



Environment & Society Portal

Suggested citation: Foreman, Dave, ed., *Wild Earth* 1, no. 1 (Spring 1991).
Republished by the Environment & Society Portal, Multimedia Library.
<http://www.environmentandsociety.org/node/5643>.

All rights reserved. The user may download, preserve and print this material only for private, research or nonprofit educational purposes. The user may not alter, transform, or build upon this material.

The Rachel Carson Center's Environment & Society Portal makes archival materials openly accessible for purposes of research and education. Views expressed in these materials do not necessarily reflect the views or positions of the Rachel Carson Center or its partners.

SPRING 1991

Wild Earth

VOLUME 1, NUMBER 1

Articles and Essays by:

Dolores LaChapelle

Christopher Manes

Bill McCormick

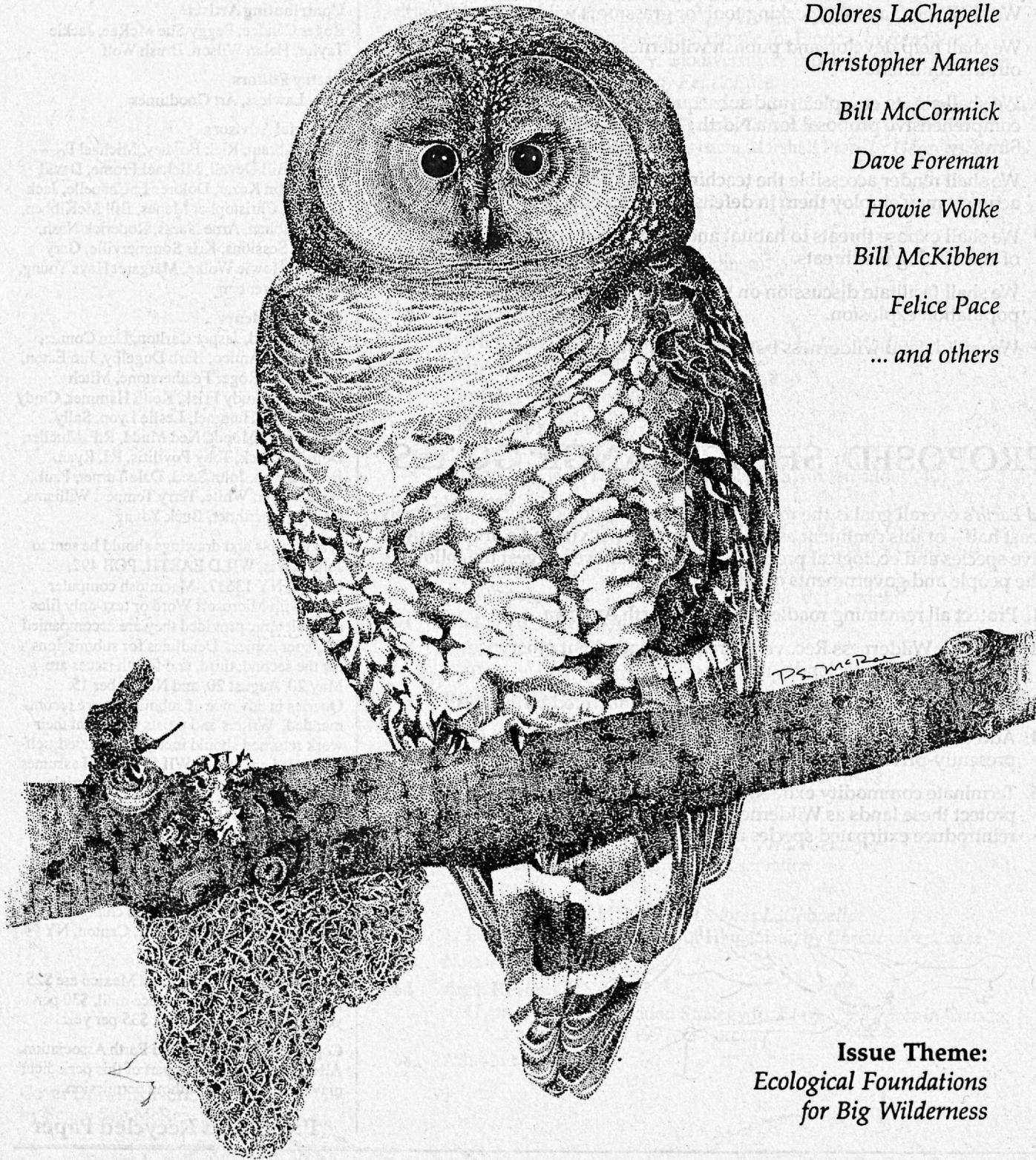
Dave Foreman

Howie Wolke

Bill McKibben

Felice Pace

... and others



Issue Theme:
*Ecological Foundations
for Big Wilderness*

STATEMENT OF PURPOSE

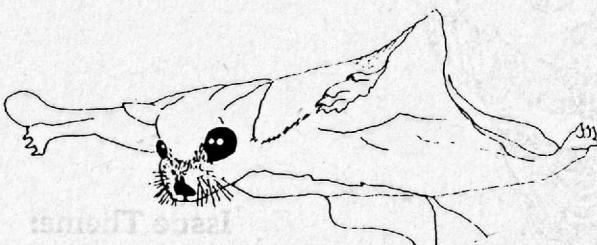
Wild Earth is a non-profit periodical serving the biocentric grassroots elements within the conservation movement, and advocating the restoration and protection of all natural elements of biodiversity. Our effort to strengthen the conservation movement involves the following:

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

PROPOSED SHORT RANGE GOALS

Wild Earth's overall goal is the restoration and protection of much—preferably at least half—of this continent as true Wilderness, with its full complement of native species and ecological processes. To this end, we suggest the following to the people and governments of this continent:

1. Protect all remaining roadless areas in North America.
2. Establish Wilderness Recovery Areas on roaded but otherwise undeveloped public lands.
3. Begin human population reduction through lowered birth rates.
4. Add to the federal or state Wilderness preservation systems large, presently-private undeveloped tracts in all bioregions.
5. Terminate commodity extraction on all undeveloped public lands and protect these lands as Wilderness or Wilderness Recovery Areas; reintroduce extirpated species as habitat permits.



WILD EARTHLINGS

Dave Foreman, Executive Editor
John Davis, Editor
Mary Byrd Davis, Publisher & Assistant Editor
Reed Noss, Science Editor
Dwight Tuinstra, Designer
Tom Butler & Andy Molloy, Production Assistants

Contributing Artists

Roger Candee, Peggy Sue McRae, Jackie Taylor, Helen Wilson, Brush Wolf

Poetry Editors

Gary Lawless, Art Goodtimes

Editorial Advisors

David Abram, Rick Bonney, Michael P. Cohen, Bill Devall, Michael Frome, David Johns, Ron Kezar, Dolores LaChapelle, Jack Loeffler, Christopher Manes, Bill McKibben, Gary Nabhan, Arne Naess, Roderick Nash, George Sessions, Kris Sommerville, Gary Snyder, Howie Wolke, Margaret Hays Young, Nancy Zierenberg

Correspondents

Joe Bernhard, Jasper Carlton, Dan Conner, Michael D'Amico, Barb Dugelby, Jim Eaton, Jeff Elliott, Roger Featherstone, Mitch Friedman, Trudy Frisk, Keith Hammer, Cindy Hill, Monte Hummel, Leslie Lyon, Sally Miller, Rod Mondt, Ned Mudd, R.F. Mueller, Doug Peacock, Tony Povilitis, P.J. Ryan, Jamie Sayen, John Seed, Dale Turner, Paul Watson, Ben White, Terry Tempest Williams, George Wuerthner, Buck Young

Manuscripts and drawings should be sent to John Davis, WILD EARTH, POB 492, Canton, NY 13617. Macintosh computer disks with Microsoft Word or text-only files are welcome, provided they are accompanied by paper copies. Deadlines for submissions for the second, third, and fourth issues are May 20, August 20, and November 15. Queries in advance of submission are recommended. Writers and artists who want their work returned should include a stamped, self-addressed envelope. WILD EARTH assumes no responsibility for unsolicited materials.

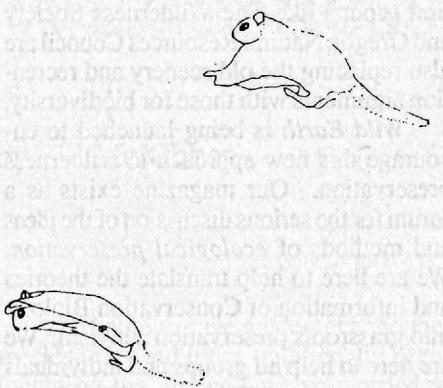
WILD EARTH (ISSN 1055-1166) is published quarterly by the Wild Earth Association, 68 Riverside Dr, Apt 1, Canton, NY 13617. Application to mail at second-class postage rates is pending in Canton, NY. POSTMASTER: send address changes to WILD EARTH, PO Box 492, Canton, NY 13617.

Subscriptions to Canada and Mexico are \$25 per year; overseas via surface mail, \$30 per year; overseas via air mail, \$35 per year.

Copyright © 1991 by Wild Earth Association. All rights reserved. No part of this periodical may be reproduced without permission.

