental values appears to be taking place, spurred on by new understanding of biodiversity. If the original Earth Day marked the beginning of a more inclusive approach to managing Nature for humans, future Earth Days may come to represent the rise in importance of biodiversity protection as the primary basis for human work with Nature.

In this paper, I trace how the concept of biodiversity has evolved toward its present position at the center of a compelling scientific framework for protecting Nature. I focus on two related trends—the development of the ecological roots of knowledge about biodiversity and the development within environmentalism of scientific justifications for protecting Nature.

DEFINING BIODIVERSITY AND THE BIODIVERSITY CRISIS

'Biodiversity' has become a central rallying cry for a growing portion of the US environmental movement. The term and its relative, 'ecosystem management,' are referred to so often that the media portrays them as "buzzwords," empty phrases that everyone employs but few understand. Open any recent textbook, however, and biodiversity is easily defined. Noss and Cooperrider (1994, p. 5) provide a standard definition:

[Biodiversity is]...the variety of life and its processes. It includes the variety of living organisms, the genetic differences among them, the...ecosystems in which they occur, and the ecological and evolutionary processes that keep them functioning, yet ever changing and adapting.

Where did the modern concept of biodiversity come from? Part of the answer is that biodiversity has appeared today because it is disappearing so rapidly. Conservation biology, the science of scarcity and diversity, would not be needed if not for significant loss of lifeforms. A science exploring extinction and habitat fragmentation, it has blossomed since the 1980s as a response to widespread destruction of species and ecosystems.

In the US, thousands of species are either listed or awaiting protection as candidates for listing under the Endangered Species Act. Estimates of species at risk over the next decade range from 2.5-15% of all lifeforms on Earth (Primack 1993). Beyond individual plants and animals, many US ecosystem types have been reduced to critical levels (Noss et al. 1994). Yet only about 6% of the US is in some kind of protected classification. Biologists are beginning to describe not only species and ecosystems at risk but also endangered biophysical processes, including large mammal and song bird migrations, river system flooding and deposition patterns, and forest nutrient cycles (Brower 1994). Some scientists warn that entire faunal groups may "all but disappear" within

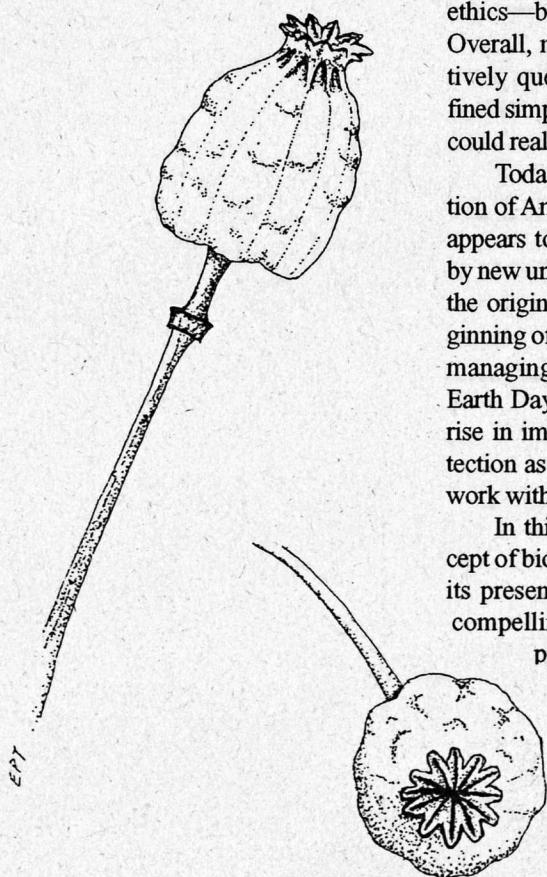


illustration by Eva Thompson

the next century, including primates, large carnivores, and most hoofed animals (Soulé 1986). In both direct and indirect ways, human activities are causing a biodiversity crisis—the largest mass extinction in 65 million years.

SCIENTIFIC ROOTS OF BIODIVERSITY

The modern definition of biodiversity derives from the development of the science of ecology and its application to conservation issues. To fathom why scientists and environmentalists did not comprehend biodiversity fully in 1970 first requires a glance at how ecology has matured as a discipline. There have been at least four developmental stages in the science of ecology: formative, descriptive, quantitative, and predictive non-equilibrium. (For full treatments see Worster 1994, Golley 1993, and McIntosh 1987.)

Several people stand out as major influences on ecological thinking long before the field coalesced into a unified discipline. Charles Lyell, the father of geology, in his book *Principles of Geology* (1830) helped overturn Linnaean concepts of a static nature under strict divine rule. Lyell was among the first to understand that geologic change occurred gradually over eons, that species dispersed actively around the world, and that competition was a driving force in biotic interactions. Lyell was a major influence on Charles Darwin. In *On the Origin of Species* (1859), Darwin built upon Lyell and advanced natural selection as the primary mechanism of evolution. Contemporary with Darwin but living in the New England woods, Henry David Thoreau was one of the first naturalists to understand succession as a major pattern of change in ecosystems. Thoreau also was one of the first to glimpse the loss of species and habitat and its cultural ramifications at the onset of the Industrial Revolution. George Perkins Marsh contributed a pioneering global account of humanity's role in reducing the capacity of Earth to support life in *Man and Nature* (1864).

Ecology in the early decades of the 20th century was a descriptive, holistic science. The key themes were the balance of nature and succession toward a stable, climax state. Plant ecologist Frederick Clements dominated the field with his idea of communities as interdependent superorganisms evolving collectively.

By the time A.G. Tansley coined the term "ecosystem" in 1935, Clements's views were falling from favor. Qualitative, descriptive ecology was being superseded by a more quantitative ecology of energy and nutrient flows, food chains, and trophic levels. Natural history was out, mathematical models were in. The science of interrelationships was becoming subject to compartmentalization and reductionism. In the 1940s, Raymond Lindeman developed important theories on energy flows in ecosystems and G.E. Hutchinson refined the concept of feedback and constructed some of the first mathematical models of populations. Later ecologists built on these fundamentals with Eugene Odum (ecosystem characteristics), Frank Bormann and Gene Likens (nutrient flows), and Robert MacArthur (population models) making key contributions (see Bocking 1994).

Since the late 1970s, as knowledge of natural patterns and processes has accumulated and the biodiversity crisis has grown, a new ecological worldview has been emerging (Pickett et al. 1992, Botkin 1990). Ecology is moving away from a reductionist approach toward a more contextual, non-equilibrium perspective. Where in the past scientists (and environmentalists) characterized ecosystems as orderly and relatively balanced, current viewpoints emphasize natural systems as dynamic, changing at different space and time scales, and full of uncertainty. Nature is episodic as often as it is homeostatic. Nature is not always in "balance"; and changes are difficult, sometimes impossible, to predict.

Definitions of biodiversity reflect these latest changes. No longer is diversity just about numbers of species or

types of ecosystems. The new emphasis on non-equilibrium processes (especially natural disturbances such as fires and floods) has resulted in a comprehensive definition that includes not only the diversity of life from genes to landscapes, but also the fundamental patterns and processes of Nature that weave lifeforms over time and in space.

EARLY ECOLOGICAL JUSTIFICATIONS FOR PROTECTING NATURE

In the first decades of this century, the descriptive balance of Nature view of ecology reigned supreme for biologists and citizens alike. Two of America's greatest naturalists, Joseph Grinnell and Tracy Storer (1916, p. 377), wrote in an early *Science* article that mammals in National Parks added "the witchery of movement" to the "natural charm of the landscape." These distinguished biologists believed that the National Parks' highest purpose was to "furnish examples of the earth as it was before the advent of the white man" (p. 377).

A few years later, views were beginning to change. Beginning in the 1920s, several professional ecologists published papers calling for Nature protection for the sake of science. In 1920, Victor Shelford (1920) criticized the Park Service and the Forest Service for an unecological approach to management. Francis Sumner (1920, 1921) called for "nature conservation" over resource management. Both Shelford and Sumner were members of the new Ecological Society of America and advocated setting aside representative examples of all US ecosystems in a comprehensive national system. Other ecologists joined them, publishing articles such as "The Preservation of Natural Areas in the National Forests" (Pearsons 1922) and "The Importance of Preserving Wilderness Conditions" (Adams 1929). In 1921 the American Academy for the Advancement of Science endorsed the Ecological Society's policies on reserves.

What sparked this outcry from a few leading scientists? Wilderness historian Craig Allin (1982) suggests that it resulted from a massive upsurge in road building on public lands by both the Forest Service and Park Service between 1916 and 1921. Also likely is that Shelford and his colleagues, on the cusp between Clementsian and quantitative ecology, recognized the need for protecting representative ecosystem types as examples of steady state conditions and as baselines for gathering new scientific data.

Shelford's efforts led to the remarkable paper "The Preservation of Natural Biotic Communities" (Shelford 1933). This visionary work (not unlike The Wildlands Project's vision today) outlined a national strategy for preserves that included protection for both species and ecosystems, expansion of park and reserve boundaries to match species habitat needs, managing for ecological "fluctuations" (i.e., natural disturbances), and a core/buffer zoning approach to planning.

Reading Shelford's paper more than 60 years later, one can only dream of what condition US public lands would be in today if policy-makers of the time had embraced Shelford's bold vision. Unfortunately, no sanctuary system was forthcoming. Shelford's work did result, though, in the beginning of the Forest Service's Research Natural Area program, where small examples of different timber types were declared off-limits to commercial logging.

While Victor Shelford developed his Nature sanctuary plan, three other biodiversity pioneers, George Wright, Ben Thompson, and Joseph Dixon, were focusing on the National Parks. As wildlife experts studying the habitat needs of park fauna, Wright and his colleagues discovered that every single park was far too small to sustain large mammal populations over time. At the conclusion of their landmark *Fauna of the National Parks of the United States* (1933, p. 37-39) they made one of the first statements suggesting biodiversity as the *raison d'être* for parks: "...perhaps our greatest natural heritage," rather "than just

scenic features... is nature itself, with all its complexity and its abundance of life."

Wright and his colleagues were proved correct in both their scientific and policy assessments by the debate that surrounded the creation of Everglades National Park in 1934. Wildlands advocates count Everglades as the first park where wilderness preservation was used to justify protection. The park was established for the "preservation intact of the unique flora and fauna and the essential primitive conditions" (US Statutes at Large 1934); but this legal language obscures the true justification behind the protection of the park. The record shows that conservationists convinced Congress to accept wildlife as "scenery" since the river of grass had no magnificent mountains or gorges (Runte 1987). Though the Everglades bill does represent a statutory milestone for accepting wilderness and wildlife, grandeur, magnificence, and Romantic ideas of the balance of Nature continued to hold sway.

BIODIVERSITY FROM ALDO LEOPOLD TO EARTH DAY

As ecology developed into a modern science in the 1930s and 1940s, there remained a need to consolidate ecological justifications for protecting Nature into a coherent whole. The person who accomplished this, as much as anyone, was Aldo Leopold. Best known for *A Sand County Almanac* (1949), Leopold wed the science of ecology with a land ethic where humans were "plain members and citizens" of Earth.

Leopold's thinking about ecology and management went through a profound transformation over several decades. In 1921, he was using recreational justifications for protecting wildlands that were radical for the time. But Leopold soon left such arguments behind. Beginning in 1933 he published a series of papers that provide the basis for much of the current definition of biodiversity as well as the ethical foundations of conservation biology. Leopold made four key contributions.

In 1939, he offered one of the first inclusive definitions of biodiversity: "...the biota as a whole is useful, and biota includes not only plants and animals, but soils and water as well" (Leopold 1939, p. 727). Leopold expanded on this in 1944 by adding the concept of health to conservation (Leopold in Flader and Callicott 1991, p. 310):

Conservation is a state of health in the land. The land consists of soil, water, plants, and animals, but health is more than a sufficiency of these components. It is a state of vigorous self-renewal in each of them, and in all collectively... In this sense land is an organism and conservation deals with its functional integrity, or health.

This commingling of biodiversity conservation and land health is the root of current attempts to define ecological health and ecological integrity.

Leopold's second contribution was to use the new ecological concepts of biotic pyramids, energy flows, and food chains to point out defects in prevailing balance-of-nature perspectives on ecosystems. He suggested that balance implies "only one point at which balance occurs, and that balance is normally static" (Leopold 1939, p. 727).

Third, Leopold used his awareness of the dynamics of Nature to provide a scientific rationale for wilderness protection. In 1941, he wrote that "all wilderness areas... have a large value to land-science (Leopold 1941, p. 3) and that their principal utility was as a "base-datum of normality, a picture of how healthy land maintains itself..."

The fourth and most important contribution of Leopold to understanding biodiversity was that he placed people squarely in Nature as "plain members and citizens of the land community" (Leopold 1949, p. 204). He had already recognized this intimate relationship as early as 1933 when he defined civilization as "as a state of mutual and interdependent cooperation between human animals, other animals, plants, and soils..." (Leopold 1933, p. 635). With this conception Leopold became the first

modern ecologist to link the health of land with the health of culture.

Like Shelford and Wright before him, Leopold had little immediate influence on policy. By the 1960s, however, as the pace of environmental deterioration quickened, other ecologists were beginning to catch up with where Leopold had been. Science came to play an increasingly key role in environmental policy debates. Rachel Carson in *Silent Spring* (1962) built her argument against pesticides by exposing their negative effects on both human health and ecosystem functioning. By 1968, the international scientific community was becoming active. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) sponsored a global conference that year on the use and conservation of the biosphere. This led to the biosphere reserve model of ecosystem protection. All this work forged links between Leopold's view of science and the environmental problems of the day.

Congress and the Administration, too, were beginning to act for biodiversity. In 1966 the Endangered Species Preservation Act was passed. This prototype of more powerful laws to come protected only vertebrates and contained many other loopholes. A year before Earth Day, in 1969, as the environmental movement gathered strength, Congress extended protection to invertebrates. In 1972, President Nixon stated that "even the most recent act to protect endangered species simply does not provide the kind of management tool needed to act early enough to save a vanishing species" (Nixon 1972). Nixon signed the Marine Mammal Protection Act that year.

The groundswell of presidential and popular support for ecology and endangered species surrounding Earth Day 1970 led to Congress passing the 1973 Endangered Species Act with but 12 no-votes total in both legislative houses. The ESA, still the strongest American environmental law, validated Aldo Leopold's "ecological consciousness" toward species and ecosystems and set the stage for future policy debates.

BIODIVERSITY AND THE ENVIRONMENTAL MOVEMENT

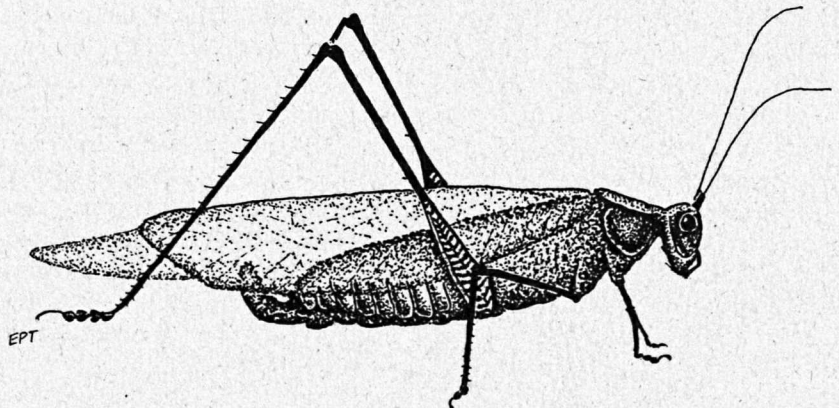
Environmental protection did not gain a lasting place in American values merely as a result of the development of the science of ecology. Nor did biodiversity come to the fore simply because of individual biologists such as Shelford, Leopold, and Carson. It also took the concerted efforts of leaders within the environmental movement to understand the implications of ecology and render these ideas accessible to the American public.