Table of Contents

ISSUE THEME: *Ecological Foundations for Big Wilderness*

- 
- 10 Dreaming Big Wilderness, by *Dave Foreman*
 - 14 The Impoverished Landscape, by *Howie Wolke*
 - 18 Ecosystem Restoration: An Example for Florida, by *Reed Noss*
 - 28 The Grider Creek Story: Biodiversity & Biological Corridors in the Klamath Mountains, by *Felice Pace*
 - 33 The Earth First! Wilderness Preserve System, by *Dave Foreman, Howie Wolke, Bart Koehler, & Sharon Netherton*
 - 39 A Greater Yellowstone Ecosystem Marshall Plan, by *George Wuerthner*

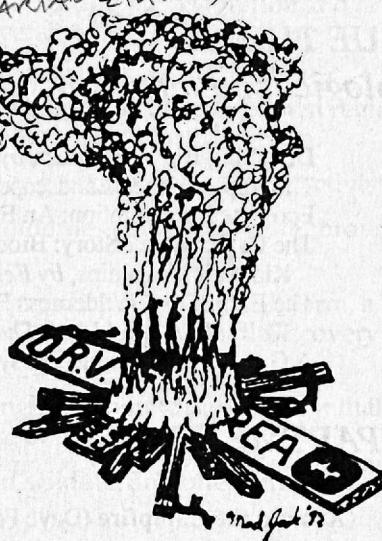
DEPARTMENTS

- 2 Around the Campfire (Dave Foreman)
- 2 Editorial (John Davis)
- 3 Guest Editorial
Three Dimensional Wilderness Defense, by *Bill McKibben*
- 4 Letters
- 5 Housekeeping (Mary Byrd Davis)
- 8 Biodiversity Reports
 - Poetry
Gary Lawless (12, 22); J.P. Bernhard (36); Anonymous (40)
 - Strategy
24 A Native Ecosystems Act (Concept Paper), by *Reed Noss*
46 Environmental Law: A Mixed Bag ... But Useful, by *Cindy Hill*
 - 25 Overpopulation
Is Population Control Genocide?, by *Bill McCormick*
 - 41 On the Toxic Trail with Dr. Dioxin
 - 42 Thunderbear (P.J. Ryan)
The Pope and Multiple Use; Nutria Blues
 - 44 Reports from the Front — Campaigns
Sea Shepherd Saves Dolphin Pod, Targets Iceland, by *Paul Watson*
 - 50 Legislative Corner
What the Big 10 Don't Tell You, by *Margaret Young*
Forest Related Bills, by *Mitch Friedman*
 - 52 Movement Mutterings
How to Deal with the Sierra Club, by *Hart Schaefer*
Club Courtesy Conflicts with Conservation
 - Land Ethics
55 Wild Human Wild Earth, by *Dolores LaChapelle*
61 Ecology and the Language of Humanism, by *Christopher Manes*
 - 63 Noteworthy Articles
 - 64 Book Reviews
Hyperion; A Conservation Strategy for Large Carnivores in Canada;
State of the World 1991, G-Forces
 - 68 Announcements

Cover Drawing: Northern Spotted Owl
by Peggy Sue McRae

AROUND THE CAMPFIRE

S. MADON PHOTOS
ECO-CATASTROPHE (EXTINCTIONS)
DOMINATION IDEOLOGY (ALSO V. UTILITARIAN STANCES)



More than a decade ago, ecologist Raymond Dasmann of the University of California declared that World War Three had already begun—it was the war of industrial humans against the Earth. With that warning in mind, we can begin to understand what the environmental crisis is and what it is not. Too often we look on ecological issues as affecting us only incidentally. The preservation of National Parks and Wilderness Areas is characterized in terms of monumental scenery, primitive outdoor recreation, or “watchable wildlife.”

But the truth is far different. Eco-catastrophe is not some remote possibility in the future. It is here now. We are currently embroiled in the greatest crisis in four billion years of life on Earth. Never before—not even 65 million years ago at the end of the Cretaceous when dinosaurs became extinct—has there been an extinction rate comparable to today’s. The world’s leading field ecologists warn us that one-third of all species living may become extinct in the next twenty or thirty years, that by the end of the century the only large mammals remaining will be those we humans choose to allow to exist.

Not only are we devastating biological diversity through habitat destruction, pollution, and slaughter of other species, but for the first time human beings are having a systemic impact on the life support system of Earth—through the destruction of the ozone layer, the greenhouse effect, acid precipitation, and worldwide radioactive and toxic pollution.

For over three and a half billion years, life has been blossoming, diversifying, and expanding into incredible forms and unimaginably complex relationships. And now, in the space of a human generation, we will truncate this flowering.

Human overpopulation and over-consumption lead to this unprecedented destruction of life. But it is caused most fundamentally by an idea—the idea that human beings are separate from and superior to the natural world. Gifford Pinchot,

the founder of the United States Forest Service, summarized it this way: There are only two things in the world—human beings and natural resources. We seem to believe the living Earth is a smorgasbord table, continually replenished by a magic kitchen, for the exclusive use of humans. That attitude is what is destroying life on Earth—including human beings.

Mere reform of industrial civilization will not suffice. Grappling with the ecological crisis requires a re-thinking of the role of humans within the life community. We must recognize with John Muir that all things are connected, that humans are only one of many millions of species that have been produced by evolution. We have no divine right to treat all other life as “resources” for our use. Other beings have value independent of their worth to humans; they live for their own sake.

On a practical level, this means that conservationists must no longer look on National Parks, Wilderness Areas, and other protective classifications as natural museums, outdoor gyms, scenic art galleries—as islands of nature in a sea of development. We must rethink the role of Wilderness Areas and Parks, and consciously design them so they maintain and help restore biological diversity.

During the last decade, new conservation groups have sprung up like owl clover in the desert after a wet winter. These groups, ranging from the Society for Conservation Biology to the Association of Forest Service Employees for Environmental Ethics to the grassroots Alliance for

the Wild Rockies and Preserve Appalachian Wilderness, are working in a variety of ways for the preservation of natural diversity and the careful design of preserves to protect that diversity. Scenery and primitive recreation are incidental to their agenda. Traditional mainstream conservation groups like The Wilderness Society and Oregon Natural Resources Council are also replacing the old scenery and recreation arguments with those for biodiversity.

Wild Earth is being launched to encourage this new approach to wilderness preservation. Our magazine exists as a forum for the serious discussion of the ideas and methods of *ecological preservation*. We are here to help translate the theories and information of Conservation Biology into grassroots preservation activism. We are here to help all groups and individuals working to protect biological diversity.

In doing that, we will consciously be advocates for non-human nature. We will speak for wolf, Orca, Gila Monster, Saguaro.

If you like the talk and the company around this campfire, join us. Sit down and share your ideas. But if this campfire doesn’t feel like home to you, please look for another one. There are lots of good groups out there. *Wild Earth* is not for everyone. We are conservationists. We believe in wilderness for its own sake. With John Muir, we are on the side of the bears in the war industrial humans have declared against wild nature.

Happy Trails
Dave Foreman

Editor's Ramblings

Welcome to *Wild Earth*, a magazine for the real world. With this, our premier issue, we set the stage for the development of a North American Wilderness Recovery Strategy.

“Wait a minute ... why another environmental periodical?” some of you may wonder. Granted, a plethora of national environmental periodicals are now available, but very few are advocating *real wilderness*; very few are speaking for a truly wild Earth. Even the small minority of national environmental publications that focus on wilderness and biodiversity issues generally do not speak for real wilderness. The mainstream conservation groups and their publications are generally calling for small preserves (oxymorons). If there is

continued on page 62

Three Dimensional Wilderness Defense

by Bill McKibben

*S: We must address
atmospheric issues to
defend the wild*

The battle to save wilderness and the species that need it has traditionally been fought on the ground—we've worried a great deal about the horizontal spread of wilderness and rather less about its vertical reach. This two-dimensional view of the situation has long and illustrious precedent. Henry David Thoreau, an early opponent of clear-cutting, said that soon the earth "would be so bald that every man would have to grow whiskers to hide its nakedness, but, thank God, the sky was safe." John Muir predicted that the sheep grazing Yosemite might destroy the forests—"only the sky will then be safe." When wilderness advocates have looked skyward, it's usually to protest localized and very visible problems—acid rain in the Northeast, the haze dimming the Grand Canyon.

The unwelcome news is that we no longer have this luxury—that the wild earth faces at least as large a threat from the changing atmosphere as from all the bulldozers and condo developers and miners and loggers combined. Everyone knows about the greenhouse effect, of course, but even most environmentalists have pushed it to second or third or fourth on their list of priorities as they've gone about preserving Utah or saving the Siskiyou. Now, new data are making it abundantly clear that this is a Saddam-like strategy—even if we could win the war for wilderness and biodiversity on the ground, we would likely lose it in the air.

Take, as an example, a study reported in the 16 November 1990 issue of *Science*. A team of Canadian researchers had been studying a set of remote lakes in northern Ontario for two decades. In that time the average temperature of the spot [the air and the lakes] had risen about 3.5 degrees fahrenheit, with the following results:

- Decreased soil moisture and rainfall cut water flows into the lakes, quintupling the number of years it took to replenish their waters, from about 4 to about 20, and thereby increasing the concentrations of many chemicals.

- The reduced stream flows meant fewer organic particles entering the lakes. As a result, sunlight penetrated the clearer water to greater depths, warming it.

- Forest fires increased, stripping much of the area of cover. As a result, winds increased on the lakes, and these also drove the cold layers of the lakes deeper. As a result, Lake Trout and other cold-water species were threatened with extirpation from the region.

In other words, you could take these lakes and put them in the middle of a five-million-acre wilderness surrounded by a ten-million-acre buffer zone and only let in barefoot hikers who'd passed a test on the contents of *How to Shit in the Woods* and you'd still have an ecosystem savagely degraded by human intervention. This should not be much of a surprise (though the reporter who described the study in the *New York Times* wrote that "the effect of the warming has hardly been wholly benign, contrary to what might be expected in northern climes"). Since one of the chief defining characteristics of any ecosystem is its climate, any major change is absolutely certain to be disruptive.

These lakes will not be an exception—remember back to the hot North American summer of 1988 when ducks found dry potholes for nesting and fish turned belly-up in warm and shallow water. Think about the world's coral reefs, which are disappearing at as much as a five percent annual clip, apparently due to increased ocean temperature. If sea level rises a meter it will wipe out fifty percent of

coastal marshes. And so on and so on.

Biologists have identified a number of types of species at particular risk. Those that live at the poles, for instance, where temperature increases are likely to be sharper than at the equator. Or very specialized species, or species living near the tops of mountains—their climatic range will move right to the summit and then past. (Telescopes aren't the only enemy for the Mt. Graham Red Squirrel.) Even mobile, somewhat adaptive plants and animals will be in trouble, as they find their paths blocked by cities, highways, farms. It's as if we're playing planetary musical chairs and humans are sitting on almost all the remaining seats.

For good, well-adjusted anthropocentrists, this is no big deal. Scientists and policy makers routinely discuss who will be the "winners" and "losers" from climate change, concluding, for instance, that if temperatures don't rise too quickly Scandinavian sheep ranchers can expect more forage and thus more meat. The Canadian researchers suggested that once the Lake Trout were exterminated, bass might be stocked so that fishing guides could keep their jobs. The idea that we'll just adapt, no big deal, is likely delusional; but even if some humans do manage to exploit climate changes, the changes will be disastrous for other species.

I know that none of this comes as a great surprise to anyone reading it, and I hesitate to even suggest that wilderness advocates turn some of their precious attention skyward; but I see no alternative. The good news is, it's not a separate fight. The same cast of mind that destroys wilderness causes most our greenhouse trouble—in fact, the insistence on ease, consumption, convenience, comfort and, above all, growth, can be attacked closest to its roots in connection with carbon dioxide. Almost every action of a modern life burns fossil fuel; if that life changes to produce less CO₂, it will almost certainly do less harm

continued next page

in other ways too. Fewer Winnebagos mean fewer Burr Trails; fewer big houses mean (maybe) fewer clearcuts.

Also, the same sorts of tactics used effectively by wilderness and biodiversity advocates may help shake the greenhouse debate off the dead center it is stuck on in this country. GM is at least as vulnerable to boycotts, pickets, and sit-ins as Burger King or Starkist or Maxxam, and their insistence on producing 25 mile-per-gallon cars is every ounce as destructive. Coal-fired power plants, companies that use energy to produce needless goods, legislatures in the thrall of lobbyists—all classic targets for civil disobedience.

I don't mean to complicate anyone's agenda—only to suggest that the laws of physics and chemistry have already complicated it. We need to have our feet firmly on the ground; unfortunately, we also need to have our heads in the clouds.

Bill McKibben is a widely acclaimed writer, whose book The End of Nature has been compared with Rachel Carson's classic Silent Spring. Countless periodicals have reviewed The End of Nature, with reviews tending to fall into two camps: glowing reviews by persons able to overcome their anthropocentric biases; condescending reviews by persons inextricably wedded to anthropocentric ideologies. Bill is currently writing a book about TV's devastating effects on culture and Nature, and is a Wild Earth editorial advisor.

science editor's note: So far the threat of a changing atmosphere at a global scale is probable, but not yet as big a problem as habitat alteration, either for terrestrial or aquatic ecosystems. Nonetheless, if the global circulation models are correct, the atmosphere is in a trajectory toward warming that is too late to reverse even by stopping fossil fuel use. Limiting CO₂ production will reduce the intensity and duration of warming, but probably won't stop it. Furthermore, if warming is as rapid as predicted, most organisms won't be able to migrate quickly enough. At particular risk will be species with narrow physiological tolerances of environmental conditions, and species with limited dispersal abilities. Species translocation and other interventionist approaches will be necessary to prevent major losses of biodiversity. Personally, I only hope the models are wrong! —RN

LETTERS TO THE EDITORS

Dear John,

In organizing demonstrations on wildlife & wilderness issues this summer in New York, I became increasingly aware of the trend toward linking the "radical" environmental movement to issues of social justice worldwide. I don't for a moment dispute the need for these issues to be addressed. My parents and my grandparents before me worked hard and took serious personal risks on behalf of the same social issues that some activists think we should now commit to.

I have been told time and time again that we cannot save (for example) the rainforests until we have provided adequate educational and living standards for all the people who live in those rainforests. I have also been told that it is arrogant for us to expect people to reduce their birth rates, let alone their current populations, until they have living standards like those in the US or Western Europe. I have been told that, historically, it is only after such living standards have been achieved that any people has had the "luxury" of worrying about other species. All of these arguments have merit.

My concern is whether every group needs to address every possible issue. If we all start trying to do so, then the purpose of each group is spread so thin that its "message" becomes muddy, befuddled. If we take that course then we fall into the marketing nightmare of the television networks—if you try to be all things to all people, you end up being not much of anything to anybody.

When I organized demonstrations this summer, I tried to be clear about the issue (not issues) involved; you really can't do two things well at the same time. Anyone who has ever tried to leaflet on the street knows that you must not try to explain two issues at once. People can't listen to you indefinitely, and won't listen to you at all if your message isn't clear.

If anyone doubts this, I suggest they try it out. Go out on the street with two different messages on the same flyer or

petition, and see what happens. Go out with flyers on the sea turtle slaughter and the killing of dolphins for tuna. Or go out with messages on high-tech hunting and Animal Damage Control. People will listen to you on the first issue and many will support you, but when you hit them up for a second issue, they get frustrated and disgusted. They know they can't do everything at once. And they're right. Neither can we.

A good and wise friend of mine (who just turned 75) keeps telling me: "You can't dance at all the weddings." He's right. It's not that I don't want to, or that I don't try to ... I do. But ultimately you can't. You can "dance" at one "wedding" at a time, but you can't "dance" at them all. If we follow the advice of those who wish us to "do" all the issues, we won't end up doing anything at all.

Groups working for social justice have been around for a long time. People are used to these groups—they are a "known quantity." Such groups don't really bother anybody; they can be "pigeonholed."

But any group that says, effectively, that "the Industrial Revolution was a terrible mistake, and it must be undone," and also says that "all species of life have an equal right to exist," is saying something new. Such a group would be far more threatening to our Society than any "social issues" group could be.

Actually "Saving the Planet" is an expensive proposition, culturally, socially, and financially. And it is a whole new concept. For one thing, we have to figure out who we are "saving" it for, and whom we are "saving" it from. To do it, we have to redefine our concept of human beings, and our concept of what our species has the right to do. It might mean having to share the world with other species on an equal basis. That is a new idea. And it is a very threatening idea to many people.

But if we abandon these ideas, we become less threatening. If we adopt a "social agenda," as many people seem to want us to do, we must change our focus, and accept a more human-centered mandate. When we do this, two things happen:

First, we become identifiable as "leftists," we become part of a movement whose goals are familiar and "safe": nothing new is being said. This is probably more

comfortable for many people: we can continue to live as we have, and make the same basic arguments for social justice that have been made for several centuries. What we thought for a moment was a frightening new situation that we didn't know how to deal with, is now no more than a new way of talking about the old, familiar problems that we all understand. We don't need any new ideas—we're just working the same old turf in a new "green" dress.

Second, time passes. While we spend our time on our "new" social agenda, we do not have to worry about the rights of species who are even more "homeless" than

our "homeless." To ask for the equal valuation of all species is to ask for a lot. To ask our species to accept that other animals are "people" too, is to question a lot of the things we think we "know." It requires a new understanding of what "life" on this planet is.

In conventional terms, that will be "expensive." If other animals' lives are "worth" as much as ours, then maybe we can't just "take" what we want. Such an idea could seriously disrupt our Society. Do the folks who want us to "Save Humans First" intend, perhaps, to distract us from addressing these concerns?

HOUSEKEEPING

Heartfelt thanks from the magazine staff to our subscribers, who enabled us to begin publication of *Wild Earth*. The publisher of a prominent environmental periodical recently noted with pride that his magazine began "on less than \$250,000," including a sizeable loan. *Wild Earth* has started on less than one twentieth of that; and, apart from a small subsidy from the *Earth First! Journal*, almost every dollar has come from subscribers, through subscriptions and donations. All made a leap of faith in sending us money, before we even had a publication date. We are grateful for your confidence in us and for your generosity.

The Wilderness Covenant Foundation is setting up a fund to receive future donations to *Wild Earth* from people who want their gifts to be tax deductible. Checks should be made payable to Wilderness Covenant Foundation, but should bear a notation that they are for *Wild Earth*. Send to: Wilderness Covenant Foundation, c/o 3757 N. El Moraga, Tucson, AZ 85745. Donations can also be made directly to the magazine. At present we are operating on the proverbial shoestring. We believe that subscriptions will increase sufficiently to cover future bare-bones publication costs. However, donations are most welcome, as shoestring management does not make for a high-quality magazine over the long haul.

Wild Earth does not plan to sell any merchandise except postcards. The cards, which will be printed on recycled stock and have one side plain for writing, will help publicize *Wild Earth*.

Dave Foreman acquired the *Earth First!* Bookstore and renamed it Dave

Foreman's Wilderness Bookshelf. Books advertised in the November *Earth First! Journal* as well as new titles, maps, and some trinkets are available from the Bookshelf. Dave will distribute a catalog two or three times a year. If you do not receive a copy of the first issue by mid-May and want one, send a postcard to Ned Ludd Books, POB 5141, Tucson, AZ 85703.

As to subscriptions, *Wild Earth* has eliminated the choice of first class or bulk mail that *Earth First! Journal* offered. We hope to mail all copies of the magazine relatively speedily by obtaining a second-class mail permit.

To simplify record keeping, we have entered all new subscriptions received prior to the first issue as having a January 1992 expiration date, no matter when the check arrived. The fourth and final issue of the first volume will be mailed well before the end of January.