Just as ecology has developed as a science, so have environmentalist arguments evolved for protecting Nature. When Robert Marshall, Aldo Leopold and their colleagues founded The Wilderness Society in 1935, they focused only on wilderness and roadless areas. They believed that wildlands should be protected primarily for the benefits they conferred on people. Marshall's views, in particular, were influential: wilderness offered a respite from civilization, encouraged spiritual contemplation, and offered a unique aesthetic experience (Marshall 1930). During this period Leopold was only beginning to voice his biotic view of land; and the conservation movement had, aside from Shelford's work, little scientific ecology on which to base political prescriptions.

In 1949, the year *A Sand County Almanac* appeared, the Sierra Club convened its first biennial wilderness conference. These conferences were to become the main philosophical and strategic forum for the movement. Through the first four gatherings, there was little mention of ecology as having anything to do with wilderness protection. Recreational, spiritual, and aesthetic justifications prevailed. The *Sierra Club Bulletin* from 1950-1976 had only two references to ecology, four to endangered species, and five to wildlife conservation (Sierra Club 1976).

But the power of scientific ecology in general and Leopold's ideas in particular was beginning to be felt. In 1950 journalist Bernard DeVoto, responding to the Echo Park Dam controversy in Dinosaur National Monument, proclaimed that the park deserved to be protected "as wilderness... for the field study of... the balance of Nature, the web of life, the interdependence of species..." (DeVoto 1950, p. 44). DeVoto's is a classic attempt to incorporate Leopoldian ecology with Romantic ideas of balance in Nature.

In 1951 and again in 1955, at the third and fifth wilderness conferences, Howard Zahniser of The Wilderness Society (TWS) unveiled a national plan for wilderness protection, based partly on Victor Shelford's original Nature sanctuary vision (Kendeigh et al. 1950-



1951). Zahniser's plan became the precursor to the original Wilderness Act bill in 1956. In Congressional hearings over the new bill, Zahniser mentioned scientific baseline data arguments in favor of the legislation, but these justifications were never highlighted by conservationists during the debate.

As executive director of the Sierra Club, David Brower was as responsible as any leader for bringing science to conservation. Brower controlled the agendas of the wilderness conferences. Beginning in 1959 with Raymond Cowles, he invited several professional ecologists to address the conferences. Cowles spoke of population growth from an ecological perspective. In 1963, James Gilligan, author of the first Ph.D. dissertation on US wilderness policy, described wildlands as "essential habitat for scarce species." Slowly, biodiversity was creeping into conservation arguments.

Conservationists did not find it easy, however, to include ecology along with recreational and spiritual justifications for wilderness. Sharing the podium in 1963 with Gilligan was forest ecologist Stephen Spurr, whose view of ecology challenged Brower and the conferees. Spurr argued strongly against any wilderness preservation strategy grounded in a stable, balance of Nature view. "Stability is only relative, and only superficial," spoke the ecologist, and "natural succession will never recreate old patterns, but will constantly create new patterns" (Gilligan 1963, p.

60). Spurr used ecological theory to confront the conferees' "nostalgia" for a nature that never existed. Instead of drawing lines around roadless areas and lobbying Congress to designate new wilderness, Spurr argued for greater use of science and technology to manipulate Nature for human ends.

This conflict between ecology and preservation was manifest again in 1963 with the influential *Wildlife Management in the National Parks*, the so-called Leopold Report (Leopold et al. 1963). At the behest of Interior Secretary Stewart Udall, a blue ribbon committee chaired by Aldo Leopold's son, zoologist A. Starker Leopold, was convened to review wildlife in the parks. The committee's report was both revolutionary and paradoxical. Following ecology (and the thirty year old insights of George Wright), the report concluded that "maintaining suitable habitat is the key to sustaining animal populations, and... protection, though it is important, is not of itself a substitute for habitat" (p. 1-2). But after verifying Spurr's assessment that ecosystems change over time, the Leopold Committee recommended that "the biotic associations within each park be maintained... as nearly as possible in the condition that prevailed when the area was first visited by the white man." Each park "should represent a vignette of primitive America" (p. 4). As historian Alfred Runte (1987) has noted, these scientists could not escape their cultural values. Science required them to portray Nature as dynamic, yet they advocated freezing Nature into pre-European landscapes.

The Sierra Club, Wilderness Society, and National Parks and Conservation Association were all quick to endorse the Leopold Report. These groups supported the committee's *philosophy* while avoiding the committee's *ecology*. The following year the Wilderness Act was passed by Congress. Ecological values rated all of three words in the new law.

Despite these inconsistencies, support for endangered species and broad environmental protection continued to grow. In 1968, the Sierra Club lobbied for a national ecological survey, but the bill died in Congress (McCloskey 1968). At the biennial wilderness conference in 1969, population biologist Paul Ehrlich proclaimed that human population growth and resource consumption were inextricably linked to the loss of wilderness.

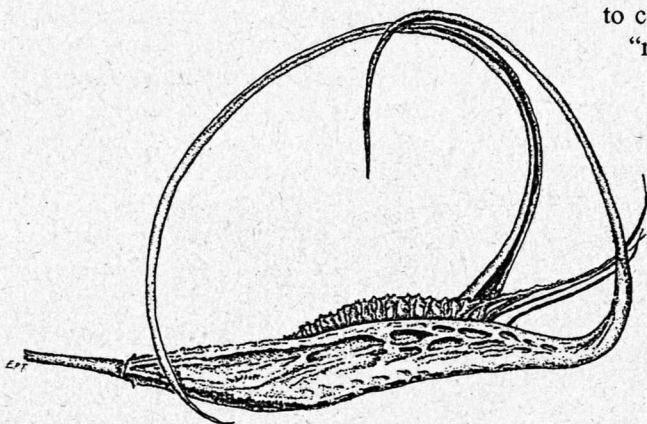


illustration by Eva Thompson

BIODIVERSITY COMES OF AGE: 1970-1990

During the 1970s and into the 1980s, scientific and policy conceptions of biodiversity continued to converge with environmentalist notions of ecology. Ecologists added to their knowledge of competition, diversity, stability, and community dynamics (see Cody and Diamond 1975; and on biogeography, MacArthur and Wilson 1967). R.H. Whitaker (1972) refined and broadened the concept of diversity to include within-habitat (alpha), between-habitat (beta), and regional (gamma) diversity. The same year that Whitaker published his classic work, the United Nations Conference on the Environment was held in Stockholm. For all the impassioned debate in Sweden, though, few ecologists attended. Scientists were not ready to present their ideas in political forums.

Several national and international conferences and policy documents built upon Stockholm. In 1981 the US Council on Environmental Quality produced the *Global 2000 Report to the President*, which was the first US policy document to attempt a definition of biodiversity. The US State Department, following the Council's lead, sponsored an International Strategy Conference on Biological Diversity in 1981. A World Charter for Nature was ratified by the U.N. General Assembly in 1982. The charter included recommendations to protect parks and wildernesses, but was especially notable for its preamble which tied protecting diversity to an ethical position: "Every form of life is unique, warranting respect regardless of its worth to man, and, to accord other organisms such recognition, man must be guided by a moral code of action." The US was the only member of the General Assembly to vote against the charter.

Yet by the time UN delegates were voting on the World Charter for Nature, biodiversity protection had already been codified in US law—at least on the National Forests. The 1976 National Forest Management Act (NFMA) today

remains the only US law that explicitly requires a federal agency to protect viable populations and ecosystems. As with the Everglades legislation four decades prior, however, the motives of Congress were unclear. The NFMA was a response to excessive clearcut logging on the National Forests. Forest activists and Congress were concerned about stand conversions, the forestry practice of logging native forests to replace them with preferred commercial species, creating industrial monocultures. Yet Congress did not understand biodiversity well enough to act decisively. In an extremely ambiguous section of the NFMA, legislators required the Forest Service to "provide for the diversity of plant and animal communities" (US Code 1982).

The NFMA diversity provision was clarified by a committee of scientists who wrote rules under the Code of Federal Regulations whereby the law would be implemented. These rules, completed in 1979 and revised in 1982, require the Forest Service to preserve existing variety, maintain viable populations, recognize forests as ecosystems, and base management on ecological relationships. Clear as the rules were, it would take many years and numerous appeals and lawsuits to force the agency to begin to implement them.

Along with NFMA, two additional events in the late 1970s brought ecologists and activists closer together. As the pace of development continued, concerns were raised as to how "external threats" would affect protected areas. The National Parks and Conservation Association (1979) published a national report documenting such threats. The Park Service (1980) released its own study highlighting similar problems. The following year, Congress, in response to erosion and watershed degradation on lands surrounding Redwood National Park, amended the Park Service Organic Act to affirm park protection. While judicial interpretations have limited the effectiveness of the Redwood Park Amendments, the issue of external threats served notice

that protected areas were in fact embedded in an ecological matrix that required protection as a whole.

Further illuminating biodiversity in the late 1970s were several books by prominent scientists warning of an extinction crisis. Norman Myers's *The Sinking Ark* (1979) was read widely and caused much debate. Paul and Anne Ehrlich titled a 1981 textbook *Extinction*. The Nature Conservancy, ahead of most conservation groups in understanding diversity, began to build a national database that cataloged threatened and endangered species, habitat types, and other elements of biodiversity (The Nature Conservancy 1975).

By the beginning of the 1980s a critical threshold was being reached in scientific comprehension and environmental awareness of biodiversity. The first International Conference on Conservation Biology, held at the University of California, San Diego in 1978, brought together a diverse group of geneticists, population biologists, evolutionists, and biogeographers. The conference resulted in the path-finding anthology *Conservation Biology: An Ecological and Evolutionary Approach* (Soulé and Wilcox 1980). The synthetic discipline of conservation biology was born. Soon thereafter, other books appeared linking conservation with genetics, evolution, and population biology (Frankel and Soulé 1981, Schonewald-Cox et al. 1983, Harris 1984). In 1986, a second conference of the newly formed Society for Conservation Biology was held, followed by the initial publication of a professional journal. In late 1986 in Washington, DC, the Smithsonian Institution and the National Academy of Sciences hosted the first high-profile international gathering of professionals concerned with loss of biodiversity. From this time onward there has been a great outpouring of papers and reports covering all aspects of the new field.

What was new about conservation biology? The discipline was synthetic, with island biogeography, population genetics, and habitat fragmentation studies leading the way. There was an em-

phasis on applying academic theory to management problems. And conservation biology was explicitly value-laden: diversity, complexity, and evolution were imbued with normative value (Soulé 1985). Many conservation biologists supported shifting the burden of proof in environmental decisions from those who wished to protect diversity to those who desired to develop Nature. While conservation biology was mission-oriented, however, the methods used to gather data were objective, peer reviewed, and as value-free as in any other scientific discipline. The field has contributed these general management goals to conservation (Meffe and Carroll 1994):

1. *Critical ecological processes must be maintained.*
2. *Goals and objectives must come from a deep understanding of the ecological properties of the system.*
3. *External threats to reserves must be minimized and external benefits maximized.*
4. *Evolutionary processes must be conserved.*
5. *Management must be adaptive and minimally intensive.*

The Earth First! movement was well out in front of almost all environmental groups in using conservation biology arguments as first principles in protecting Nature. Evident in the earliest volumes of the *Earth First! Journal* (1981-1982), this ecological wilderness perspective was consolidated in *The Big Outside* (Foreman and Wolke 1989): "Protecting *natural diversity*, then, must be the major goal of the wilderness movement... *natural diversity* means that all indigenous species must be free to evolve under natural conditions, in as many different natural habitats as possible" (p. 24).

Still, many environmental groups were slow to embrace the new field. It took the Northern Spotted Owl and its old-growth forest habitat to catapult biodiversity toward the forefront of environmentalism. The owl awakened activists

(and managers and Congress) to critical aspects of protecting biodiversity. What began in the 1970s as an owl-only issue was transformed by 1990 into an ecosystem protection issue, in part due to EF!'s dramatization of threats to old-growth forests. Once old-growth ecosystems were adopted as a strategy focus, it became easier for activists to appreciate the role that ecosystem patterns and processes played in maintaining biodiversity. As scientific assessments on owls and old growth were joined by reports on Marbled Murrelets, salmonids, and other species, activists were pushed toward another level of sophistication, recognizing the need for regional/landscape-scale protection. In 1994, ecosystem management studies supported (in concept) by environmentalists were initiated by the federal government for the entire Columbia River Basin and the Sierra Nevada Mountains in California.

BIODIVERSITY BEYOND EARTH DAY 1995

Three years after Earth Day 1970, when Congress passed the Endangered Species Act, protecting diversity was perceived as "low-cost, no-lose" (Yaffee 1982, p. 57). Today the Act faces efforts to gut its most stringent provisions. Yet it is abundantly clear that the biodiversity crisis has worsened and that the law should be strengthened. The sum of our growing scientific understanding of biodiversity reveals a deep chasm between environmental policy and environmental protection (Grumbine 1994b).

The single major consequence of the revolution in awareness of biodiversity has been to deepen our appreciation of interrelationships. For ecologists, this trend has been manifest in two important ways: the evolving definition of diversity from species to the current inclusive hierarchical view, and the change from static balance to non-equilibrium theories of Nature. In the environmental movement, biodiversity has begun to nudge activists away from viewing Nature as a series of special places (parks and wilderness) embedded

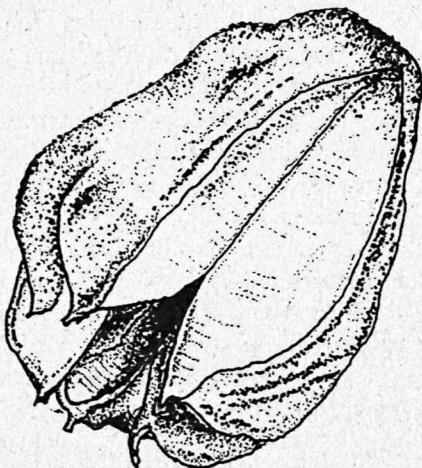


illustration by Eva Thompson

in developed landscapes toward the protection of regional landscapes (Noss 1983) or greater ecosystems (Grumbine 1990) where use and protection are grounded in a sense of limits on human behavior.

In American society at large the concept of protecting biodiversity continues to challenge cherished but outmoded images of people vs. Nature. While anthropocentric values and resourceism still hold sway with the majority, a growing number of citizens are asking provocative questions. Are there limits to private property rights when biodiversity is at risk? Is industrial-scale resource depletion sustainable? What should give when human activities are exposed by conservation science as endangering species, ecosystems, and landscapes? Who should decide what constitute acceptable levels of risk in losing elements of biodiversity? These questions were not part of the discussion on Earth Day 1970. We had no definition for biodiversity, no comprehensive Endangered Species Act, and property owners were unconcerned about their "rights." "Sustainability" was not part of the environmental lexicon. There were no conservation biologists to decry threats to viable populations, and "plenty" of old growth remained to be cut. Environmental protection was perceived as either/or, cut-and-dried, not replete with uncertainty and multiple levels of risk.

Conservation biologists today confront myriad complex issues. In a society that considers science to be value-neutral, how do you practice objective science and yet advocate for biodiversity (for example, see Noss 1994 and Brussard et al. 1994). And how do you create a tighter link between science and policy? In the 1930s, when Victor Shelford designed a national reserve system using science, the political response was a series of tiny Research National Areas. In the 1990s, several scientific panels recommended a moratorium on old-growth logging and the result was President Clinton's Option Nine, and Congress's "forest health" rider—the

first of which failed to uphold the scientists' recommendations, the second of which runs directly counter to them.

Activists, too, are adjusting to the new world of diversity. They are becoming less hesitant to employ scientific arguments in their strategies, regardless of the perceived political costs. The history of US environmentalism reflects a tendency by activists to downplay scientific rationales in favor of ethical justifications. The normative standards of conservation biology can help to overcome this tendency.