If the expiration date of an *Earth First! Journal* subscription that you passed on to us is January, February, or March, 1991, you need to resubscribe to receive our second issue. The third issue will automatically go to subscribers with expiration dates of July or later; the cutoff for the fourth issue will be October. That said, early renewals are welcome.

One final, practical note: we need a logo. We welcome submissions of possible designs and hope to be able to choose a logo from among them before publication of the second issue in June. The creator of the winning design will receive a lifetime subscription to *Wild Earth*.

—*Mary Byrd Davis, Publisher*

Is there some reason that the energy of this movement must be siphoned off into "left" vs. "right" debates that don't have any meaning for any species but our own? Whose interests would such a diversion really serve? Is it that what we have been proposing is so new and so scary that it must be sidetracked at any cost? These are questions that have been bothering me.

Should we abandon the protection of other species until all human problems have been solved? Perhaps. Many groups are now doing just that.

The concept of what comes "First!" is essential. And so is the issue of Compromise. And the purpose of the endeavor is Defense. Intentional, determined, inventive, creative, relentless, systematic and effective Defense. The Earth needs this kind of defense. It needs defense from us, from our species. And it needs defenders; it needs defenders who realize that we must make no further "compromise" in our own favor.

We are in the process of evolving (if we have enough time) a new way of thinking about things. Obviously that is difficult, but it is the most important thing we can do. The other most important thing we can do is to spread the word. We need to get as many people as possible off the couch, and into action. Whatever action they can think up.

We are the legatees of a wonderful movement, started by some very visionary and brave people, who saw what our species is doing to this place, and were willing to do whatever it takes to stop it.

10 years have passed. More people have become involved on behalf of the other folks (the non-humans, etc.) who live here with us. We have now been offered a challenge: do we do what we set out to do, or do we do what most (human) people want us to do? Are we going to be reasonable, or are we going to change the way our species lives? Do we want to spend our time being self-consciously "radical," or do we actually want to change things? I say we change things.

—Margaret Hays Young

Wild Earth readers:

I am an attorney in Santa Fe, New Mexico who would like to do more to support you. I would like to provide you with a discount on my legal fees and also donate a portion of my legal fees from your cases to the new *Wild Earth* publication and other eco-warrior causes—like the Arizona Four Defense Fund.

continued next page

My reasons for this proposal: I was unable to work for more than two years because of a car accident so I had time for reflecting. One thing that was clear was that I needed to do more for the environment. There were many options, but I decided that I should continue to be an attorney and use my abilities to help other people with similar environmental viewpoints. I tried to get together with some of the attorneys in my area who do environmental work but there are either too many attorneys or not enough work. In any event, my expertise is not in environmental law. My expertise can best help environmentalists who have car accidents, custody disputes, get ripped off by repairmen, buy and sell land, etc.

I also realized that the new agers, environmentalists, and other "hip" people I knew who had legal problems went to the nearest big law firm and hired the same attorneys that Maxxam and Exxon use. I never asked those people why they chose those attorneys, it would have been too awkward, but I think it probably has to do with them not realizing who they were hiring and not knowing there were attorneys who shared their beliefs on how the world should be. The consequence is that the attorneys like me end up with mostly mainstream people for clients.

So that was how/why I thought up this proposal. Then I tried to think of a way to let people know about it. I do not want people to think it is a marketing scheme. I would not want to be compared to Working Assets. They make millions off their "socially responsible" credit cards and donate pennies to causes that meet their criteria. I also think legal ads leave the connotation that the advertising attorney is either a low quality attorney or processes cases like a business. John Davis suggested that I write this letter (a shorter version of the letter I originally sent him). If you are interested in having legal work done in my area, call me, and mention this letter. AND DON'T GIVE UP THE FIGHT.

—Barry Green, 150 Washington Ave, Suite 300, Santa Fe, NM 87501; 505-986-5491

John,

Some ideas for articles occur to me: just finished reading Virginia EF!'s wilderness proposal for the George Washington National Forest ... in it they do a great job of outlining the theory of Reserve-Corridor-Island for wilderness restoration. My thought was that this is the heart of the whole PAW [Preserve Appalachian Wilderness] vision and it is absolutely wrong. It

accepts the picture of the entire Eastern landscape dominated by human industrial development crisscrossed by web-like filaments of wilderness with here and there a largish clump of natural reserve. Regardless of how widespread the connections are in this web, it seems to me that the evolutionary resilience of such a system is tenuous. Maybe we should take a completely anthropocentric stance here and start envisioning a system of human refugia ... islands and connecting corridors for homo sapien migration ... in a landscape dominated by wilderness. I'm going to develop this tongue-in-cheek idea along the lines of a standard PAW wilderness proposal. If nothing else, it might serve to refocus our eyes to the real goal. The bastards wear you down so relentlessly that even our most radical visions grow more and more modest and watery.

Another idea grows out of an increasing frustration with the role of nonviolence in the environmental movement. I want to focus on the Kenyan policy in their refuges of shooting poachers on sight and why, if this practice seems generally well accepted by mainstream groups in the Western World, we shouldn't implement it here in the US. Wouldn't it be racist to condone this policy in black Africa (instituted by a white game manager named Leakey) and not accept it against white poachers in America? Lord knows we don't want to appear to be racist, elitist wilderness buffs.

At some point I'd like to describe some thoughts that run back to a statement Paul Watson makes: no movement can succeed without a genuine spiritual grounding. The problem I see—at least with myself—is that we live day in and day out as a part of an industrial culture. And I think it's true that the inner life, the spirit, is nothing more than the sum of one's day in day out mode of living. I guess that's why I always feel uncomfortable with those hokey rituals surrounding deep ecology gatherings. They strike me as phantasmagoric, desperate illusions that we try to superimpose over our reality. We can't make up a true ritual, and we can't invent a spiritual connection to the natural world. Those things arise out of the very ordinary, moment by moment, grubby little things we do to stay alive.

—Gary Burnham, New York

John,

I've had a little more time to ponder your Wild Earth proposal and have some more comments:

In looking back at titles, I most like the description on the very first line: Wild Earth—the Biocentric Wilderness Journal.

Regarding the goal of drawing in the educated-but-not-yet-activists, it might be good to talk to the Walden Earth Net folks. Also, it has always been a philosophy of mine that what is good and noble about humanity are those things which are not ecologically destructive, like art, literature, philosophy, theatre, (ok, law too). People in these fields are generally academic, thoughtful, intelligent, and probably could be an Ent-like force of powerful movers and shakers if they were intellectually provoked. You may want to try tying some of these things in, for example in your Wilderness Definitions issue. What about including the perspectives of a landscape painter or photographer or a cinematographer (I'm told it's near impossible to shoot "wilderness" movies as there are always power lines or something in view, planes overhead, etc.); or a philosopher or historian (a Victorian lady's "wilderness" was her walled city garden which was the only place she could—literally and figuratively—let her hair down). There are some interesting ties between these fields and conservation biology. For example, one of the ways Bob Leverett finds old growth in New England is by searching old diaries, history books, and paintings to find areas which were referred to as being wooded while most of New England was clearcut—then he tries to find those same trees on the ground today. Getting back to Walden, many folks around Walden Pond are trying to both save the site as a symbol and adapt Thoreau's philosophies to broader areas (I prefer Emerson but who's to quibble). Surely you don't want this stuff to be your main angle of approach, but I've always thought that the whole academic community needs to be shown how those philosophies tie in to actual on-the-ground effects. Can you imagine the yuppie heroism of a romantics literature professor who discovers s/he can actually save Walden Pond? Rope 'em in!

—Cindy Hill, Northampton, MA

Wild Earth,

On the biodiversity beat ... it might be worthwhile to run some articles on species that are *invading* as well as those disappearing. For instance, the Zebra Mussel (*Dreissena polymorpha*) a native of the Black and Caspian Seas, arrived in the Great Lakes in the late 1980s. The inch long crustacean is spreading rapidly, displacing native filter feeders and, like

mussels anywhere, building up on subsurface surfaces. One town was forced to clean out its water intakes in an infested lake and install an electric protection system to prevent further blockages. Nationally, revenue loss and clean-up of such problems "could reach billions." As with other stowaways (including European Flounder, Spiny Water Fleas, and Chinese Mitten Crabs) the mussels got here in ballast water from ocean-going merchant ships. Ships are now required to exchange ballast in mid-ocean, but the damage is done if these species can't be controlled.

—Brian Carter, New Hampshire

Dear Editor:

Salutations and congrats on gettin Wild Earth off the ground (get it?)! Me and Rip Crenshaw was sittin round wondering when you fellers was gonna git the rag out on the streets. Bout time we had somethin betta to read than the St. Clair County Picayune Farmer's Daily!

Lots to yell-a-bout down here in the Heart of Dixie: them corporate fellers over at the Chamber of Commerce keep persuadin the state that Alabama's rivers are really nothin but sewer pipes in disguise; them ADEM's (Alabama Dept. of Environmental misManagement) still believe that Dixie stands for Destroy, Incinerate, eXterminate (the) Intrastate Environment; dead porpoises are washing up on Alabama's beaches; them poor fishes down in Mississippi keep gettin killed by this here dioxin stuff; foreign Korean guys are building somethin called "chipper mills" in Tennessee and north Alabama—Rip says, "there goes the hard woods"; the B'ham zoo turns out to be nothin but a prison camp for them poor animals they got (Rip calls it "Stalag Zooham"); and them developers keep puttin them ugly, god-forsaken malls on every available square foot of land they can find! Ain't there no end to the eco-blues?

Well, me and Crenshaw hopes this here journal is stimulatin and excitin ... gotta get folks off their duff and into action! No more sittin round the camp fire wonderin what to do. Time's a'wastin! Y'all get busy out there in America!

And remember, iffin y'all ever decide to come visit for a spell down here at the Rustic Society International Headquarters, bring your own grits and beer cause this ain't no charity and we ain't caterin to no bums who caint pull their own weight. Dixie's got nuff problems without a influx of foot draggers and crystal huggin space cadets who still think Also Leopold was

one of them post-modern cubist artists from Paris or somethin.

Bye now,
Pete Jones

[ed. note: *Pete Jones is the founder of the Alabama Rustic Society, a (loose) group of irregulars who actively seek to return the state of Alabama to its original ecologic condition; i.e., the way it was in, say, 1600. In 1990, Pete ran for "guvner" of Alabama on the Rustic Party platform. He was narrowly defeated by the Republican, Guy Hunt. He is considering a race for the White House ... and he truly means a race: beginning on the coast of Oregon and sprinting all the way to DC, accompanied by fans, media, and Green stars.*]

Dear Editor:

Since predictions concerning the effects of the known mining of Kuwaiti oil wells by Saddam Hussein were discussed on the widely viewed CBS program "Sixty Minutes" prior to the initiation of the war in the Persian Gulf, there can be little doubt that the Bush administration recognized the inevitability of the use of oil as a weapon in the impending conflict. One may only conclude that this eventuality was regarded as an acceptable assault on an environment already severely compromised by the process of oil production and conveniently distant from US shores.

Though government censorship of the press by both the US and Iraq makes it impossible to know the toll of the war in Iraqi lives, we are expected to be reassured that the immediate cost in US casualties was far less than had been feared. Meanwhile, the Persian Gulf is awash in oiled sea life, carcinogenic smoke rises from 500 burning oil wells, and a greasy rain has begun to fall hundreds of miles from the battle zone.

The fact that we will never want for government-funded scientists to deny the environmental catastrophe we have unleashed will not diminish the climate changes in the Middle East, nor will it lessen the acid rainfall worldwide and the effects of global warming.

While much of the nation celebrates "victory," those of us who believe this war and this catastrophe were preventable must deeply grieve. And we must resolve that violence to the Earth shall cease.

—Joan F. Byrd, Cullowhee, NC

Friends,

It's time to demand a change from our government officials. It's time to force environmental advocacy at all levels of

government. Dr. Noel J. Brown of the United Nations Environmental Programme says, "We are talking about a ten-year window—some 4000 days—to turn the tide against environmental abuse. Consequently, we must rally all the forces of the Earth in order to save the Earth, and ourselves in it."

How do we begin this monumental task? I believe education is the key. In America we must raise the consciousness of voters and help them realize that the environment is the most pressing issue. We have to make the American electorate vote for the environment. To further this task of educating American voters, I submit the following proposal.

I propose running Mother Earth for president in the 1992 elections. Sound crazy? Well, these are crazy times and I seriously believe this concept has the potential of capturing the imagination of Americans and forcing environmental advocacy in the coming elections.

First, we put out the word that Mother Earth is running for President. From Econet to the print media, from radio releases to advertising, we spread the word about Mother Earth's candidacy. Then we go on the campaign trail. We set up a tour of Mother Earth for President Campaign Concerts and Rallies. These performances would correspond with the 1992 presidential primaries.

Our message would be clear: vote for the candidate who is best for the Earth. By following the campaign trail we will gain a healthy profile in the national press. If done humorously and with style our message could be broadcast across the nation with the election coverage.

I ask for your help making this idea a reality. A concert tour and promotional concept of this magnitude will require a dedicated team working long hours, start up money, and extensive networks of people. Please let me know your thoughts on this matter. I am setting up a non-profit organization. If you have contacts who might help with money or information, please get in touch with me.

—Scotty Johnson, Campaign Manager, Mother Earth for President, 707 S. 2nd Ave, Tucson, AZ 85701



BIODIVERSITY REPORTS

HELP SAVE WORLD'S OLDEST RAINFOREST TREES

Recent investigations have shown that the oldest rainforest on Earth exists in the southern Andes near the town of Puerto Montt. The world's southernmost temperate rainforest, it covers the width of Chile at the country's narrowest for 50 kilometers and is mostly unexplored.

Over the past three years, Ancient Forest International has introduced over 250 people to this unique Chilean ecosystem. At \$14 an acre, it should come as no surprise that the pristine forest is now at the mouth of the multinational timber beast.

The misty fjordal region of the southern Andes is the only home of the giant Alerce, the "Redwood of the Andes." A Chilean botanist working with CODEFF, "Chile's Sierra Club," recently determined the Alerce to be the oldest forest tree on Earth—older than the Giant Sequoia and second only to the Bristlecone Pine.

As a relict conifer, the Alerce is a rarity in a hemisphere where evolution long ago led to the dominance of broad-leaved tree species. This past February, Chilean and US scientists and conservationists undertook studies which showed that the trees of one of the last Alerce forests, near the Hornopiren Volcano south of Puerto Montt, averaged nearly 2000 years old. This probably qualifies as not only the oldest rainforest, but the oldest forest, period!

A North American deep ecologist and wilderness benefactor from San Francisco who met the Alerce for the first time this past winter (full account next issue) was sufficiently impressed to make a multi-million dollar matching grant pledge toward preservation of a half-million acre granite, glacier, fjordal, and cathedral forest wilderness. The ecosystem is imminently threatened by pulp interests—one of which has placed a bid on the forest. The Chilean government, in what may make conservation history, is presently favoring the preservation bid over that of the exploiters.

AFI is seeking funds both in Chile and abroad to help create an Ancient Forest Park. Funds will be held in trust by an internationally-directed Chilean foundation. To help preserve the Alerce—an inspirational reminder of our commitment to help Gaia keep her best secrets—please send tax-deductible donations to AFI, POB 1850, Redway, CA 95560.

—Rick Klein, AFI

KALMIOPSIS UNDER SIEGE AGAIN

The South Kalmiopsis Roadless Area is being threatened by two US Forest Service (FS) timber sales. The FS would like to cut over 1000 acres, build 11 miles of new road, and reconstruct over 45 miles of jeep trail into this magical wildland. The Hungry Two and Canyon timber sales would effectively transform one of southern Oregon's few de facto wilderness areas into just another forestry embarrassment.

This region of the South and Central Kalmiopsis is largely composed of serpentine soils, producing a scrubby, seemingly barren, sparsely wooded landscape. The effects could be devastating if the few stands of thick forest in this area are logged. Siltation rates would rise sharply, and direct sun exposure would raise stream temperatures, adversely affecting Cut-throat Trout and Steelhead in Canyon and Josephine Creeks.

WHAT YOU CAN DO: 1) Write to District Ranger Dennis Holthus, Illinois Valley Ranger District, 26568 Redwood Hwy, Cave Junction, OR 97523, and urge him to drop the Hungry Two and Canyon timber sales. Tell him wilderness is more important than timber industry subsidies. 2) Hike the South Kalmiopsis and get to know this magical place; spread the word, and consider direct action.

—Bob Bobiglianni

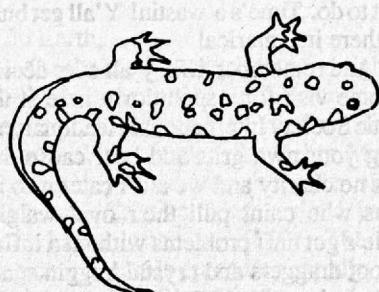
NMFS FAILS TO STOP CLUBBING OF MONK SEALS

The continued existence of the Hawaiian Monk Seal is being severely threatened by commercial longline fishing in the Northwest Hawaiian Islands. This is, unquestionably, a violation of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) which commands immediate suspension of all longline fishing in areas where monk seals may be effected.

On 7 February 1991, the National Marine Fisheries Service (NMFS) Regional Director, E.C. Fullerton, received a directive from John Twiss Jr., Executive Director of the Marine Mammal Commission, who stated that "What is needed is an area closure sufficient in size to ensure that no more monk seals are taken incidental to the fishery." Twiss also stated that "even if observers were placed on a high percentage of vessels in the [longline] fishery, this would not prevent incidental takes from occurring, it would only provide better information on the extent of the problem.... this is an issue of pressing and critical importance."

Fullerton responded, impotently, on February 8 by requiring NMFS observers on all longline vessels intending to fish within 50 miles of "certain Northwestern Hawaiian Islands." Ignoring Mr. Twiss's wise counsel, Fullerton called for a public hearing, scheduled for February 26, in Honolulu, "to obtain information and views from fishermen, government agencies, and the public on the need for additional measures to protect monk seals ..."

Sea Shepherd Hawaii is outraged by Mr. Fullerton's obvious reluctance to carry out the urgent recommendations made by Mr. Twiss and the Marine Mammal Commission. Only about 1200 Hawaiian Monk Seals are thought to exist in the world. Ten of these endemic Hawaiian seals (they live



no where else) have recently been seen with hook and club injuries, resulting from interactions with longline fishermen. As most seal pups are born between March and June, the injured seals could have been pregnant females. Because the reproduction rate of monk seals is considered to be low, compared with other species of seals and sea lions, it is especially important to insure that no seals are harmed at this time of the year.

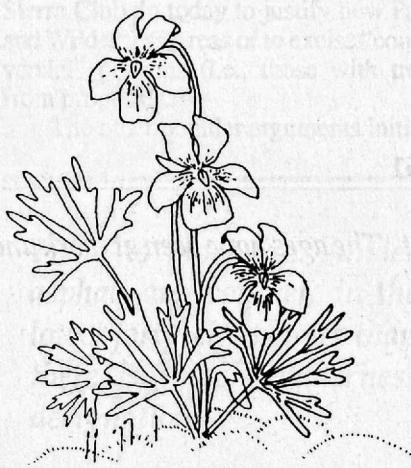
The attention and fury of Hawaii's people is called for, in taking note of yet another example of the NMFS failing to protect critically endangered marine mammals. There can be no excuse for NMFS failure to suspend longline fishing in monk seal habitat, though it is not at all surprising, considering the fundamental conflict of interest that exists when bureaucrats committed to commerce are entrusted with protection of wildlife. Environmentally suicidal policies will prevail as long as responsibility for enforcement of the Marine Mammal Protection Act and Endangered Species Act [for marine species] is left under the jurisdiction of the US Department of Commerce (DOC), NMFS's parent organization. [ESA enforcement responsibility for land species resides with the US Fish & Wildlife Service's parent, the Department of Interior; for marine species, with DOC.]