Activists should not accept science uncritically, however. The history of the concept of biodiversity makes clear that along with evolving scientific "fact," ecological theory is also dependent on cultural context. The balance of Nature steady-state model was partly a product of Romantic values at the last turn of the century, just as chaos, uncertainty, and non-equilibrium theories are tied to current circumstances. The process of science suggests that the current definition of biodiversity provides an improved picture of how Nature works; but the views that Stephen Spurr expressed at the 1969 Sierra Club wilderness conference are alive and well today. The influential ecologist Daniel Botkin believes "We can engineer nature at nature's rate and in nature's way..." (Botkin 1990, p. 190). The current debate over defining ecosystem management provides another indication of American ambivalence over new concepts of biodiversity (Grumbine 1994). Is it people over Nature or people in partnership with Nature? Ecosystem management or ecosystem protection? The goal of biodiversity protection considers all human use of Nature as flowing from ecosystems *only after* basic patterns and processes are maintained and restored. If ecosystem management for native diversity is to take hold and flourish beyond 1995, the new goal of protecting biodiversity and the old standard of providing natural resources for human use must be reconciled. This is a values and political question which does not depend exclusively on science for resolution.

One hundred thirty-seven years ago, Charles Darwin ascertained that all life—including humans—is subject to the forces of evolution. Three decades before the first Earth Day, Aldo Leopold, working a cut-over sand county farm in Wisconsin, saw through the delusion that people are separated from and not responsible to Nature. In 1962, Rachel Carson published her blockbuster against pesticides. In the late 1980s, American school children became aware of the Northern Spotted Owl and its old-growth home. Yet a century and a third after *The Origin of the Species* many US citizens do not believe in evolution. Twenty-five years passed between the appearance of *A Sand County Almanac* and a law to protect species from extinction. DDT, banned in the US since 1969, is still manufactured by US companies for export. The pace of positive change is painfully slow. Sociologist Bill Devall is correct to note that though Americans have been quick to support environmental reforms, changes that require difficult behavioral and values adjustments remain incomplete (Devall 1995).

Biodiversity protection represents the core idea that may bring Americans to support protecting all species, human and nonhuman together. Noting the tension between scientific and environmentalist views of ecosystems, ecologist Frank Golley (1993, p. 205) remarked, "It is not clear to me where ecology ends and the study of the ethics of nature begins, nor is it clear to me where biological ecology ends and human ecology begins. These divisions become less and less useful." Moving from a 19th century model of preserving Nature toward a 21st century image of protecting biodiversity will help break down further the delusion that people and Nature can be separate. The hope is that adjusting management goals to reduce extinction and habitat destruction will not only end the present biodiversity crisis but also provide the opportunity for people to forge a new relationship with Nature. Hope and time are intertwined—most biologists do not believe that we have the luxury of an additional 25 years to wait

for biodiversity to become accepted by society as ecology was from 1970 to 1995. Long before Earth Day's 50th anniversary, Americans must learn that there can be no alternative to protecting the native sources of life—healthy, functioning wild ecosystems. ■

Acknowledgments

Thanks go to Curt Meine, Reed Noss, and John Davis for their helpful comments on earlier drafts of this paper. Readers should be aware that this paper represents preliminary work in a neglected area that could use further critical scholarship. An earlier version of this paper appeared in the 1995 *Humboldt Journal of Social Relations* 21(1): 35-59.

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An annotated table of contents of *The Great New Wilderness Debate*

by Michael P. Nelson

READERS OF *WILD EARTH*, especially those interested in the theme of the issue in hand, will be pleased to learn that a scholarly anthology on the current debate surrounding the concept of wilderness will soon be available. Baird Callicott and I, like you, genuinely feel that this debate merits serious attention and consideration since the protection and defense of designated Wilderness Areas would seem to be contingent, at least in part, upon a proper conceptualization of "wilderness." To paraphrase Plato's Socrates, *for no light matter is at stake; the question concerns the very status and future of those "wild" places we so revere.*

Our anthology is divided into four parts. In Part 1, "The Received Wilderness Idea," we present essays by those early thinkers and writers whose works so thoroughly determined our collective Western portraiture of wilderness. The anthology begins with selections from New England Puritan teacher/preacher Jonathan Edwards. In "Images or Shadows of Divine Things" and "Christian Doctrine of Original Sin," Edwards holds wilderness up as an object of worship, the purest representation of work by the hand of God—a view that not only ran counter to the dominant strain of thought about wilderness at the time, but that anticipated the Transcendentalist school of thought, which most agree was the wellspring of our current received view of wilderness. Next, we have included selections by those influential transcendentalists Ralph Waldo Emerson, Henry David Thoreau, and John Muir. Chapter one of Emerson's piece "Nature," selections from Thoreau's honored essay "Walking" and little-known essay "Huckleberries," and large excerpts from Muir's "The Wild Parks and Forest Reservations of the West" and "The American Forests" serve to give the reader a hearty taste of the shift in thinking about the value of Nature from negative to positive occurring in the late 19th and early 20th centuries. Theodore Roosevelt's "The American Wilderness: Wilderness Hunters and Wilderness Game" and Sigurd Olson's "Why Wilderness" are included to represent the origins of a prevalent aspect of the received view—namely, the masculinist idea of wilderness as big and fierce, a proving ground for one's manhood and virility. "Wilderness as a Form of Land Use" by Aldo Leopold and "The Problem of Wilderness" by Robert Marshall served as precursors to the legion of works in the 20th century providing arguments for the preservation of designated wilderness areas. "An Amalgamation of Wilderness Preservation Arguments," an original essay by Michael Nelson, is an attempt to collect in one place all of those rationales for the preservation of wilderness presented over the last three-quarters of a century. Finally, we have included the text of the single most important piece of wilderness legislation ever, "The Wilderness Act of 1964," as well as an original essay and philosophical analysis of the Wilderness Act of 1964 by Mark Woods, "Federal Wilderness Areas: The Preservation of Wilderness?"



The Great New Wilderness Debate (forthcoming, 1997), edited by J. Baird Callicott and Michael P. Nelson, University of Georgia Press, 330 Research Dr., Athens, GA 30602-4901; 706-369-6163.

In Part 2, "The Wilderness Idea Criticized and Defended," the idea of wilderness handed down from the likes of Muir, Thoreau, Olson, Leopold, Marshall, and Roosevelt is both challenged and supported. The section begins with three essays now widely held to be the philosophical exchange that broke open the floodgates of the current controversy surrounding the received concept of wilderness. In "The Wilderness Idea Revisited: The Sustainable Development Alternative," Baird Callicott attacks the received wilderness idea for being inappropriately dualistic, ethnocentric, ecologically naive, and a poor basis for a successful global conservation philosophy. In "The Wilderness Idea Reaffirmed," Holmes Rolston III defends the received view of wilderness against Callicott's diatribe. Callicott briefly responds to Rolston in "That Good Old-Time Wilderness Religion." Reed Noss ("Sustainability and Wilderness") and Dave Foreman ("Wilderness Areas For Real," original contribution) throw in with Rolston as defenders of "Big Wilderness." William Denevan ("The Pristine Myth: The Landscape of the Americas in 1492") and William Cronon ("The Trouble with Wilderness, or, Getting Back to the Wrong Nature"), on the other hand, sign on to Team Callicott as critics of the received view. Tom Birch's sophisticated but ambiguous essay, "The Incarceration of Wilderness: Wilderness Areas as Prisons," both serves as a defense of and expresses a discomfort with the wilderness idea in its North American context. Part 2 is rounded out by Marvin Henberg's "Wilderness, Myth, and American Character"—an essay recognizing the supposed shortcomings of the received view while at the same time arguing for the preservation of wilderness as a necessary condition of a rich cultural human existence.

Part 3, "The Third and Fourth World Perspectives," centers on the debate about, and the growing concern over, the implications of the received view of wilderness in the Third and Fourth Worlds. To open, Roderick Nash traces the history of the received view as it was transplanted outside America, in chapter sixteen, "The International Perspective," of his classic work, *Wilderness and the American Mind*. In "Cultural Diversity, Human Subsistence, and the National Park Ideal," David Harmon explores the ethical implications of globally applying the world's most widely used category of protected area—the national park—especially in an African context. Next is Ramachandra Guha's "Radical American Environmentalism and Wilderness Preservation: A Third World Critique." In this oft-cited essay, written from a South Asian perspective, Guha critiques the Deep Ecology movement and its focus on wilderness preservation as being relevant only to an American con-

text and, hence, inappropriate when applied to the Third World. Arne Naess ("The Third World, Wilderness, and Deep Ecology") and David Johns ("The Relevance of Deep Ecology to the Third World: Some Preliminary Comments") attempt to defend the Deep Ecology movement and wilderness preservation against Guha's stinging charges. In "Taming the Wilderness Myth," Arturo Gómez-Pampa and Andrea Kaus offer a Latin American critique of the received view of wilderness; in "Overturning the Doctrine: Indigenous People and Wilderness—Being Aboriginal in the Environmental Movement," Fabienne Bayet provides the Fourth World perspective of an Australian Aboriginal woman in critiquing the Australian version of the received view; and in "The Wilderness Narrative and the Cultural Logic of Capitalism," another original contribution, Carl Talbot puts forth a neo-Marxist analysis and critique of the wilderness idea.

Part 4, "Beyond the Wilderness Idea," offers positive, forward-looking suggestions on how to get beyond the received view and its critiques. Two themes dominate this section: more expansive rationales for preserving wilderness than those above; and reinhabitation, or learning how to combine the preservation of the ecological health and integrity with the human use of a place. Aldo Leopold's little known essay "Threatened Species," Reed Noss's "Wilderness Recovery: Thinking big in Restoration Ecology," Baird Callicott's "Should Wilderness Areas Become Biodiversity Reserves?," Jack Turner's "In Wilderness is the Preservation of the World," and Dave Foreman's "Wilderness: From Scenery to Nature" all loosely fit into the first category. Essays grouped with the reinhabitation theme include "Wilderness" by Aldo Leopold, "Getting Back to the Right Nature: A Reply to Cronon's 'The Trouble with Wilderness'" by Don Waller, "Cultural Parallax in Viewing North American Habitats" by Gary Nabhan, and "The Rediscovery of Turtle Island" by guru of the reinhabitation ideal, Gary Snyder. Ed Grumbine's essay "Wildness, Wise Use, and Sustainable Development" grapples with both themes of part four. The collection is capped with an original essay by Australian ecofeminist philosopher Val Plumwood. In "Wilderness Scepticism and Wilderness Dualism," Plumwood offers a critique of the reinhabitation proposals, insisting instead on a combination of the cultural world of that which is human with the natural world of that which is wilderness without simply collapsing one into the other. ■

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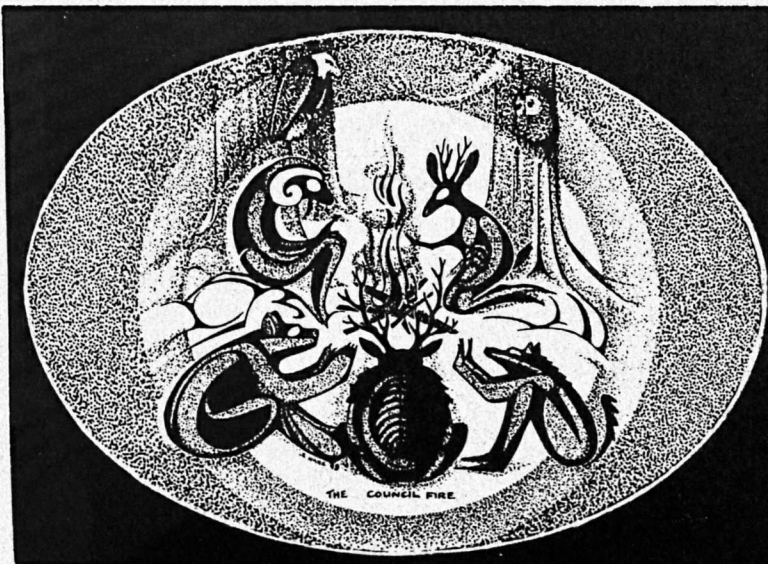
IMBOLC

*On the darkest day the longest night
we sang up the sun its seed of light bursting in our souls
Such a clear shot in the dead of winter
so easy to imagine one end of a continuum from the other*

*What about down road?
when the days are only inches longer
and deep gray rains pound us into the earth
What about the glory of that seed as it tumbles in the slick mud
stones bumping and bruising our carefully folded husks
our "wings" chipped now and graceless
and this strange new pale protrusion emerging from our center
stretching blindly desperate to take hold*

*This is the moon of roots first moving
of bulbs cracking
of hibernating animals beginning to remember the world
This is the time to anchor our dreams into the ground of our lives
the fullness of summer the tall corn thick vines rich fruit
all depend on our foundation of the heart
in this empty time
solidifying our intentions
claiming our own*

—Miriam Dyak



Reproductive Sanity, So Long

by Bill McCormick

Ever since Francis Moore Lappé bowed out of writing regularly against population control about a decade ago, Betsy Hartmann has been eager to fill her shoes. South End Press recently published a revised version of her 1987 book, *Reproductive Rights and Wrongs*,¹ and Hartmann has made her case in magazines such as *The Progressive*, *The Nation*, and the *Whole Earth Review*. An in-depth look at her work is in order, as—aside from the “pro-life movement”—she and her supporters are probably the most vocal opposition that population reduction advocates are likely to encounter.

I assumed that since she had eight years to revise the book, she would delete some of the more obviously foolish contentions about “the myth of overpopulation,” and about the real problem in much of the Third World being under-, not overpopulation. I also had thought that due to the remarkable consensus achieved during the 1994 Cairo conference on the need to address the population problem seriously, she might be somewhat more conciliatory in tone. Unfortunately, I was wrong on both counts.

Indeed, far from expunging the passages in question, she seems to have augmented them, and become even more entrenched in her pro-natalist position. “The myth of overpopulation is one of the most pervasive myths in Western society, so deeply ingrained in the culture that it profoundly shapes the culture’s world view,” she informs us. “The myth of overpopulation is destructive because it prevents constructive thinking and action on reproductive issues.... it breeds racism and turns women’s bodies into a political battlefield. It is a philosophy based on fear....”² and so on along these lines.

Given that Hartmann still clings to this core appraisal of the problem, it is remarkable that she chooses as the epigram for her book this quotation from Claude Levi-Strauss:

*Once men begin to feel cramped in their geographical, social, and mental habitat, they are in danger of being tempted by the simple solution of denying one section of the species the right to exist.*³

I submit that no informed person could deny the wisdom of this passage. Indeed, it could serve as the harbinger for the recent near-genocide we have seen in Rwanda, Burundi, and Bosnia. Levi-Strauss has written eloquently on the multifarious dangers of overpopulation, and I quoted him to this effect in *Wild Earth*, fall 1991.⁴



illustration by Andrew Paschetto

Population Problems

Is Hartmann really aware of Levi-Strauss's views on population? The quote is clearly meant to set the tone for the sinister Malthusian conspiracy she sees at work all around her, yet taken at face value it is a clear acknowledgment of one of the dangers of overpopulation, as well as being in direct contradiction to her diatribe about "the myth of overpopulation" four pages later. Well, the entire rest of the book follows in the train of this inauspicious embarkation.

The key issue as Hartmann sees it is the fight "against population control, but for reproductive freedom."⁵ For Hartmann, reproduction can only be approached as an ever expanding series of "freedoms" and "rights" to be demanded; any talk of corresponding responsibilities or limitations is anathema. This is all viewed against the ever-present backdrop of a malignant and gargantuan "Malthusian Orthodoxy," buzzing with a panoply of "alarmists" and "technocrats," drawing "on deep undercurrents of parochialism, racism, elitism, and sexism."⁶

There is so much bathos and excessive rhetoric of this type that it is often very difficult to sort through the real issues in her book. She does make some valid points. There have been contraceptive abuses, as described in her discussion of "political carrying capacity,"⁷ but even these become obscured by the overwhelming conspiratorial tone.