Sea Shepherd Hawaii is currently involved in litigation resulting from another obvious example of DOC's and NMFS's commercially motivated perversion of the MMPA. In January 1991, I was initially found guilty and fined \$6000, by a DOC judge, for an unsubstantiated, technical distance violation, involving two whales that swam near a boat I was driving, two years ago. The case was tried with obvious prejudice by DOC, and with maximum mis-reporting, even censorship, by the local mainstream media.

During the same period, I proved, with 19 sequential photographs and much additional evidence, that the Pacific Whale Foundation (PWF) boat, *Lady Anne*, flagrantly violated the law in a reckless approach, estimated at a speed of about 20 knots. The PWF tour boat not only harassed, but actually endangered, ten Humpback Whales who had been interacting closely at the surface. The *Lady Anne* case was only minimally investigated, and never prosecuted.

As a result of these and countless other, consistently uninspired enforcement practices by DOC/NMFS, Sea Shepherd Hawaii calls on Hawaii's elected state and

federal officials to initiate the process of divesting DOC/NMFS of the mis-entrusted responsibility of enforcing the Marine Mammal Protection Act and the Endangered Species Act.



Uncompromising enforcement of these laws must be delegated to a separate agency, under the immediate supervision of the Marine Mammal Commission. Until this is done, the sanctity of life in the ocean will never be adequately defended from those who will, otherwise, continue to exploit the Earth's delicate marine environment.

For information about what you can do to protect Hawaiian Monk Seals, and other endangered marine life, call or write Paul von Hartmann, Director, Sea Shepherd Hawaii, POB 623, Kula, Maui Hawaii 96970; 808-878-3630. To receive Sea Shepherd's quarterly newsletter, send a check for \$25 made out to Sea Shepherd Hawaii.

—Paul von Hartmann

PUBLISHER PLOTS WASTING OF WALDEN

Henry David Thoreau, the 19th century New England naturalist and proponent of the simple life, is rolling in his grave.

Walden Pond and the surrounding woods, where Thoreau lived and was inspired to write *Walden*, faces a dire threat. Walden Woods, located less than 30 miles from Boston, is at the center of a debate between publisher and developer Mortimer Zuckerman and a coalition of environmentalists. Zuckerman, owner of *US News & World Report* and *The Atlantic* magazine, plans to build an office park on the 18.5 acres of Walden Woods he owns.

The Walden Woods Project, a local group of conservationists and celebrities headed by singer Don Henly, is attempting to preserve the 40% of Walden Woods that remains unprotected. The 2680 acres comprising Walden Woods is a combination of protected state lands and private interest lands. Many of the private landholders have indicated that they will restrict development on their sites if Zuckerman's project is stopped. The Project has already halted a condominium development in another part of the woods, by buying 25 acres from Philip DeNormandie for \$3.5 million.

The Walden Woods Project has offered to buy Zuckerman's land for its appraised value—estimated at \$1–3 million—but Zuckerman has steadfastly refused to sell for anything less than the purchase price of the land plus incurred legal, architectural, planning and tax costs: a total of \$7.4 million. According to Walden Project director Kathi Anderson, Zuckerman is trying to force the charity to "bail him out of a bad business deal."

Walden Woods has already been blighted by a trailer park, a landfill and a major highway, which border the site on three sides. However, Walden conservationists are looking to the future. The trailer park is being phased out as tenants move, and the landfill is slated to be replaced within a decade. The hope is that "100 years from now, Rt. 2 won't be there either," said Thomas Blanding, initiator of the Walden Pond conservation effort.

The value of Walden Woods lies also in its symbolic importance, say local activists. "If Walden Pond is lost to development, we can safely say that the forces of greed and shortsightedness have nailed one of the final spikes into the coffin of Eastern wilderness," said a recent statement of a Boston area conservation coalition.

"They can make whatever argument they want, but this is a free country ..." said Zuckerman. "I prefer to concentrate on what I call 'the built environment.'"

If you'd like Thoreau's wilderness inspiration to remain undeveloped, tell Mortimer Zuckerman how you feel. Offer to cancel your subscription to *US News & World Report* and *The Atlantic* until he honors the wilderness and Thoreau's memory by selling his Walden Woods land to the Walden Woods Project for its appraised value, or better yet, donating it. Write today: Mortimer Zuckerman, c/o Ed Linde, Boston Properties, 8 Arlington St, Boston, MA 02116.

—Joseph Carmichael

Dreaming Big Wilderness

by Dave Foreman

All good things are wild, and free.

— Henry David Thoreau, 1851

Leave it as it is. You cannot improve on it. The ages have been at work and man can only mar it.

— Theodore Roosevelt

Sorry, Teddy; I cannot. Space does not permit.

Notwithstanding Roosevelt's words, "Dreaming Big Wilderness" below is only a part of the chapter of the same name in Dave Foreman's new book Confessions of an Eco-Warrior. The selection is roughly the last half of chapter 17. Confessions, a powerful book that all literate people should read, is available from Ned Ludd Books.

— John Davis, 1991

I have no desire to be the skunk at the garden party. I am glad for every acre placed off-limits to management by chainsaw, drill bit and bulldozer. The oaken hills of Ishi; the dripping giant forest of Olympic; the hungry hardwoods of Cranberry gobbling up old logging trails; the knife-edge divide of the Weminuche slicing fat, black bellies of thunderclouds; Sandhill Cranes flying dimly through an August snowstorm in Denali; the transition of Saguaro to Corkbark Fir going up Pusch Ridge; the Baldcypress swamps of Okefenokee; Elk bugling in the Gros Ventre; the surprise of a Cottonmouth in the Big Slough; the churning whitewater in the River of No Return a mile below the highlands; the wheeling of ravens in the surreal Bisti badlands—I know all of these, and I am thankful to the dedicated gang of wilderness fanatics who labored in the trenches for each of these Wilderness Areas.

Nonetheless, let us not fool ourselves. There is more land under asphalt and concrete in the lower forty-eight states than there is under Wilderness designation. Of the 90 million acres in the National Wilderness Preservation System, only 34 million are outside of Alaska. For every acre in the lower forty-eight we have protected since 1964, at least an acre of equally natu-

ral land has been lost to clearcuts and roads. In the National Forests, for every acre designated as Wilderness, almost three acres have been "released" to potential development. In our heart of wilderness, Yellowstone National Park, a Grizzly population that was healthy in 1964 now teeters above the precipice of extinction. The offspring of California Condors who flew free over the Sespe twenty-five years ago today blink against automobile exhaust behind bars. On the eve of the Wilderness Act, the National Forests of the West supported extensive old-growth forests. In 1989 those forests are shattered, bleeding ruins, with the scattered remnants nearly unable to function as intact ecosystems.

In the quarter century since the passage of the Wilderness Act, conservationists have waged a struggle to preserve a portion of the remaining wildlands in the United States. Wilderness preservation groups have not asked for protection of all roadless or undeveloped areas even though these lands amount to only 8 percent of the total land area of the United States outside of Alaska. Even for the areas discussed above—Wild & Scenic Rivers, additional Western National Forest roadless areas, Eastern NF roadless areas, BLM roadless areas, and new Parks and Refuges in Alaska—compromise quickly weakened

the original vision. In the Forest Service's second Roadless Area Review and Evaluation (RARE II) in 1978, the Sierra Club, Wilderness Society and their allies asked only that 35 million of 80 million roadless acres on the National Forests be protected. It has been a similar story with the holdings of the Bureau of Land Management studied for possible Wilderness recommendation; and although the Alaska National Interest Lands Conservation Act stands as the outstanding conservation achievement of the 1970s, even in Alaska environmental groups never considered proposing that development be frozen and that all of the state's wildlands remain undeveloped.

It has been taken for granted that the implacable forces of industrialization will continue to conquer the wilderness. Environmentalists, as reasonable advocates within the mainstream of modern society, have gone out of their way to appear moderate and willing to compromise. We have acquiesced in the clearcutting of ancient forests, in massive road-building schemes on our public lands, in mineral and energy extraction in pristine areas, and in the destruction of "problem bears." We have accepted that some wildlands will be—and should be—developed. We have merely asked that some of these—generally the scenic ones—be spared.

With few exceptions, dreams have been replaced with political pragmatism. "We live in a world of decisions," we are told, "and we must be ready to deal with the people who make decisions." Vision has fallen by the wayside as we have become mired in the "political quag" John Muir dreaded. Meek reaction to bureaucratic initiatives has come to the fore.

In short, wilderness conservationists have lacked a comprehensive vision since the passage of the Wilderness Act. In most cases, we have simply responded to agency programs. We've fought brushfires but have failed to articulate and campaign for a representative National Wilderness Preservation System worthy of the name. We have accepted the dominant social paradigm, the inevitability of continued industrialization and development of open spaces. We have had no dream for such noble but vanishing species as the California Condor, the Grizzly Bear, the Gray Wolf. We try to hang on to their diminish-

ing habitats, their puny populations as museum pieces, but not as growing, vigorous, living parts of the functioning world.

If the Wilderness System is to be anything more than a museum offering a tantalizing glimpse of a bygone North America, if it is to be more than an outdoor gymnasium and art gallery, if it is to preserve representative samples of dynamically evolving natural ecosystems, we must have an inspirational objective instead of obsequiously accepting what crumbs are tossed to us by Louisiana-Pacific, the Forest Service, Senator Mark Hatfield and Exxon. Conservationists must lead, instead of politely responding. We must ask deeper questions of our nation: Is 2 percent of the 48 states adequate for our National Wilderness Preservation System? Are twenty-five condors sufficient? Six hundred Grizzly Bears? A few minuscule remnants of the old-growth cathedral forests of Oregon?

Have we logged too much virgin forest? Have we built too many roads? Have we dammed too many rivers? Have we driven the Griz, the Gray Wolf, the Cougar, the Bighorn, the Bison from too many places? Have we drained too many wetlands? Were the extinctions of the Passenger Pigeon, the Sea Mink, and Heath Hen, and the plowing of the Great Plains all monstrous mistakes?

Are not Wilderness Areas the world of life: vibrant ecosystems where natural processes still reign and evolution runs its course?

If we fail to ask these deeper questions of the nation, if we neglect to proclaim a magnificent and noble dream as did Martin Luther King Jr., then the wilderness crusade is lost. Remnants of the wild, with truncated floras and faunas, will haunt future generations as the shadows of what once was real.

From the beginning, preservationists have ducked the hard questions. We have deftly avoided admitting our real reasons for wilderness preservation. In championing National Parks and Wilderness Areas, we have allowed ourselves to become trammeled in the values of Babbitt. The original advocates of National Parks—those promoting Yosemite and Yellowstone—wanted to preserve not natural diversity, not wilderness, but simply spectacle, the curiosities of nature. Alfred Runte, in his book *National Parks: The American Experience*, terms their reasoning “monumentalism.” Proponents of the Parks also used the argument of “worthless lands.” Our nation could afford to set aside

Yellowstone Park, they said, because it was unsuited for agriculture. Moreover, any minerals were buried out of reach beneath lava. Even preservationists like John Muir frequently fell back on monumentalism and worthless lands, just as lobbyists for the Sierra Club do today to justify new Parks and Wilderness Areas or to excise “controversial” portions (i.e., those with trees) from proposals.

The other popular arguments initially

There is more land under asphalt and concrete in the lower forty-eight states than there is under Wilderness designation.

used for preservation were based on utilitarian and primitive recreational values. One hundred years ago, the state of New York set aside state lands in the Adirondacks as “forever wild” not for the inherent goodness of wildness but to protect the watershed for booming New York City. The first Primitive Areas on the National Forests were established in reaction to Henry Ford’s pervasive machine—foresters who had grown up with pack saddles and diamond hitches were loath to see those pioneer skills lost. Since then, champions of wilderness have emphasized the values offered human beings, watershed protection and primitive outdoor recreation being the two most commonly cited.

This is why we end up with biologically impoverished lands above timberline in our preserves, why the new Parks in Alaska (“Where we have our last great chance to do it right from the beginning” as the Alaska Coalition proclaimed) came out as gerrymandered by commercial interests as their siblings in the lower forty-eight. When you say you only want worthless lands, you get worthless lands. Monumental, yes. Scenic, indeed. Even breathtaking. But not the rich, virile areas needed by sensitive species. Yellowstone National Park, as spellbinding as it is, cannot stand on its own as an ecosystem.

* A rough calculation reveals that only 4% of the units of the National Wilderness Preservation System are 500,000 acres or larger while 34% are under 10,000 acres in size. 500,000 acres is equivalent to a square 27 miles on the side; 10,000 acres is equivalent to a square less than 4 miles on the side. The center of most Wilderness Areas is not more than 3 miles as the raven flies from the boundary, and the farthest point from a road in the lower 48 states is a mere 21 miles.

Its boundaries were drawn not by nature but by politicians who kowtowed to the dollar. There is a reason why even the smoking guns of Montana meat hunters cannot convince the Bison herd to stay in the Park. Bison can’t eat scenery or geysers. The unspectacular private lands north of Yellowstone, now used as cattle ranches, are their necessary winter range—as they have been for millennia.

Real Wilderness is far different from that which forms our current National Wilderness Preservation System. Most areas in the System are small enough to cross on foot in a day,* and almost all have lost important members of their original fauna. To Aldo Leopold, a wilderness was an area large enough for a two-week pack-trip without crossing your own tracks. To Grizzly Bear cinematographer Doug Peacock, an area is wilderness if it contains something bigger and meaner than you—something that can kill you. Lois Crisler wrote in *Arctic Wild*, “Wilderness without animals is dead—dead scenery. Animals without wilderness are a closed book.”

Thoughtful biologists and conservationists have come to understand in the last twenty-five years that the destruction of Earth’s natural diversity is caused not by the mere excesses of industrial civilization but by the inherent attributes of that society—overconsumption, overpopulation, and our notion of mastery over nature. They now realize that designated Wilderness Areas and National Parks cannot survive as effective sanctuaries if they remain island ecosystems, that habitat islands in a sea of development will lose key species (those that require larger territories to maintain sustainable breeding populations). They have sadly acknowledged that outside impacts, like acid precipitation, other forms of air pollution, and toxic and radioactive contamination, can devastate the natural integrity of protected areas, that no preserve is immune from the fouling of Earth’s air, water and soil by industrialism. And, with horror, they are beginning to recognize that global impacts such as the greenhouse effect and depletion of the atmospheric ozone layer will play havoc with all ecosystems worldwide including those in sanctuaries. Minor reform of our economic system and better stewardship

continued next page

will not safeguard the incredible diversity of life hatched by nearly four billion years of evolution. The long-term protection of natural diversity and the processes that sustain it will require fundamental changes in the role we humans play on our planet.

A vital part of grappling with these formidable problems is to envision and promote a National Wilderness Preservation System in the United States that is truly national, representative and that preserves native diversity. By clearly stating a dream of ecological wilderness and campaigning for it in the national arena we would come much closer to safeguarding real wilderness than we would if we continued to fight only for the traditional backpacking parks, open-air zoos and scenic preserves. Another benefit of such a program is that the very process of proposing and working for ecological wilderness may be the most effective means of redefining the role of humankind in nature; it may be the best way to bring about the change of consciousness that will, in Aldo Leopold's words, transform "the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it." Such a reformation of our role would enable us to transform our glutinous lifestyle which causes acid rain, the greenhouse effect and depletion of the ozone layer. And if the materialistic society of the United States can find the humility to establish substantial nature preserves, we will at last set an example for other nations, particularly those in tropical regions where native diversity is especially abundant and imperiled. How can we lecture Brazil to cease the destruction of the Amazonian rainforest while we shred the library of ecological richness found in the ancient forests of the Pacific Northwest? How dare we enjoin starving tribespeople of East Africa from slaughtering the great herds, when we cannot find the generosity to give the Bison, Gray Wolf and Grizzly the range they need?

Constructing a meaningful but politically possible National Wilderness Preservation System requires us to carefully outline our goal and the steps to achieve it. I offer the following as a blueprint.

Draw the line on what is now wild. Not one more acre of old-growth or substantially natural forest should be cut. Not one more mile of new road bladed into a roadless area. Not one more Grizzly Bear murdered in Yellowstone. Not one more free-flowing river dammed. Too much has already been lost.

Recover native ecosystems. In many cases, to recover native ecosystems, to re-

Treat each bear as the last bear.
Each wolf the last, each caribou.
Each track the last track.
Gone spore, gone scat.
There are no more deertrails,
no more flyways.
Treat each animal as sacred,
each minute our last.
Ghost hooves. Ghost skulls.
Death rattles and
dry bones.
Each bear walking alone
in warm night air.

—Gary Lawless, from *First Sight of Land*

introduce extirpated wildlife, and to repair damaged landscapes, all that is necessary is to close roads; cease damaging activities and leave the land alone. In others, minor hands-on restoration may be required: physically reintroducing extirpated species, removing a few developments, and performing minor watershed rehabilitation. Some areas will require more expensive, long-term and active management to be returned to a state of natural wilderness. These areas should be designated as Wilderness Recovery Areas, with more intensive rehabilitation work allowed, until wilderness is restored.

Restore large ecological wilderness preserves east of the Rockies.

✓ A 10- to 20-million-acre Great Plains National Park with free-roaming Bison, Elk, Pronghorn, Grizzly and Gray Wolf.

✓ A 5-million-acre North Woods International Preserve around the Boundary Waters Wilderness in Minnesota and Quetico Provincial Park in Ontario.

✓ A large deciduous forest Wilderness Recovery Area in the Ohio Valley with Elk, Bison, Gray Wolf and Eastern Panther.

✓ A 10-million-acre National Park in northern Maine with Gray Wolf, Lynx, Wolverine and Woodland Caribou.

✓ A 1.5-million-acre Bob Marshall Greater Wilderness in the Adirondacks of New York with Gray Wolf and Eastern Panther.

✓ A 4-million-acre Wilderness Recovery Area in the Southern Appalachians

centered around Great Smoky Mountains National Park with Eastern Panther and Elk.

✓ A 5-million-acre Everglades/Big Cypress National Park in Florida.

These core areas and smaller Wilderness Areas and Wilderness Recovery Areas should be linked to one another by undeveloped corridors. Such corridors are vital for the transmission of genetic diversity between core preserves. Without such corridors, preserves become ecological islands and populations of low density species, such as large predators, may become inbred. When it is determined that suitable habitat exists, extirpated species should be reintroduced if it appears unlikely that they will return to the area on their own. The near extinction of mature American Chestnut trees (due to an exotic disease) leaves a gaping hole in the Eastern forest. The Forest Service and National Park Service should fund a research project to develop a blight-resistant American Chestnut that could be reintroduced to its former habitat in these protected areas.