The reader is left to wonder, if this anti-natalist status quo is really so powerful and all pervasive, why is the Earth's human population increasing at some 95 million per year? What about the 12 years of Reagan and Bush's population growth idiocy?

It is disingenuous to describe as a monolithic "Malthusian Orthodoxy" a diverse group of individuals that includes everyone from Les Brown of Worldwatch to Les Knight of VHEMT; from Jane Fonda and Ted Turner to the Church of Jesus Christ, Abortionist. Anyone who has even passing knowledge of population activism knows that we have just as many disagreements and squabbles as any sector of society (maybe even more, unfortunately).

Furthermore, population activists do not believe that Malthus is some sort of shining figure, or that his views are especially relevant to today's situation. To incessantly lump us all together under the "Malthusian" label, with an update on all of Malthus's many political iniquities thrown in for good measure, is preposterous.

It would be roughly equivalent if I were to call all leftist critics of population control "communists"—since the communists, while in power, were often highly critical of Western calls for birth control—thereby tarring all critics of population control with the many massacres, forced relocations, labor camps and so forth that Mao, Stalin and their ilk were responsible for. This would clearly be absurd—nobody would stand for it; yet this is precisely the sort of logical fallacy committed by those who sling about the "Malthusian" label.

Freedom is neither a legal invention nor a philosophical conquest, the cherished possession of civilizations more valid than others because they alone have been able to create or preserve it. It is the outcome of an objective relationship between the individual and the space he occupies, between the consumer and the resources at his disposal. And it is far from certain that abundance of resources can make up for lack of space, and that a rich but overpopulated society is not in danger of being poisoned by its own destiny, like those flour parasites which manage to kill each other at a distance by their own toxins, even before their food supply runs out...

When a community becomes too numerous, however great the genius of its thinkers, it can only endure by secreting enslavement. Once men begin to feel cramped in their geographical, social and mental habitat, they are in danger of being tempted by the simple solution of denying one section of the species the right to be considered as human. This allows the rest a little elbow-room for a few more decades... When looked at in this light, the events which have occurred in Europe during the past twenty years, at the culmination of a century during which the population figures have doubled, can no longer appear as being simply the result of an aberration on the part of one nation, one doctrine, or one group of men. I see them rather as a premonitory sign of our moving into a finite world... The systematic devaluation of man by man is gaining ground, and we would be guilty of hypocrisy and blindness if we dismissed the problem by arguing that recent events represent only a temporary contamination.

—Claude Levi-Strauss, *Tristes Tropiques*, New York: Atheneum, 1974 (first published, 1955), pp. 148-150.



Hartmann does offer a few tepid criticisms of Julian Simon and the Cornucopians, but she tips her hat to them on a number of occasions. For instance, she opines that "the Cornucopians performed a great service" by "opening up the population debate. After more than two decades of hegemony, the Malthusian orthodoxy was forced to go on the defensive...."⁸

She agrees with the Cornucopians that, "the crucial force behind technological change—the 'prime mover' of economic progress—was none other than population growth." Hartmann cites historians Douglas North and Robert Thomas as her authorities, going on to say: "Far from blocking any long-term improvement in mass living standards, population growth is thus seen... as the basic explanation for such improvements."⁹

And the next page:

*But food supplies are not fixed and can be influenced by population growth in positive ways. This is not only because population growth expands the labor force—each additional mouth brings with it an additional pair of hands—but because the pressure of population on resources can induce technological and institutional change so as to raise the output per person. Economist Colin Clark, for example, sees population growth as the principal force behind the extensive clearing of land, drainage of swamps, and the introduction of better crops and manures....*¹⁰

This bold statement—with its citing the superannuated British pronatalist Colin Clark, whose views make Julian Simon's look like a model of moderation by comparison—reveals Hartmann's disregard for the environment. Population growth is good, the bespangled Dr. Clark informs us, because it facilitates the "clearing of land, drainage of swamps," the extraction of raw materials and the like.

Another cornerstone of the Hartmann position, also popularized by Francis Moore Lappé and Joseph Collins in their book,¹¹ is this:

*In many Third World societies, having a large family is an eminently rational strategy of survival. Children's labor is a vital part of the family economy in many peasant communities of Asia, Africa, and Latin America.... Quite early in life, children's labor makes them an asset rather than a drain on family income.*¹²

If having large families is an "eminently rational" decision, as Hartmann and her allies maintain, then there will be no impetus to change. This argument has now been repeated so often by both leftist and rightist pronatalists that it has become common cultural currency. I see a number of problems with it, however.

First, we all recoil at the thought of fascists or Stalinists giving prizes out to the mothers who bore the greatest number of offspring, so they could eventually be marched off to the battlefield and used as cannon fodder.¹³ Yet here we have an argument implying that poor families have the right—indeed, are being "eminently rational"—to have large numbers of children to be used for child labor, a sort of economic fodder.

Second, we should all acknowledge that those hundreds of thousands of children begging on the streets of the many urban hells scattered around the Third World, working as servants, prostitutes, or garbage pickers, are not engaged in wholesome activities. Child labor was outlawed or restricted throughout much of the world a century ago. Yet here we have highly educated people—who would be horrified if their own children were subjected to even a glimpse of these circumstances—repeating this mantra as if it were gospel: Poor families are acting rationally by having large numbers of children to be used for labor.

We hear plenty about "rights" from Betsy Hartmann when it suits her purposes. What about the "right" of children not to be born into such conditions of overcrowding and squalor that their lives are all but guaranteed to be short, stunted, and painful? Theologian Rosemary Radford Ruether, who was writing about ecological feminism long before it came into vogue, has this to say on the issue:

(T)he affirmation of life belongs to a system of interlocking social and ecological relationships in which excess is as much a cause of mass slaughter as direct killing. Birthing a human life is based on the ability to sustain and nurture that life through a lifetime... the sustaining of each life demands a whole network of resources, not only to exist, but to be made available to that person....

To decide not to have more children, in a context where one feels one's resources to sustain present life already strained, is as much a decision for life as it is an affirmation of the lives that actually exist....

*What this means is that we are finite beings.... One does not affirm life by insisting on infinite expansion of births of people condemned to miserably truncated existences because there is not an adequate balance between the number of people and the nexus of resources which can sustain something approximating a whole or fulfilling life. Such refusal to see the connection between these two things is as myopically anti-life as those who plan to nuke the world in order to save it for democracy.*¹⁴

This brings us to a most interesting question. What does Hartmann do with feminists like Ruether, Elizabeth Gurley Flynn, Hannah Arendt, Helena Norberg-Hodge, Ursula LeGuin, Mary de la Valette, Alice Walker, Kelpie Wilson,¹⁵ and others who disagree with her and stress the importance of population limitation? She either ignores them or demonizes them. Margaret Sanger's courageous early work to spread birth control is briefly mentioned, but of course Hartmann then gleefully dwells on the later Sanger's unfortunate eugenic remarks. Hartmann can barely contain her ire when she writes about Jane Fonda's being selected as Goodwill Ambassador for the United Nations Population Fund, and Fonda's high profile at the Cairo conference. Now, Jane Fonda has been involved in many of the feminist and social justice causes of recent decades; yet for Hartmann, when Fonda begins to talk about population,

this is all wiped out, and she (along with other sinister operatives like former president Jimmy Carter) are accused of attempting to "kindle population paranoia."¹⁶

When Bill Clinton meets with and honors Ted Turner and Jane Fonda for their work on Cairo (whatever other failings Clinton and Gore may have—and they are many—population and birth control is one area where they have showed some backbone), poor Betsy becomes disconsolate: "It is as if CNN... were a shadow government, and public officials and mainstream environmentalists shadow puppets in a well-staged play."¹⁷

Which brings me to the Cairo conference itself. I carefully followed reports of the proceedings in September of 1994, and I was reasonably impressed with what I saw. One great victory came when the Vatican radically overplayed its hand (trying to lead a charge that never materialized), lost whatever remained of its dwindling moral stock on birth control, and made (deserved) heroes out of people like Francis Kissling and Catholics for a Free Choice.

Overall, I thought the UN was very open-minded toward the concerns of the feminists and anti-colonialists present, and the final language certainly reflected this. At the same time, though, they stressed the importance of birth control.¹⁸

Every time Hartmann uses the word "consensus" in her chapter on Cairo, she puts it in quotations, in an attempt to mock the notion that consensus existed, and to suggest that it was all just "Malthusianism" as usual. However, even she concedes that "(f)emale literacy and empowerment, as well as reduction in child mortality, are being set forward as the social reform necessary to increase demand for smaller families"¹⁹ by the UN and others.

So why the overwhelming animosity toward the conference? Ever one for a lame metaphor, Hartmann still insists the "Malthusians" are wolves in "sheep's clothing," who are now trying to use "the language of women's rights"²⁰ to achieve their ends. In other words (now pay attention here), if you *don't* stress women's rights, literacy, and empowerment in the context of discussing population, your aims are insidious, racist, and sexist. If you *do* stress women's rights, literacy, and empowerment in the context of discussing population, your aims are insidious, racist, and sexist.

Ironically, near the end of the last chapter, Hartmann unwittingly offers a glimpse of a way out, an alternative future of feminist/population activist cooperation. She mentions that "some reproductive rights activists genuinely believe in the urgency of slowing population growth. Marge Berer, for example, writes that the women's movement should "acknowledge that the world cannot sustain an unlimited number of people, just as women's bodies cannot sustain unlimited pregnancies."²¹

Predictably, Hartmann rejects such good, common sense, darkly mumbling about how such "a comparison" is "fraught with peril,"²² and then quickly shifting the focus back to familiar ground. But to use another bad metaphor, she has let the cat out of the bag, and it will not go back in.

Let us hope the wisdom of Marge Berer will eventually triumph over the fear-mongering and pronatalism plied by Betsy Hartmann. The cooperation between feminists and population activists that began in Cairo will continue; *that* is the real story, not the ranting about "Malthusianism." Whatever Malthus did or did not say centuries ago is really irrelevant to this discussion, and let us hope those who wish to strangle this debate will learn that if they persist, they also will soon be irrelevant. |

Bill McCormick lives in Charlottesville, Virginia, and works in a home for mentally handicapped adults. He belongs to the "Koolaid Stains on Your Kierkegaard" school of philosophy. A man of letters, Bill writes regularly and widely on population issues.

Footnotes

1. Betsy Hartmann, *Reproductive Rights and Wrongs*, Revised Edition, Boston: South End, 1995.
2. *ibid.* p.4.
3. *ibid.* p.XXII.
4. Claude Levi-Strauss, in Willem Oltmans, *On Growth*, New York: Capricorn, 1974, p.155.
5. *Reproductive Rights and Wrongs*, p.XVIII.
6. *ibid.* pp.13 & 144.
7. *ibid.* p.30.
8. *ibid.* p.36.
9. *ibid.* p.15.
10. *ibid.* p.16. These two citations could have been taken directly from the pages of Julian Simon or any of his acolytes.
11. Francis Moore Lappé & Joseph Collins, *Food First*, Boston: Houghton Mifflin, 1977. I'd be very curious to hear what Lappé's post-Cairo take on population is, as when I last corresponded with her she showed signs of regretting some of her earlier, extreme statements.
12. *Reproductive Rights and Wrongs*, p.6.
13. Robert Wiesbord, *Genocide?*, Westport, Conn: Greenwood, 1975. A very important, though little-known book.
14. Rosemary Radford Ruether, "Unraveling the Seamless Garment," *Probe*, Jan./Feb. 1985, p.2. This document has lost none of its punch in the intervening decade. Also, see Ruether's superb book, *Gaia and God*, San Francisco: Harper, 1992, which repeatedly stresses the need for population control.
15. Kelpie Wilson, "Sex and Breeding in the 20th Century," *Earth First!*, November, 1995, p.3, and Dec./Jan. 1996, p.31; Kelpie takes on the pronatalist revisionists' attempt to "Hartmannize" the Earth First! movement.
16. *Reproductive Rights and Wrongs*, p.149. Even when the Feminist Majority Foundation "pushed for (the) introduction" of RU486, according to Hartmann (p. 264), they were badly deluded. Why?: Because RU486 is just another tool of the evil white man. What sort of contraception is Hartmann actually willing to support without qualification? Natural Family Planning, even though Hartmann herself admits that "Failure rates are quite high in some studies—up to 30 percent." (11) p.277.
17. *ibid.* p.151. Would that anti-natalism had half the pull Hartmann attributes to it!
18. Eugene Linden, "Showdown in Cairo," *Time*, September 5, 1994, and "More Power to Women, Fewer Mouths to Feed," *Time*, September 26, 1994, contain a good summary of the conference.
19. *Reproductive Rights and Wrongs*, p.154.
20. *ibid.* p.112.
21. *ibid.* p.307.
22. *ibid.* p.307.

Book Reviews



Forest Dreams, Forest Nightmares

Wild Ideas

Wildlife Policies in the U.S. National Parks

Biodiversity and the Law

Ecological Resistance Movements

FOREST DREAMS, FOREST NIGHTMARES

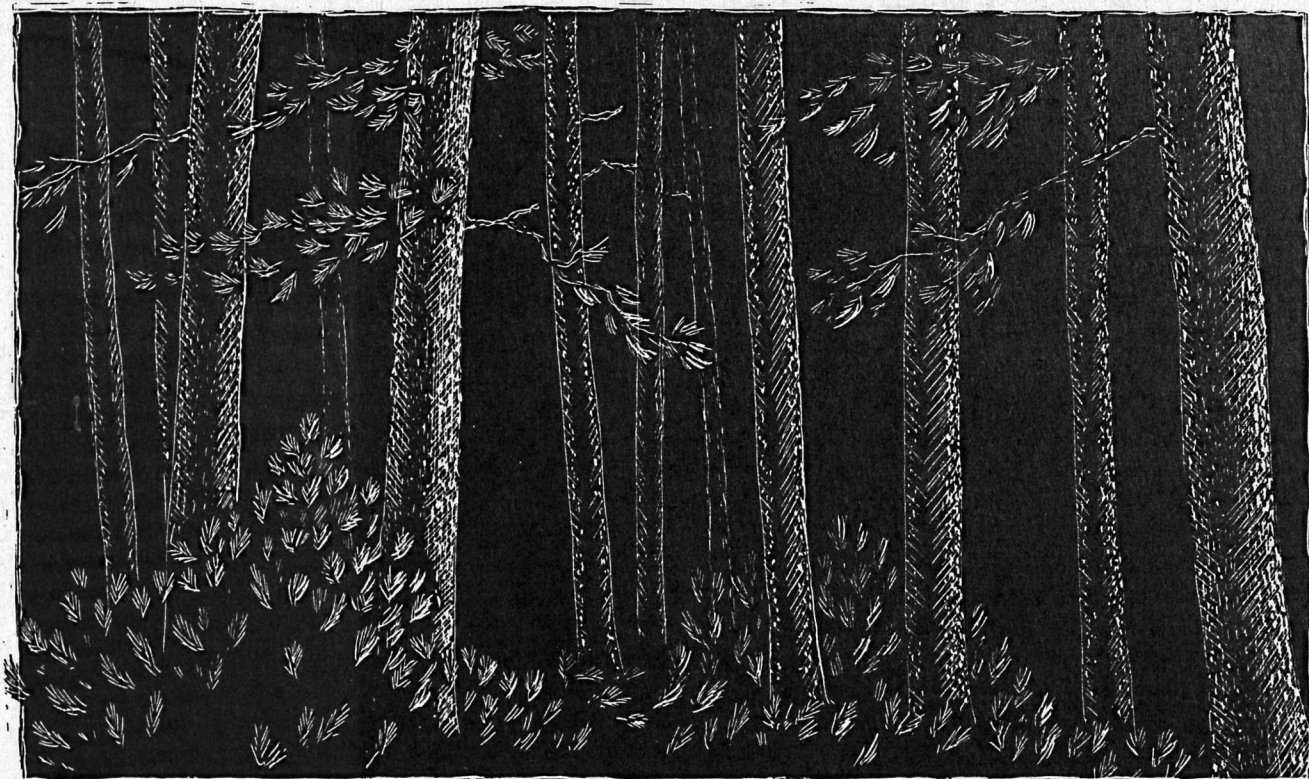
by Nancy Langston; University of Washington Press (POB 50096, Seattle, WA 98145); 1995; \$16.95 paper; 368 pp., photos, maps.

Forest Dreams, Forest Nightmares by Nancy Langston is a sensitive and illuminating history of how people have perceived, settled, used, abused, and otherwise altered a large chunk of the inland Northwest fittingly referred to as the "Blues"—including the Blue Mountains proper as well as the Wallowa Mountains (containing the spectacular Eagle Cap Wilderness), the Strawberry Mountains, and the uplands around Hell's Canyon of the Snake River. Most of the study area falls within the boundaries of the Wallowa-Whitman, Malheur, and Umatilla National Forests. The timbered region here represents the largest continuous expanse of conifer forest between the Rocky Mountains and Cascade Mountains—an area with complex and productive ecosystems supporting timber, ranching, recreation, mining, and agricultural industries. Langston traces the complicated and ever-changing human and environmental history of this region from Native occupation to the present, with a particular focus on the century between 1850 and World War Two—the period when the most dramatic changes took place.

Langston's book is a model of interdisciplinary environmental history, written by someone trained in ecology, literature, and history. Her analysis is as broad and eclectic as her academic background; her discussion of forestry as lucid as her tales of early settlers. The opening page of the introduction establishes Langston's problem-oriented approach. "When whites first came to the Blue Mountains of eastern Oregon and Washington in the early nineteenth century, they found a land of lovely open forests full of yellow-bellied ponderosa pines five feet across." But these newcomers did not understand the arid, fire-adapted forests—even those trained in forestry: "After a century of trying to manage the forests, what had seemed like paradise was irrevocably lost. The great ponderosa pines had vanished, and in their place were thickets of fir trees....As firs invaded the old pine forests, insect epidemics spread throughout the dry western forests. By 1991, on the five and a half million acres of Forest Service lands in the Blue Mountains, insects had attacked half the forest stands, and in some stands nearly 70 percent of the trees were infested" (3).

The prevalence of insects, disease, and fire in these forests has contributed substantially to the recent "forest health crisis" debate and provided ammunition for those supporting the controversial "salvage logging" riders in Congress. Langston's book is a sane, timely, and useful examination of how forest management itself led to these undesirable conditions. She questions whether there truly is a "forest health crisis" and cautions against intensive management and salvage "solutions." Her argument thus provides support for those battling the salvage logging initiatives of recent years.

The "dream" of achieving maximum productivity from our public forests caused the forest "nightmare" alluded to in the title of this book. The attempt to achieve full use of forest resources resulted in declining utility, stability, and diversity of the Blues' forests. Ironically, the loss of the formerly widespread and desirable Ponderosa Pine happened in spite of—and to a great extent because of—foresters' attempts to keep that pine from disappearing. "The harder that people tried to manage, the worse things got. The more that foresters tried to keep out fires, the fiercer they burned; the more they sprayed insects, the worse the next round of epidemics turned out to be" (15). Irony is a persistent element of her narrative.



Langston identifies both intellectual and material reasons for the management failures. First, foresters "misunderstood" the Blues. They failed to understand the historic role of fire, found ecosystems confusing, misread production potentials, inaccurately predicted how natural systems would respond to management, and adopted faulty ecological theories (15-16, 21, 28, 42, 99, 122-23, 149-56, 211, 217, 280). Beyond simple misunderstanding lurks another intellectual component of the problem: hubris. Foresters, who started out humbled by the overwhelming complexity of the Blues in the late 19th century, eventually came to believe they could effectively remake the forests, eliminating what was undesirable and maximizing the desirable. Their faith in simple theories of control over Nature and their dedication to maximization kept them from "seeing" and resolving problems.

The material explanations, which receive less attention than the intellectual ones, involve market pressures, political decisions to support local industries, and forest users' resistance to regulation. The two middle chapters on "Liquidating the Pines" and "Animals: Domestic and Wild Nature" best illuminate these problems. The book as a whole, however, gives the impression that lack of knowledge and faulty ideas are the main cause of our difficulties. Consequently, the way to solve our problems, Langston says, is to change our thinking and develop "a new set of stories about the relationship between wild forests and people" (10, 280). This perhaps places too much faith in reason and knowledge, implying that if we only *knew* better, we would have acted more responsibly. Anyone who has watched the National Forest planning process unfold knows that knowledge, decisions, and actions are poorly coor-

inated, with many other contingencies and pressures besides ecological information motivating land managers.

What kind of new stories does Langston say our society needs? First, a critical reappraisal of past efforts to manage forests. She offers not a triumphal narrative, but rather the story of "a massive set of errors, tragedies, and follies" (10). At the same time, Langston argues repeatedly that we should not blame foresters too much. They were usually good men trying to do the right thing. "This is not a story with a villain (the greedy timberman) and a hero (the brave environmentalist). Instead, it is a tragedy in which decent people with the best of intentions destroyed what they cared for most" (6). Langston thus tries to avoid a story of blame, even though culpability is sometimes fairly obvious. This probably reflects her hope that conflict can be negotiated and better management achieved through understanding and communication. She believes facing our failures might "catalyze a revolution in the way we live and work on the land in the West" (10).

This notion of changing the way we live and work with Nature is reminiscent of recent arguments by historians Richard White, and William Cronon. (Langston studied under White, and Cronon edited her book for the Weyerhaeuser Environmental Books series. Weyerhaeuser, by the way, has no editorial control over the series, which is published by the University of Washington Press. I doubt the company turned handsprings when this book was published.) White's recent short history of the Columbia River, *The Organic Machine*, argues in part that environmentalists, to their discredit, denigrate those who labor in Nature and idealize the pristine so much that they leave little room for humans to live and work

on the planet. Similarly, Cronon, in a recent essay titled "The Trouble with Wilderness," argued that wilderness advocacy is a dead-end strategy that promotes a dangerous separation between humans and Nature. Promoting wilderness, he said, distracts us from the more important task of learning to live responsibly on the land. These are troubling and somewhat naive commentaries on the environmental movement, but since White and Cronon are influential scholars it is likely we will see more of this line of argument.

Langston has no trouble with wilderness, but she does occasionally spin her story into this analytical fabric. For example, the conclusion of her chapter on "Animals" ends with these thoughts: "Again and again, when people talk about wildlife, they give a list of what was once present, and then they tell a tale of bewildering loss. There is never any resolution to these stories.... What these stories recount is a longing for a lost paradise, a kind of childhood innocence.... We feel exiled from the lost paradise, but we see this as an inevitable part of progress.... At its heart is a story which says that humans and Nature are inevitably separate and inevitably opposed; therefore the losses, while regrettable, could not have been prevented and are no one's responsibility" (245-46).

Langston may have intended this commentary to apply to the people living and working in the Blues. Nevertheless, the "we" in the passage would seem to include environmentalists who regularly decry the bewildering loss of species; and insofar as it does, her comments are unconvincing. Much of the environmental history of North America is in fact a tale of bewildering loss. And many who tell that tale *do* propose a solution: the Endangered Species Act, large blocks of wilderness with connecting corridors to help restore declining habitats and species, and closer controls of activities outside wilderness. Nostalgia for the days when salmon, Bison, and Passenger Pigeons spawned, roamed, and flocked in stunning abundance provides a useful frame of reference for current efforts at environmental protection and restoration. Resistance to ecological restoration most often arises when people feel their material interests are threatened, not because they hold erroneous notions about civilization, Nature, or a lost paradise.

One of the strengths of this book is its sophisticated handling of environmental change. Ecosystems have histories, she shows us, and not just a simple linear history of a pristine past of perfect equilibrium contrasted with present decline and degradation. When Europeans arrived in the inter-

rior Northwest, they found a forest that had developed in response to a particular climate, fire history, soil regime, wildlife populations, and indigenous land use practices. That forest was in constant motion, adapting to each change in those influences. Humans were part of the forest then, are part of the forest now, and will remain so for the foreseeable future. Restoration, then, is not a simple task of discovering what the "natural forest" looked like before human intervention and then re-establishing it.

Understanding that forests are historical entities that have evolved partly in response to human occupation blurs the boundary between humans and Nature, between natural and unnatural. But Langston's blurring of these boundaries is not used to justify a politics of intensive forest management, as Alston Chase's blurring does in his recent book *In a Dark Wood*. Instead, Langston promotes a clear conservation vision: "No one can restore the Blues back to their original state; however, we can restore the Blues back to an inevitably altered, but not inevitably impoverished, biota—by giving up our ideals of maximum efficiency and commodity production, and substituting other ideals which allow for complexity, diversity, and uncertainty" (306).

Langston's vision of restoration leaves plenty of room for wildness too. Even though her narrative pushes for wise, ecologically-informed, and sustainable use of forests, and though she does not discuss where and how wildlands should be preserved, she nevertheless acknowledges that wilderness is an important element of any landscape design. In a provocative chapter titled "Restoring the Inland West," Langston favorably quotes Gary Snyder and Ed Grumbine on the value of wildness. In her own words, "Wildlands offer a refuge for wild things, but they also offer us a refuge too, a place and a way to remember what is wild inside us. What people have seen as an insult to man's industry—decay and waste—is exactly that element of wildness, that quality wherein the forest's health and persistence lies. We need to learn to value it—the rot, the bugs, the fires, the fungi, the diseases, the dark, stinky, unnerving heart of the forest" (282-83). Appreciating wild, unmanaged forests is the key, she suggests, to developing the humility and perspective necessary for truly "wise" forest management. ●

—Reviewed by Paul Hirt, teacher of environmental and western history at Washington State University and author of *A Conspiracy of Optimism: Management of the National Forests Since World War Two* (University of Nebraska Press, 1994).



WILDLIFE POLICIES IN THE U.S. NATIONAL PARKS

by Frederic H. Wagner, Ronald Foresta, R. Bruce Gill, Dale R. McCullough, Michael R. Pelton, William F. Porter, Hal Salwasser, and consultation on law and policy by Joseph L. Sax; Island Press (1718 Connecticut Ave., NW, Suite 300, Washington, DC 20009); 1995; \$26; 244p.

This book offers a useful overview of primarily wild ungulate policy in United States National Parks from the perspective of mainstream wildlife biology. The book is Draft 3 of The Wildlife Society's Ad Hoc Committee on National Park Policies and Strategies. Hence, it suffers the problems of a committee report and has the benefits of being compiled by a wide-ranging group of experts in the field. The Ad Hoc Committee was formed in 1988, and the study took five years to complete. Due to "fundamental differences... between the authors and the council over the length, content, and general message of the report" (p. 5), it is published not as a Wildlife Society report but rather independently by the authors. Given the book's focus on the relationship of science and policy, a fuller version of the internal politics of this scientific report could have been very illuminating.

The authors begin by stating their basic premise: "national parks are a public resource established to satisfy societal goals" (p. 6), goals that should be set by a public process, not by scientists. Once the public has established these goals, scientists should play a key role in helping to achieve them. From this beginning, the authors report broadly on the history and problems of the National Park Service generally and on wildlife specifically. Of special interest in these discussions is their argument that the famous Leopold Committee report on how the parks should be managed (1963) is usually misinterpreted. Typically cited as the basis for "natural regulation," rather the report clearly advocates active management in order to maintain the parks "in the condition that prevailed when the area was first visited by the white man. A national park should represent a vignette of primitive America"

(p. 25). The Park Service over the last 20 plus years has tended to shy away from active management, especially for overpopulation of native animals, in favor of natural regulation, partly because of past mistakes made in active management—predator control, ungulate feeding, introducing exotic fish.

Wagner et al. identify three main wildlife problems in the parks: (1) high native ungulate populations (particularly, White-tailed Deer, Elk, Moose), which are having significant effects on vegetation, including rare and endangered plants; (2) exotics and feral animals; (3) declining biological diversity and abundance. Most of the book focuses on the ungulate problem. Indeed, the book might more accurately have been titled *Hoofed Mammal Policies in the U.S. National Parks* since there is nothing on amphibians, next to nothing on birds, fish, and reptiles, and little on non-un-

gulate mammals. Furthermore, there is sparse discussion of extirpated species and possible reintroductions, or island biogeography, cores, corridors, and buffers. Perhaps most disappointing to *Wild Earth* readers is the failure to discuss landscape-level protection of habitat as a way to address wildlife problems. The authors tend to treat parks like islands; they don't even consider altering the management of adjacent public lands as a viable approach.

Returning to what the authors do discuss, they focus on the difficulties in carrying out wildlife policy in the parks due to structural and political problems with the NPS, problems in the administration of science in the NPS, and the policy implications of ambiguities in ecological terms and understandings. The most interesting section deals with these ambiguities. The discussions of carrying capacity and natural regulation are very informative. Wagner et al. conclude that a number of changes make the idea of natural regulation almost meaningless today: "the removal of aboriginal influences; fragmented biotas, including the disappearance of predators; addition of exotics; and constraints on animal movement, which eliminate both population release and genetic exchange" (p. 145), as well as broader human changes. Their overall discussion demonstrates the difficulty of grafting science to management goals.

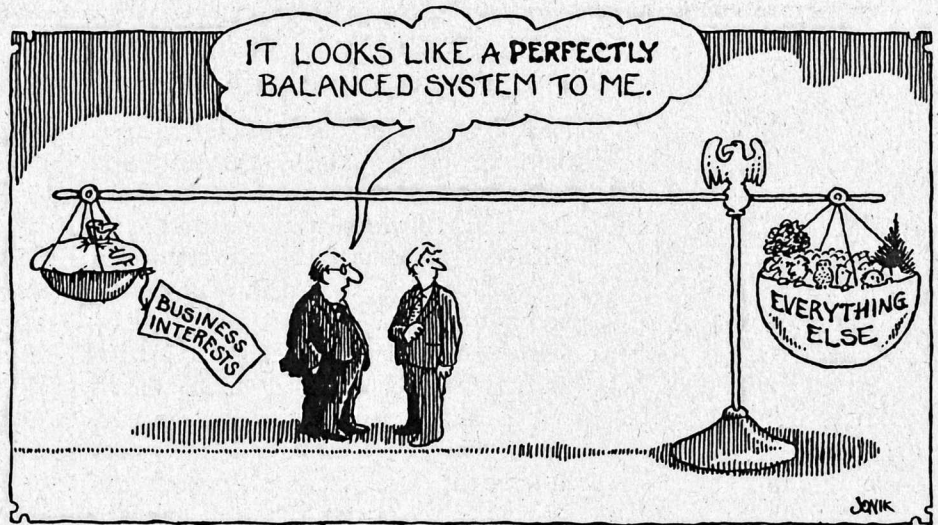
Among their concluding recommendations are: to set explicit goals, based on public input, with research serving these goals and informing management decisions; to use active management to achieve these goals, but using the "minimum management necessary"; to base management on quality research; to consider management as tests of hypotheses, and to monitor it. During this discussion, they correctly point out that "the decision not to manage is in fact a management decision, which has ecological implications" (p. 165). They continue by arguing that "park ecosystems are not self-contained and intact and hence cannot continue functioning as healthy or intact systems, or in some reasonable semblance of pre-Columbian form" (p. 169). In effect, they advocate managing the wild to save the wild (rather than managing humans to allow the wild to spread).

I close with two final observations. First, the authors argue that resource management

scientists need "to draw a clear distinction and separation between value judgment and value-neutral scientific description... and between analysis and advocacy.... When analysts adopt strong, public advocacy positions, there is a distinct risk that their image of objectivity will be tarnished, if not in fact compromised. Attorneys in environmental litigation now routinely question expert witnesses about their membership in environmental-advocacy organizations in an attempt to undermine their credibility" (pp. 113-14). This passage raises a number of concerns: It runs completely counter to conservation biology. Isn't management science inherently biased toward producing resources for humans? Doesn't a degree in forestry or wildlife biology represent an even more fundamental bias than belonging to an environmental group? Later, the authors contradict their own appeal to value-neutrality with an attack on animal welfare groups opposed to culling animals from National Parks. Second, Wagner et al. present an overly positive view of the role of science and public input in other federal land management agencies. For instance, they suggest that the "NPS needs a formal legislative mandate for planning similar to the one provided the Forest Service by the National Forest Management Act" (pp. 161-62). Is the NPS handling of public input any worse than that of the Forest Service or BLM? Has the National Forest Management Act really worked well in dealing with public input and management? Many environmental advocates would argue we should not model anything on the Forest Service and BLM. The authors point to strong research arms in the Forest Service and Fish and Wildlife Service as examples of federal agencies using science, but do not acknowledge that this is often commodity-based science, with more basic ecological science receiving short-shrift or being shaped to serve commodity interests. ●

—Reviewed by Chris McGrory-Klyza, Environmental Studies Program and Political Science Department, Middlebury College, Middlebury, VT; co-editor of *The Future of the Northern Forest* (University Press of New England, 1994) and author of *Who Controls Public Lands? Mining, Forestry, and Grazing Policies, 1870-1990* (University of North Carolina Press, 1996).

The authors tend to treat parks like islands; they don't even consider altering the management of adjacent public lands as a viable approach.



BIODIVERSITY AND THE LAW

edited by William J. Snape III, foreword by Oliver A. Houck; Island Press (1718 Connecticut Ave. NW, Suite 300, Washington, DC 20009); 1996; \$49 hardcover; \$25 paper; 259pp.

For generations Americans have viewed the law primarily in instrumental terms, as a tool that society uses to bring about particular ends, wise or foolish. The law is a human-created institution, reflective of the culture that gives rise to it and crudely responsive to the majority's will. Whatever the strengths of a legal system like this, one weakness is that the law commonly remains back with the mass of people, less a repository of progressive thought than a grab bag of widely shared ideas. Before ideas show up in law books they need wide public support, at least when they deal with right and wrong public conduct, with the big ideas around which ordinary people shape their lives. Occasionally the law gets ahead of the majority; as often it slips behind. Mostly, it just shuffles along beside.

As Oliver Houck notes in his thoughtful foreword to *Biodiversity and the Law*, one of the sad realities of our day is that the public isn't particularly aware of biological diversity, and doesn't see much reason to maintain it. The dismaying ramifications of public apathy are evident throughout this useful but sobering book. Without widespread support, laws protecting biodiversity are unlikely to get on the books. When they do, they aren't likely to be well enforced. As the authors here make clear, protection of biodiversity has as much to do with public morality as it does with science. Neither scientists nor lawmakers can journey far without the people close behind; the people, it seems, haven't been moving too fast.

Biodiversity and the Law offers a sound overview of how far the law has gone in promoting biodiversity—which is to say, not far at all. Edited by William J. Snape III, director of the Legal Division of the Defenders of Wildlife, the book includes 14 essays, divided into four parts: (i) biodiversity policy and the ostensible shift toward ecosystem management; (ii) the federal Endangered

Species Act and its shaky implementation; (iii) international (mostly trade-related) laws dealing with biodiversity, including the modest controls on harmful exotics; and (iv) various other laws (chiefly US) that relate to biodiversity in one way or another, including the environmental impact statement rules of the National Environmental Policy Act, major pollution control laws like the Clean Water Act, and the public trust doctrine. Each of these four parts is roundly introduced by William Snape, giving the volume more cohesion than such books normally have. The book would have benefited from a more prominent role by Oliver Houck, probably the most thoughtful legal scholar now writing on biodiversity issues, but the various authors all know their material and explain it well.

For anyone who cares passionately about wildlife, this book presents variations on the theme of frustration. Repeatedly one sees the frustrations arising from the underlying biology itself, both the theoretical uncertainties and the simple lack of data that greets one at every turn. From confusing science comes ill-directed law; and scientific uncertainty, by all appearances, provides a plenty good excuse now for inaction by all manner of legal authorities. One finds here, in addition, the frustrations that come because the causes of biodiversity loss are not large and few (and thus susceptible of being addressed with a few big countermeasures), but small and ubiquitous—the uncountable little acts of altering habitats, polluting streams, and promoting invasive exotics that surround us everywhere and that can be remedied only by measures that permeate just as thoroughly into our cultural fabric. There are the frustrations that come when promising ideas like ecosystem management are seized by big govern-

Courts won't protect wildlife without clear statutes and regulations to enforce, which means that the fighting must be done, and the victories won, in the rough-and-tumble political arena.

ment, then degraded into little more than a new rhetorical wrapping on business as usual. There are the frustrations that come when federal agencies have the discretionary power to act forcefully, yet cower to the potent forces out to make money by degrading the land. There are the frustrations that arise when lawsuits are heard by judges who know precious little about biodiversity, and whose culture of adjudication entails substantial deference to flawed agency judgments. Finally, the reader meets the frustrations that arise on the international level because there simply aren't good ways to translate visions of land health into guiding law: So many layers and filters stand between the people and the engines of international governance that the unwieldy process takes on a life and logic of its own, buffeted by big money and dependent in the end on the voluntary cooperation of individual self-interested states.

Many of the essays in *Biodiversity and the Law* were prepared initially for a 1994 legal conference in Madison, Wisconsin, a gathering that was an offshoot of a then ongoing law suit over the management of nearby National Forests. The environmental groups that brought the suit wanted the Forest Service to embrace the main elements of conservation biology. Two of this book's authors, Walter Kuhlmann and Donald Waller, worked on the litigation, and they have enlightening stories to tell about it. The environmental groups lost their suit, just as they lost several other cases challenging management practices in other National Forests. The chief obstacle the group faced, Kuhlmann explains, was the courts' settled practice of deferring to the Forest Service's "expertise" in the absence of plentiful evidence that the agency's action was not just scientifically shaky and unwise, but "arbitrary and capricious." The case ultimately turned, not on the weaknesses of the Forest Service's methodology, but on the seemingly messy and disputed scientific support underlying conservation biology. Because the principles of conservation biology were not "proven" scientifically, because there were dissenters still within the scientific ranks, the FS didn't act arbitrarily when it ignored the new science and stuck instead to its ad hoc managerial style—a style that left room for forest-dwelling wildlife only in and around the clearcuts.

Like the other losses, the Wisconsin case was a disappointment that must be faced, with lessons extracted for the journey ahead. Given

the conservative temperament of the federal judiciary, given too the many reasons why courts defer to federal agencies, friends of biodiversity simply cannot expect courts to take the lead on this vital issue. For better or worse, the crusade for a healthy land cannot be undertaken like, for instance, the crusade for integrated public education, where a dedicated team of civil rights litigators ultimately got the Supreme Court to ban segregated schools. Courts won't protect wildlife without clear statutes and regulations to enforce, which means that the fighting must be done, and the victories won, in the rough-and-tumble political arena. Before agencies like the Forest Service will put biodiversity above resource extraction, they simply must have more people pushing them on.

Biodiversity and the Law would be an even better book if it gave readers a clearer picture of the trail ahead. In the Epilogue, the president of Defenders of Wildlife, Rodger Schlickeisen, argues passionately for a constitutional amendment that would direct federal and state governments to "assure" that "the living natural resources" of the United States are used sustainably "and that they are conserved and maintained for the benefit of all the people." But how could such an amendment be added to the Constitution without the kind of widespread support that is now lacking? And if that public support were present, would we really need the amendment?

Biodiversity disappears though the everyday acts of millions of people. Landscape-scale planning is essential, but no plans and laws can be so detailed and enforceable as to compel the resistant landowner to live right. Wildlife will live securely only when people value its presence and are willing to work, at home, to promote its well being. Many states, as Schlickeisen notes, already have environmental provisions in their state constitutions, and they have largely (although not entirely) proven worthless. At the federal level, Section 7(a)(1) of the ESA already imposes on federal agencies an affirmative duty to help conserve endangered species, and it too has languished. The same story can be told about the species-diversity provisions of the National Forest Management Act. Even if Schlickeisen's amendment made its way into the Constitution, the bulk of our work would still remain.

Several of the authors in *Biodiversity and the Law* do turn their talents toward the future, notably Todd G. Olson, who argues in his piece

Pro-Segregation ideas.

on private property that those who destroy habitat ought to be required to mitigate the loss, by creating or preserving similar habitat elsewhere. Yet none of the authors grapples with the fundamental need to build public support for wildlife. Somehow, in some manner, fora are needed where people can come together at the community level to talk about the kind of landscape that they want to inhabit and the kind of natural heritage that they want to pass on to later generations. This is not principally a legal activity, but the law can certainly help. When people come together they are more likely to think and talk like citizens, not self-centered market participants; they are more likely to think of the future and consider the well-being of the whole; they are more likely to take note of the local degradation and be concerned, if not outraged, by it. The ESA's habitat conservation planning process offers one useful model today, albeit of limited scope. Watershed planning efforts, usually linked in some way to the Clean Water Act, supply another.

Biodiversity and the Law, Snape tells us in the introduction, "argues that bio-diversity...will eventually be seen as the major tenet of environmental law and policy." What he does not tell us is that this new tenet will likely point toward a mode of policy implementation that differs markedly from the top-down, regulatory model that's been used to contain industrial pollution. Whether focused on biodiversity, on ecosystem functioning (as Donald Waller urges), or on other aspects of land health like waterway integrity (a more likely candidate in many states), the next generation of environmental policy will likely entail more participation by people, particularly rural landowners. It will be more of a bottom-up policy, beginning with the land and the people who live on it. Land use bears too directly on the lives of ordinary people to expect them to turn the matter over to distant politicians and experts. They need to become involved. They need to think and talk about the future. They need to embrace better values. More than anything, they need to imagine a healthier land.

The challenge of biodiversity law is to help bring all this about. ●

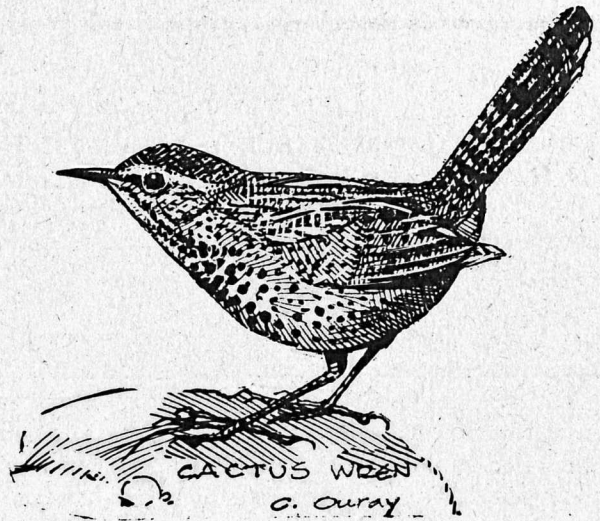
—Reviewed by Eric T. Freyfogle (504 E. Pennsylvania Ave., Champaign, IL 61820), Professor of Law at the University of Illinois and author of *Justice and the Earth: Images for Our Planetary Survival*.

Canyon Wren by Chuck Ouray

WILD IDEAS

by David
Rothenberg, ed.;
University of
Minnesota Press

(111 3rd Ave. South, Ste. 290, Minneapolis, MN 55401);
1995; \$19.95 paperback; 256p.



Wilderness is both a place and a concept. It belongs simultaneously to natural history and the history of ideas. It is dwelling as noun and present participle. The interdisciplinary essays in the anthology *Wild Ideas* explore the frictions, disparities, and powerful connections between these two aspects of the wild.

Many of the essays document the way ideologies have "captured" wilderness for their own purposes, or at least struggle to do so: the wild not as a field of evolution, but as a political battlefield. Ed Grumbine's "Wise and Sustainable Uses" discusses this war of definitions as it rages over the American wilderness, especially in light of the boorish "Wise Use" Movement and its hotchpotch of metaphysics and greed. Denis Cosgrove's "Habitable Earth" gives an interesting, though at times glib, history of wilderness and colonialism, concluding with the admonition: "The ideology of wilderness is a potent weapon in social discourse. It needs to be treated with great care."

No one could disagree with that. Where the essayists often do disagree is in the nature of that care. Max Oelschlaeger's essay, "Earth Talk," remains hopeful that modern people can develop a discourse appropriate to the wild, despite the virus-like linguistic contamination of modernism. While duly suspicious of the ideological content of discourse (he wrote, after all, a book called *The Idea of Wilderness*, and even points out the complicity of environmentalism in the domination of Nature), Oelschlaeger also sees the possibilities of language, especially poetic language, in attuning us to place.

In "Out of the Map, Into the Territory," David Abram argues that place is the literal ground of thought. Rather than wondering how our ideals of wilderness can ever link up with the physical landscape, he argues that ideas have never existed—can never exist—free of place. The very existence of time and hence history plays out, according to Abram, through the physical body's presence in a landscape.

The other essays in *Wild Ideas* include their own, equally wild ideas. In addition to his own contributions to the book, editor David Rothenberg has put together essays that will contribute to a more sophisticated discussion of how to mind the wilderness and to make wild our minds. ●

—Reviewed by Christopher Manes, attorney and author of *Green Rage: Radical Environmentalism and the Unmaking of Civilization* (Little, Brown, 1990).

ECOLOGICAL RESISTANCE MOVEMENTS: THE GLOBAL EMERGENCE OF RADICAL AND POPULAR ENVIRONMENTALISM

by Bron Taylor, editor; SUNY Press (State University Plaza, Albany, NY 12246); 1995; \$19.95; 422 pages including index.

Ecological Resistance Movements is an important book that deserves the attention of conservationists because it offers a much needed global assessment of grassroots and environmental movements. Readers should not be put off by the academic publisher; the book is accessible and practical—owing to the editor, who is an activist as well as a scholar, and to the contributing authors who clearly care, as well as think.

Undertaken on a continent by continent basis, this broad comparative assessment will provide readers with a framework for placing the hit-and-miss coverage that characterizes both mainstream and conservation coverage of the world outside of North America. No single book can provide an in-depth assessment of every environmental struggle, and this one does not pretend to. Instead, Taylor has assembled papers that provide insights into several movements in each region. The papers provide a representative sense of the complexity, differing roots, goals, strategies and motivations of these Asian, African, European, and South American movements. The assumptions many North American activists have about these movements will be challenged.

Taylor's book does more than provide a look at ecological resistance movements—it also begins building a framework for understanding them. Taylor even manages to explain the confusion of the title (which publishers—not authors—generally choose): ecological and environmental do not mean the same thing.

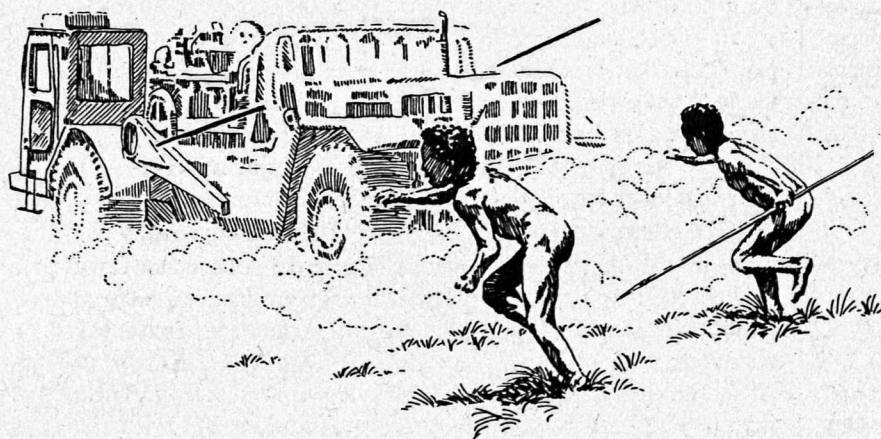
Many of the movements analyzed in the book are in fact environmental—they are concerned with the health of their part of the Earth as a place for humans to live. They are fundamentally anti-imperial and anti-hegemonic, their resistance a response to the increasing globalization of capital and the threat that poses to their ways of life and the resources on which those

depend. Their concern is overwhelmingly with the Earth *as* resources. It is wrong to think of these movements as ecological in the way hunting and gathering societies often are, or in the way conservation groups in the over-developed countries are. On the other hand, some movements do have a strong ecological sense—that is, they are concerned with protecting species and ecosystem processes for their own sake, notwithstanding that these elements of biodiversity may lack an immediate utilitarian value to people.

In recent history we would not have categorized these anti-imperial movements as either ecological or environmental primarily, but as largely economic. Two factors have changed that. First, we increasingly recognize that all human economic activity ultimately rests upon, and usually degrades, natural processes. Second, the economic practices of the groups from which these resistance movements arise are less damaging to ecosystems than are the activities of industrial corporations and centralized states. However, what is frequently overlooked by those quick to sympathize with the underdog—and justifying that support with appeal to partially truthful environmental arguments—is that the economic activities of many of these groups have long since destroyed much of the regional biodiversity. The history of Hawaii is a good example. Europeans certainly brought a wave of death to the islands—for the people already in Hawaii and for other species—but the early Polynesian settlers, with their pigs and agriculture, were an ecological disaster as well. The first human colonizers extirpated many species.

Taylor is aware of these problems and distinctions, but not all of his contributors are. Discussions of sustainability, for instance, do not address the important question of sustainability for whom? For humans? For the full range of species an eco-

system supports in the absence of human manipulation? For natural disturbance regimes? Unlike multi-nationals and their state sponsors, most poor farmers can't simply cut and run (though some try)—they have an interest in caring for the land so that it sustains them. And some seem to have developed farming practices that do not undermine themselves, provided they can increase their land base enough to take care of growing populations. Yet the practices of these groups have not been sustainable for populations of other large mammals, wide-ranging animals, and especially



large predators. Many, if not most, pre-industrial and pre-state peoples, and those on the margins of the modern world economy, have exhausted soils, overcut forests, and depleted soils or water supplies.

Because the worst enemies of Nature are usually the enemies of human freedom, there is a tendency to collapse ecological and social justice categories into each other. Both the archaeological and historical records lend strong support to the notion that attempts to control Nature inevitably result in the creation of technologies and social forms of organization in which control of large numbers of people by elites is an essential feature. But most struggles for human freedom against such elites are not ecological struggles.

Missing from several of the papers is a hard look at the vision of these resistance movements. It's clear what these movements are against, but can they only be defined in terms of their resistance to international capital? Do they seek the status quo of twenty years ago minus multi-nationals (a status quo that was *not* ecologically sound)?

The kind of world we seek, biologically, is the major question for our time. The human social dynamic that has led us to this question has roots deeper than the industrial assault on Nature or on agricultural people. Certainly the recent wave of globalization has resulted in extreme ecological destruction, but what has brought us to the brink is much older than most analysts realize.

Since the emergence of the first hierarchical societies, conflict has existed between these societies—geared toward domination and exploitation of land, other species, and other people—and those societies not so oriented, or less so oriented. Human history of the last ten thousand years is in large part the history of the exploitation, enslavement, genocide or forced migration of hunting and gathering peoples—groups that practiced adaptive strategies that were sustainable for two million years. How do Earth-friendly societies survive in the face of hierarchical Earth-destructive human societies? Do these resistance movements have an answer? How do these “ecological resistance movements” propose to solve the problem of domination?

Perhaps it is unfair to criticize a book for something it is not trying to do—which is answer every question a reviewer thinks is important about these movements. It does accomplish what it sets out to do, and does so well. We come away with a much improved picture of movements around the globe that call themselves ecological or environmental, and we have the beginning of a framework for understanding them. Taylor and most of his contributors know that *right now* we need the issues clarified, our focused sharpened, good information, and the right questions posed. *Ecological Resistance Movements* is a big step in that direction. ●

—Reviewed by David Johns, *WE* and *TWP* board member

Other Recommended Titles

Getting the Word Out in the Fight to Save the Earth

by Richard Beamish; The Johns Hopkins University Press (2715 North Charles St., Baltimore, MD 21218-4319); 1995; \$24.95; 181 pp.

It matters not how innovative your idea or how true your premise if no one hears you, if most people go about their daily lives unaware of the problem or the potential, if, as is often said, we are “preaching to the choir.”

The first step to solving our environmental problems is thinking differently about the way we live. Thinking differently on a large scale requires reaching the largest number of people with your message. The health of our planet depends, to a large extent, on how well we communicate our conservation message and motivate others to act.

In this country, the small but exceedingly powerful lobbies of real estate, grazing, mining, logging, off-road vehicle and other high impact interests pretend to represent balance and moderation while they continue to abuse our lands. *Getting the Word Out in the Fight to Save the Earth* by Richard Beamish is a field guide in the fight against these forces.

With lessons learned from half a lifetime devoted to getting the word out, with big national organizations and grassroots community groups, Beamish gives instructions on how to publicize your cause. Emphasizing the words and images that will engage your potential members and supporters, Beamish shows how to recruit members, keep them involved through mailings and newsletters, build a relationship with the media which can help publicize your cause, and raise funds. With many examples drawn from his involvement in the battle to save the Adirondacks, Beamish shows you what works and what does not. An invaluable guide for our side. ●

—Tricia Griffith, *Wild Earth* intern

Let the Mountains Talk, Let the Rivers Run: A Call to Those Who Would Save the Earth

by David R. Brower with Steve Chapple; Harper Collins West (POB 588 Scranton, PA 18512); 1995; \$20 (hardcover); 192 p.

What has happened to boldness in defense of Earth? David Brower asks and answers that question in a small gem of a book, *Let the Mountains Talk, Let the Rivers Run: A Call to Those Who Would Save the Earth*, written with Steve Chapple. This book is vintage Brower, full of anger, humor, boldness and hope.

Brower talks about his mountaineering exploits, his early conservation victories and defeats, and the plight of the mainstream environmental movement today. (“Every time I compromised,” he laments, “I lost.”) He offers a veritable menu of ideas and programs for protecting wilderness, halting the despoliation of the planet, and having a little fun along the way. ●

—Jamie Sayen, editor, *Northern Forest Forum* (POB 6, Lancaster, NH 03584)

The Reporter's Environmental Handbook

edited by Bernadette West, Peter M. Sandman, and Michael R. Greenberg; Rutgers University Press (109 Church St., Brunswick, NJ 08901-1242); 1995; \$16.95 paper; 346 p.

This book was first published in 1988 and has recently been updated and enlarged. The *Handbook* is designed to provide journalists with fast facts on environmental issues. It contains briefs on 27 environmental and human health issues, ranging from acid rain to endangered species. The book explains how to research a story, investigate a company's environmental record, understand the language of risks and hazards, and avoid pitfalls in reporting. It includes a glossary, a summary of federal environmental legislation, and a list of acronyms and abbreviations. Like most mainstream environmental reporting these days, this book is very human focused. ●

—Erin O'Donnell, Wild Earth staff

Living Tunes for the Planet

Environmental troubadours Bill Oliver and Glen Waldeck are back with a new album, *Have To Have A Habitat: Eco-Tunes for Home and School*. The album features their title and signature song and a collection of other entertaining tunes that they have performed in schools and Nature centers over the past five years. The album documents student/teacher activism, as the students singing on the album actually work on the causes for which they sing, including recycling and preventing balloon dangers to animals. For product information, write Bill Oliver, 515 E. 40 St., Austin, TX 78751; 1-800-95-OTTER. ●

The Paul Winter Consort and Earth Music Productions have brought to life Jean Giono's empowering story, *The Man Who Planted Trees*. This eco-fable is the tale of Elzeard Bouffier, a determined man who, after losing his wife and son, retreats to a remote area in France and dedicates his life to planting one hundred acorns each day. Over the course of thirty years, he brings life back to the landscape. The rhythmic and inspirational music of the Paul Winter Consort reinforces the story's theme of commitment to the Earth.

Paul Winter's Living Music label has reissued *Deep Voices*, which was originally released in 1977 and has been out of print for almost two decades. It is the sequel album to *Songs of the Humpback Whale*. *Deep Voices* contains songs from Humpbacks along with songs from the rare



Blue Whale, the largest animal ever to live on Earth. *Deep voices* is an all animal-voice album. The whales, as the recording artists, receive the royalties. All funds are shared by Wildlife Conservation International and the Whale Conservation Institute and are used to promote whale conservation around the world. To order *The Man Who Planted Trees* or *Deep Voices*, contact Living Music Records, POB 72, Litchfield, CT 06759; 203-567-8796. ●

Soundings of the Planet has jointly released *Meditation* and *Nature* by Fumio, the Japanese electronic keyboard artist and master in the field of music therapy. These releases further Soundings of the Planet's tradition of "Peace Through Music." Fumio employs the ancient art of making music a pathway to serenity through use of specific tones, pitches, chords and rhythms. The company donates some Soundings recordings to environmental groups for fund-raising. For more information, contact Soundings of the Planet, POB 43512, Tucson, AZ 85733; 1-800-PEACE. ●

—Erin O'Donnell, Wild Earth staff

The Paper Colony

A few years ago Mitch Lansky's book *Beyond the Beauty Strip* drew needed attention to irresponsible and ecologically destructive forest practices in Maine. Not surprisingly, clearcutting remains a major controversy in the state. Doug Hawes-Davis's new video, *The Paper Colony*, again probes the issue, revealing the intimate connections between land ownership, paper production and political power.

In a style characteristic of his earlier videos, *Southbound*, *Green Rolling Hills*, and *The Element of Doom*, Hawes-Davis uses the voices of local people to tell the story of the clearcutting debate in Maine. He skillfully weaves together the impressions of loggers, environmentalists, state employees, industry representatives and others, illuminating a conflict which is shaping the future of Maine's northwoods.

The Paper Colony places clearcutting in a social and political context, and the video should interest not only Mainers, but all those concerned with industrial forestry and the connections between corporate and political power. *The Paper Colony* is available from Ecology Center Productions, 1519 Cooper St., Missoula, MT 59802, 406-728-5733. ●

—Marion Hourdequin, former co-director of Road-RIP

Prairie Dog Publication

Publication of *Conserving Prairie Dog Ecosystems on the Northern Plains—Learning From the Past to Insure the Prairie Dog's Future* is part of Predator Project's efforts to educate people about the ecological importance of the prairie dog. Prairie dog numbers have declined by as much as 98% since pre-Euro-American times. According to the report, this reduction is largely due to a century-old campaign to control the prairie dog with poisons. This has resulted in a number of other plants and animals becoming imperiled, including the Black-footed Ferret, a weasel-like predator that depends on prairie dogs for over 90% of its diet. In order to allow recovery of the prairie dog and its habitat, Predator Project recommends that public lands managers eliminate prairie dog poisoning on all public lands, end the promotion of recreational shooting, and give the species a protected status. To obtain a copy of the report, send \$7 to Predator Project, POB 6733, Bozeman, MT 59771.

Tax Agenda for Private Land Conservation

The Land Trust Alliance has developed the *Tax Agenda for Private Voluntary Land Conservation*, which recommends several changes to the US tax code that would benefit private voluntary land conservation. The agenda has been sent to every congressional office and is used by individual land trusts when working with their congressional delegations. For more information about private voluntary land conservation or land trusts in your state, contact Helen Hooper, Director of Public Policy, Land Trust Alliance, 1319 F St., NW, Ste. 501, Washington, DC 20004; 202-638-4725; fax 202-638-4730.

Biodiversity and State Laws

Saving Biodiversity: A Status Report on State Laws, Policies and Programs, produced by the Center for Wildlife Law and Defenders of Wildlife, is the first thorough compilation of information about state efforts to conserve biodiversity. The report culminates a year-long research project funded by the Geraldine R. Dodge Foundation. It provides information on habitat protection programs, exotic and endangered species laws, and policies relevant to biodiversity for every state. For information, contact Susan George, Biodiversity Counsel, 1117 Stanford NE, Albuquerque, NM 87131; 505-277-3197; fax 505-277-5483; smgeorge@unm.edu.

6th World Wilderness Congress

The 6WWC will meet in South India in October 1997. Presentations are now solicited for the following symposia. Please send a 300 word abstract to the relevant chairperson. Abstracts will be considered in the order received, and authors will be notified on 1 December 1996, 1 February 1997, 1 April 1997.

- International Wilderness Designation, Management, and Research—Contact: Dr. Alan Watson, Aldo Leopold Wilderness Research Institute, POB 8089, Missoula, MT 59807; fax 406-543-2663; e-mail FSWA/S=A.WATSON/OU=S22L01A@MHS.ATTMAIL.COM

- Wilderness Inventory: Approach and Progress—Contact: Jonathan Miller, Director, Wilderness and Wild Rivers Unit, Australian Heritage Commission, G.P.O. Box 1567, Canberra, Australia 2601; fax (61-6)217-2095; e-mail jmiller@ahc.gov.au

- The Use of Wilderness for Personal Growth, Therapy, and Education—Contact: Dr. John Hendee, Director, Wilderness Research Center, University of Idaho, Moscow, ID 83843; fax 208-885-2268; e-mail hendeejo@uidaho.edu

- The Status of the Tiger—Symposium chair still to be named. Contact 6WWC chairman, Mr. Partha Sarathy, Hamsini, 12th Cross, Rajmahal, Bangalore, 560 080 India; fax (91-80)334-1674.

Proceedings of the Eastern Cougar Conference, 1994

After two years of compilation, the "Proceedings of the Eastern Cougar Conference, 1994" are now available from the American Ecological Institute. Comprised of over 20 papers and including four full-color Cougar photographs and several beautiful pencil sketches, the report is available for \$19.95 to those who attended the conference; \$24.95 for others. Contact American Ecological Institute, POB 380, Fort Collins, CO 80522. Bulk discounts are available.

Climate Change and Biodiversity Conservation

Climate Change and Biodiversity Conservation is the latest in World Wildlife Fund's series of publications exploring worldwide threats to biodiversity. This WWF report covers the ecological implications of climate change, emphasizing the importance of conservation biology to the climate change debate. Contact WWF, 1250 24th St. NW, Washington, DC 20037-1175; 202-293-4800.

The Soul Unearthed

The Soul Unearthed: Celebrating Wildness and Personal Renewal Through Nature is a new anthology in celebration of the transformative power of wilderness. Edited by Cass Adams and published by G.P. Putnam's Sons, this diverse collection of essays, poems, and interviews explores personal transformation in wilderness through quests and rituals, defense and celebration of the Earth. Contributors include Terry Tempest Williams, Robert Bly, Dolores LaChappelle, Roderick Nash, and Anne LaBastille. 228 pages, \$14.95. For more information contact, G.P. Putnam's Sons, 200 Madison Ave., New York, NY 10016.

Tracking/Conservation Biology Weekend Workshop for Land Trust People, Policy Makers and Conservationists

The Greater Laurentian Wildlands Project and Keeping Track are offering a weekend workshop, 28 February-2 March 1997 in Craftsbury Common, Vermont, with renowned tracker Sue Morse and conservation biologists on how land trusts, policy makers, and The Wildlands Project can work together toward translating a vision of biological integrity into reality. Workshops will include tracking, The Wildlands Project, principles of conservation biology, and the status of biodiversity in New England. For more information contact GLWP, POB 457, Richmond, VT 05477; 802-434-3279. Space is limited—register soon!

The Act to Save America's Forests (HR 4145) Introduced in Congress

On 24 September 1996 Representative John Bryant (D-Texas) introduced a nationwide, comprehensive federal forest land protection bill, HR 4145, the "Act to Save America's Forests." By the close of Congress, one week later, the bill had 43 co-sponsors. HR 4145 would ban logging and road building in three categories of federal forests: inventoried and uninventoried roadless areas, Northwest ancient forests, and designated "special areas" selected by scientists and local groups nationwide. Elsewhere, only a limited amount of selection logging would be allowed. Clearcutting and other even-age management techniques would be prohibited and restoration of native biodiversity mandated. In short, the bill would increase protection for all federal forests while prohibiting logging in the most sensitive original ecosystems and restoring areas devastated by intensive logging. For copies of the bill and more information on how to support the Act to Save America's Forests, contact Save America's Forests, #4 Library Ct., SE, Washington, DC 20003; 202-544-9219.



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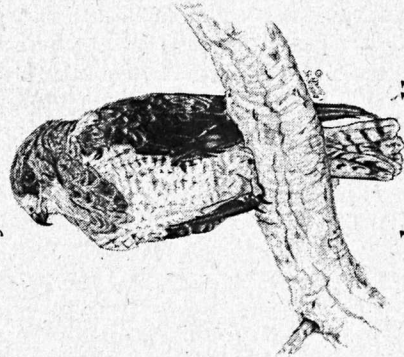
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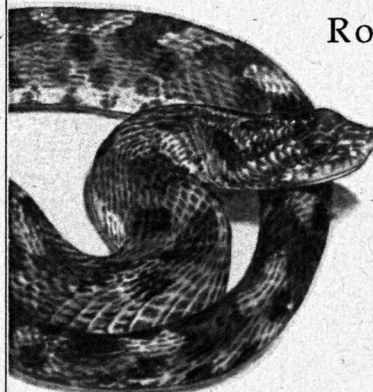
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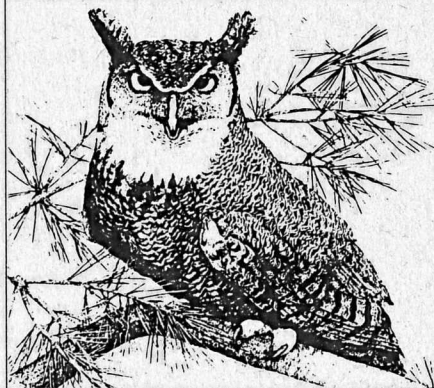
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2 • Summer 1991 The New Conservation Movement, ancient forests on trial, Grizzly hunting in Montana, killing the coasts, what wilderness can do for biodiversity. Ski development in White Mountain National Forest, an Ancient Forest Reserve proposal for the Mendocino National Forest, and exploring Chile's rainforest. Howie Wolke's Wild Rockies, and Part 2 of "Is Population Control Genocide?"

3 • Fall 1991 SOLD OUT.

4 • Winter 1991/92 Devastation in the North: Canadian deforestation, threatened northern rivers, Hydro-Quebec vs. James Bay, natural gas development. . . . The BLM in Arizona, the Finger Lakes of New York, and the North American Wilderness Recovery Strategy. Saving Yellowstone, tallgrass prairie, and the White Pine. Roderick Nash's vision of an "Island Civilization," and "Biologists, Biophiles, and Warriors" by Reed Noss.

5 • Spring 1992 SOLD OUT.

6 • Summer 1992 Endangered species crisis, Perdido Key Beach Mouse, speleomanders and trogloderps, Eastern Hemlock, and fungus. Civil obedience, the cost of compromise, "wise use" lies, deep ecological practicality, the language of owning, metaphor in science. Japan's beech forest, Shenandoah National Park, Monongahela wildlands.

7 • Fall 1992 Earth Summit, Endangered Species Act, Grandfather Mountain. Radical environmentalism, a wilderness work ethic, the dignity of wild things. Lynx, Woodland Caribou, tarantula, Sugar Maple, woodpecker wilderness, Adirondack old growth. Southern California biodiversity, Texas's Big Bend Ecosystem. Max Oelschlaeger's "Mountains that Walk."

8 • Winter 1992/93 Patriarchal management, Supreme Court setbacks, "natural law" and human population, planetary oncology, grassroots resistance in developing countries. Coral reefs, jellyfish, wild fossils, the Eastern Indigo Snake, and zoos. A Greater Desert Wildlands Ecosystem proposal, Colorado River delta. Howie Wolke's "Bad Science Lacks the Visceral Connection."

• Special Issue #1: The Wildlands Project: Plotting a North American Wilderness Recovery Strategy. TWP Mission Statement, preliminary proposals for the southern Appalachians, northern Rockies, Adirondacks, and Paseo Pantera. "A Vision for the Meantime" by Michael Soulé, "TWP Land Conservation Strategy" by Reed Noss, "Developing a Regional Wilderness Recovery Plan" by Dave Foreman, "Coming In To The Watershed" by Gary Snyder.

9 • Spring 1993 The power of hope, primitivism, avian activism, mitigation scams. Hydro-Quebec, Pacific Rim forest, tropical biodiversity (Part 1). A proposal for a park without fences: Adirondacks, the Ozarks, and the Oregon Coast Range. "In Defense of Wildlife and Open Expression" by Michael Frome. "The Breadth and Limits of the Deep Ecology Movement" by Arne Naess.

10 • Summer 1993 The Zero-Cut solution, ozone depletion, topophilia, organic archeology, immigration. Wildlife contraceptives, predator eradication, bear wisdom. The Greater Salmon/Selway Project, deep ecology in the Former Soviet Union, tropical biodiversity (Part 2). Threats to Southern Appalachia, Alabama proposal, Eastern forest recovery. "Arizona, The Floating Desert" by Gregory McNamee.

11 • Fall 1993 Biodiversity, caves, ecological economics, land management lingo, legal standing in environmental litigation. Atlantic Salmon, imperiled Gorillas, Kittatinny Raptor Corridor. The Selkirk Mountains, Wild and Scenic Rivers, wildland restoration. "The Rhizome Connection" by Dolores LaChapelle and "Crawling" by Gary Snyder.

12 • Winter 1993/94 Overworking the North Woods, the Tuliptree, Sutter Buttes, freedom of information, consensus vs. independent activism. Bats, endangered invertebrates, exotic pests. The evolving Wilderness Area model, Rocky Mountain National Park reserve system proposal, Yellowstone to Yukon proposal, South African population stresses.

13 • Spring 1994 Wilderness Land Trust, Sea Shepherd, environmental education, bonding with the wild, whole-tree logging, ozone depletion, the anatomy of a burn, Spruce-fir Moss Spider. Mohawk Park, Nova Scotia, southern Utah, nuclear dump in the Mohave Desert, Brookhaven irradiated forest, Southern Appalachian National Forest mismanagement, Vermont wilderness. "Saving Aquatic Biodiversity" by Allen Cooper and Reed Noss, and "The Enemy" by Edward Abbey.

14 • Summer 1994 Wilderness Watch, "experimental, non-essential" populations, building a legal file, bioregional mapping, silvicultural fiction, a road-fighting strategy. Hanford's sage-steppe, the impact of logging on songbirds; Bald Eagles, Gila Trout, serpentine rock, hemp. Eastern old growth, butchering the Salmon-Selway, regenerating bush and soul in Australia, Great Plains restoration (Part 1). "A Walk Down Camp Branch" with Wendell Berry; William Catton on carrying capacity.

15 • Fall 1994 Environmental lawyers, biocentric broadcasting, resisting mining, historical records in mapping. Red-cockaded Woodpecker, wombats, seabird restoration, fish stocking. Central Appalachian forests, the Algoma Highlands, old-growth Acadian hardwoods, Pacific Coast wilderness, Thoreau Regional Wilderness Proposal, Great Plains restoration (Part 2). "The Comucopia Scam, Part 1" by Sandy Irvine.

16 • Winter 1994/95 Locking up wildlands, bureaucratic jargon, biophilia vs. technophilia, natural fire, road removal. Urban Peregrine Falcons, snails, cryptogamic soils, the Red Maple. Wisconsin timber law, restoring Lebanon, Great Lakes biodiversity, and "The Comucopia Scam, Part 2." Dave Foreman, Reed Noss, and J. Baird Callicot debate the idea of Wilderness.

17 • **Spring 1995** Grassroots vs. nationals, Free Market Environmentalism, and community-serving economics. Prairie dog ecosystems, wild to domestic animal ratios, wildlife biologist Susan Morse, India's threatened mangroves, Species Requiem Day proposal, vernal pools. Palouse Prairie, Banff, Hoosier forests (Part 1), Minnesota recovery, and "The Cornucopia Scam, Part 3." J. Baird Callicot's retort, and "Wilderness Does Work" by Michael Frome.

17 • **Summer 1995** Logging and wildfire, great trees of the Great Smokies, wetlands, the environmental consequences of being born in the USA. Gulf Sturgeon, bumblebees, illegal wildlife trade, grazing issues. Utah wilderness, Nevada biodi-

versity, a conservation plan for the Columbia Mountains, and Hoosier forests (Part 2). "Loss of Place" by Howie Wolke, "Health Implications of Global Warming and the Onslaught of Alien Species," by Michael Soulé, and a journey to Bristol Cliffs Wilderness with John Elder.

18 • **Fall 1995** Sustainable silviculture, SLAPPs, conservation easements, global warming and The Wildlands Project. Cow Cops, Spirit Bears, Buffalo Commons, the Black Birch. Eastside forest restoration, old growth in the Adirondacks and Catskills, Hoosier forests (Part 3), Gila River-Sky Island Region proposal. "Private Property and the Common Wealth," by Wendell Berry and "Scenes on a Round River," by Rick Bass.

19 • **Winter 1995/96 TWP Special Issue #2: The First Thousand Days of the Next Thousand Years: The Wildlands Project at Three** TWP mission statement, preliminary proposals for the Klamath/Siskiyou region, the Northern Forests, Minnesota Biosphere Recovery Strategy. "Wilderness: From Scenery to Nature," by Dave Foreman, "What Should Endangered Ecosystems Mean to The Wildlands Project," by Reed Noss, "Testimony," by Terry Tempest Williams, "Obstacles to Implementing The Wildlands Project Vision," by Steve Trombulak, Reed Noss, and Jim Strittholt.

20 • **Spring 1996** ONRC on Environmental organizing, Biotechnology vs. Biodiversity, Limitations of Conservation Easements, A Deep Photography Ethic. Central Appalachian forest types, the Adirondacks, Torngat National Park. Special Section: Poems for the Wild Earth. "The Leopold's Shack," by Stephanie Mills, "Are Ecosystem Processes Enough?" by Michael Soulé, "Boat of a Million Years," by Gary Snyder. Bill McKibben's thoughts on finding common ground with conservatives.

21 • **Summer 1996** Grazing and Forest Health, The Fish Wars, Private Lands in Ecological Reserve Systems. Alaska's Honker Divide and Arctic Refuge; Northern Chihuahua; Cromer Ridge, Kentucky. Proposals for a Caribou Commons in Manitoba and an inter-hemisphere conservation corridor. "Text, Civility, Conservation, and Community" by Bill McKibben, "The White Ash," by Bob Leverett.

24 • **Fall 1996** Religion and Biodiversity, Eastern Old Growth: Big Tree Update, Gary Nabham on Pollinators and Predators, South African Biodiversity, NPS Prescribed Fires in the Post-Yellowstone Era, Alaska: The Wildlands Model, Why are Cougars Killing People?, The Adirondack Blowdown, The Yukon Wildlands Project, Mad Cows and Montanans, Humans as Cancer, Wildlands Recovery in Pennsylvania

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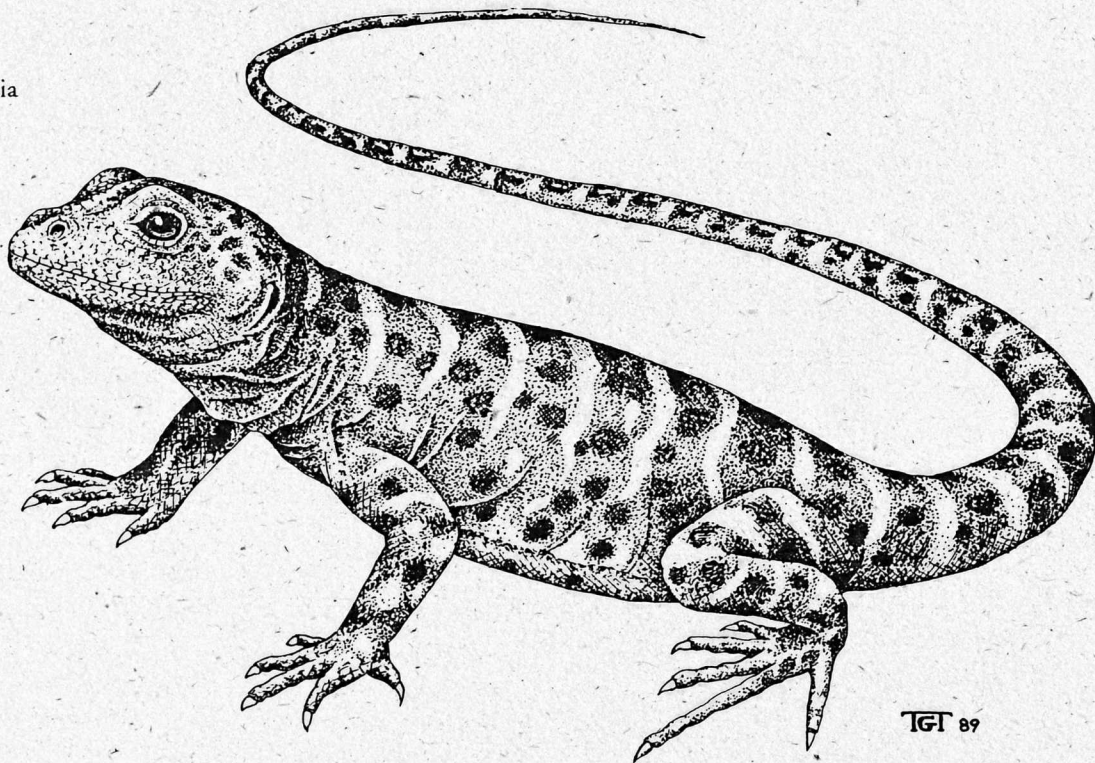
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Blunt-nosed Leopard Lizard

illustration by Todd Telander



IF THERE WERE A PRIZE for thoroughly descriptive zoological names, the Blunt-nosed Leopard Lizard would surely win one. The reptile is indeed blunt-nosed and bears leopard-like spots on its grayish green or brown scales. In another type of honor, the species made it to third place on "The Ten Most Expensive Species List" issued by the National Coalition for Public Lands and Natural Resources, a noisome anti-environmental group that condemns government efforts to preserve endangered species.

The habitat of this elegantly long-tailed lizard (which often reaches a foot from blunt snout to tail), explains both its endangered status and the cost of preserving its habitat. *Gambelia silus* generally prefers flat, open Chenopod Scrub and Foothill Grasslands—translated: the rich farmland of California's Central Valley. There, if not crowded out by alfalfa, the carnivorous lizards live off insects and other lizards (including their own young), appropriating abandoned rodent burrows for shelter and nesting sites.

This nasally challenged lizard is a very rare, difficult to find animal, whose numbers seem limited by the availability of unused rodent burrows. It hibernates in winter and becomes lethargic in temperatures under 75 degrees. It is aggressively territorial among its fellow species members; but when startled, the reptile can reportedly rear up on its hind legs and run away bipedally, perhaps in mock imitation of the bipedal hominids who have chased it to the brink of extinction.

—Christopher Manes, southern California

The art of Boulder-based illustrator Todd Telander (2316 23rd St., Boulder, CO 80304; 303-545-2699), whose work also appears on page 4, is informed by his love of wildlife and his academic background in biology and natural science illustration.

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the Kaiparowits—by Valerie Cohen

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