Restore major roadless areas in the West. There are currently thirty-eight areas where minor road closures would create core roadless areas of more than a million acres:

North Cascades - Washington

(3 million acres)

Olympic Mountains - Washington

(1.2 million)

Kalmiopsis/Siskiyous - Oregon,

California (2 million)
Hells Canyon/Eagle Cap - Oregon,
Idaho (1.5 million)
Selway/River of No Return - Idaho,
Montana (5.5 million)
Great Rift - Idaho (1 million)
Owyhee - Idaho, Oregon, Nevada
(8 million)
Oregon Desert - Oregon/Nevada
(3 million)
Bob Marshall - Montana (3 million)
Beartooth - Montana, Wyoming
(1.5 million)
North Absaroka - Wyoming (1 million)
Upper Yellowstone/South Absaroka -
Wyoming (2.5 million)
Tetons/SW Yellowstone - Wyoming,
Idaho (1 million)
Wind Rivers - Wyoming (1.2 million)
Red Desert - Wyoming (1 million)
Maroon Bells - Colorado (1 million)
San Juan Mountains - Colorado
(1.5 million)
Desolation Canyon - Utah (2.2 million)
High Uintas - Utah (1 million)
Canyonlands - Utah (3 million)
San Rafael/Wayne Wonderland - Utah
(1 million)
Escalante/Kaiparowits/Henry Mts. -
Utah (3 million)
Desert Game Range - Nevada
(1.5 million)
Black Rock Desert - Nevada
(2.5 million)
Smoke Creek Desert - Nevada/
California (1 million)
High Sierra - California (3 million)
Yosemite North - California (1 million)
Los Padres - California (1.5 million)
Inyo/Saline/Cottonwood - California
(2 million)
Panamint Mountains - California
(1.5 million)
Mohave Desert - California (1 million)
Bill Williams River - Arizona
(1 million)
Kofa - Arizona (1.5 million)
Cabeza Prieta - Arizona (2 million)
Galiuro/Pinaleno - Arizona (1 million)
Grand Canyon/Kaibab - Arizona
(3 million)
Gila/Black Range - New Mexico
(1.5 million)
Guadalupe Escarpment - New Mexico/
Texas (1 million)

These million-acre or more wilderness units should then become the cores for even larger wilderness complexes linked together and with smaller Wilderness Areas by wild corridors.

Reestablish native species. The Grizzly will not survive restricted to the

dwindling Yellowstone and Bob Marshall/Glacier ecosystems. Populations should be reestablished in the Gila Wilderness of New Mexico, the Blue Range of Arizona, the Weminuche/South San Juans of Colorado, the High Uintas of Utah, the Kalmiopsis of Oregon, the Marble Mountains and Siskiyous of California, the North Cascades of Washington, and Central Idaho. The Gray Wolf should be returned to these areas and others. A million and a half acres in the Los Padres National Forest northwest of Los Angeles should be totally closed to human use or entry in order to protect the California Condor after reintroduction. In suitable areas of southern New Mexico, Arizona and Texas, the Jaguar, Ocelot and Jaguarundi should be reintroduced. Big-horn Sheep, Bison, Pronghorn, River Otter, Woodland Caribou and other once widespread species should be widely propagated in former habitats.

Terminate commercial livestock grazing on the Western public lands. Only 3 percent of our nation's red meat supply comes from public land, and the government spends more on managing this private grazing than it receives in fees from the grazing permittees. Grazing has been the single most important factor in the devastation of intermountain ecosystems: the widespread decimation of bear, wolf, Mountain Lion, Elk, Pronghorn, Bighorn and Bison; destruction of native vegetation; and severe damage to watersheds and riparian systems.

Rehabilitate free-flowing rivers. Perhaps more than any other ecosystem type in the United States, rivers and riparian habitats have been abused, altered and destroyed. High priority should be given to rehabilitating free-flowing rivers, eliminating disruptive exotic fish species, and restoring native fish and other riverine species where feasible. Not only should no new dams be built, but a program should be launched to remove dams and recover free-flowing rivers.

Discard the notion of static landscape preservation. What is being preserved in Wilderness Areas is the process of evolution, of speciation, of seral changes in ecosystems. Natural landscapes should be large and diverse in order to absorb catastrophic events such as huge forest fires, insect and disease outbreaks, temporary regional extinctions, and cyclical population fluctuations. (In a large enough preserve or complex, a certain habitat may be wiped out by a stochastic event such as the 1988 Yellowstone fires, but similar habitats will continue to exist elsewhere in

other parts of the area or in other areas connected by corridors.) Wilderness proponents need to learn from conservation biologists, who in turn need to see grassroots conservation activists as their natural allies and the management of public lands as a vital opportunity.

Preserve wilderness for its own sake. Conservationists must develop a new (old) reason for wilderness, a new understanding of the place of humans in the natural world, a new appreciation for the other nations inhabiting this beautiful blue-green living planet. We should recognize that the true reason we favor Wilderness preservation is *Wilderness for its own sake*. Because it's right. Because it's the real world, the arena of evolution; because it's our home. The Gray Wolf has a claim to live for her own sake, not for any real or imagined value she may have for human beings. The Spotted Owl, the Wolverine, Brewer's Spruce, the fungal web in the forest floor have the following of their own intertwined evolutionary paths as their due. Not only should conservationists recognize that it is the inherent value of natural diversity which argues for its preservation in our hearts, *but it is also the most effective argument for preservation*; we should state that rationale forthrightly to the public. Unless we challenge our fellow humans to practice self restraint, to voluntarily share Earth with our wild fellows, the wilderness crusade is pissing in the wind.

Why does a man with a life span of seventy years think it proper to destroy a two-thousand-year-old redwood to make picnic tables? To kill one of thirty breeding female Grizzlies in the Yellowstone region because she ate one of his sheep? To rip through a five-thousand-year-old Creosote Bush on a motorized tricycle for some kind of macho thrill? To dam Glen Canyon and Hetch Hetchy for electricity and water to irrigate lawns?

Until we learn to respect these others as our equals, we will be strangers and barbarians on Earth. Wilderness, *real* wilderness, is the path home. The articulation of that truth is the vital duty of the preservation movement. We cannot achieve it by hiding behind the anthropocentric arguments of monumentalism, worthless lands, utilitarianism or primitive recreation. We can do it only by stating what we truly believe and challenging humankind with that ethical ideal.



The Impoverished Landscape

by Howie Wolke

This article is taken from Chapter 5 Part II of Howie Wolke's book *Wilderness on the Rocks* (Ned Ludd Books 1991). This book is excellent and important reading for all persons interested in natural history, conservation history, and conservation strategy.

—JD

The American wilderness today is tiny, fragmented, impoverished, and going fast. Only 700 to 900 Grizzly Bears now survive south of Canada. The great bear is gone from the central plains, the Sierra Nevada, the highlands of the Southwest, and most of the Rockies. Only in the Glacier National Park–Bob Marshall Wilderness region of northern Montana is *Ursus arctos horribilis* apparently holding its own, and even there, precariously. The Greater Yellowstone population has declined to perhaps under 200 bears, and is in grave jeopardy. Habitat destruction is again the main culprit, both within and around Yellowstone Park, but the direct killing of bears by people with guns (including park rangers) also continues to take a heavy toll.

The American Indian has been subdued. Wolves survive in viable numbers (south of Canada) only in the northern Great Lakes region, and as a tiny population in and near Montana's Glacier National Park. The Mountain Lion, similarly, has been reduced to a small fraction of its original range; the only known surviving eastern population—the Florida Panther—has been nearly obliterated, with perhaps fewer than thirty of these big cats remaining.

Three of the four great cats of the Southwest—the Jaguar, Ocelot, and Jaguarundi—are essentially gone from the mountains of Arizona, West Texas, and New Mexico. The fourth, the Mountain Lion, survives only in sharply reduced numbers in the Southwest's most remote mountains, as well as in other mountainous areas of the West (and in Canada and Central and South America). Northern predators, such as Lynx and Wolverine, are greatly reduced in number, and, except perhaps for a few Lynx in the Boundary Waters country of Minnesota, the Adirondacks of

upstate New York, and extreme northern New England, are now restricted (south of Canada) to the West's most remote mountains. The Wolverine is now extinct in over two-thirds of its former range, which was from coast to coast and from the Arctic Ocean south at least to Oregon and Pennsylvania. Only one of this country's large predators—the ubiquitous Coyote—has thrived (and even expanded its range) in the face of the insane war that has been waged against predators and their habitat since the first white settlers arrived. America's carnivorous animals have been shot, bombed, poisoned, trapped, gassed, and crowded out of existence.

The American Bison no longer roams free across the prairies; it no longer survives in eastern forests nor in most of the high Rockies where formerly it grazed. Free-ranging Bison now survive only in small remnant herds of a few thousand or less, mostly in Yellowstone National Park. The mass extermination of the Buffalo is one of civilization's most horrible legacies: settlers, market hunters, and the US Army reduced the Bison to an estimated 300 animals by 1894.

Perhaps a half million Pronghorn—from an estimated 40 million or more during pre-Columbian times—remain as widely scattered herds on the intermountain steppes and the western plains. The Eastern and Merriam's Elk are gone forever; only the Rocky Mountain and Roosevelt Elk subspecies still prosper, in the high Rockies and along the Northwest coast, respectively. (The Merriam's Elk was the native subspecies of the southwestern highlands.)

The great American prairie, once one of the world's most productive habitats for large mammals (probably second only to Africa's Serengeti) is now a mere mem-

ory. Although pockets of native grassland survive (mostly in the western plains), domestic cattle—derived from wild African and Eurasian stock—now graze the fenced-in pastures. Only about 1% of our native prairie vegetation survives in an unaltered state. Gone are the Elk, the Grizzly, the wild Indian, the Bison, the Plains Wolf, and the predator-prey drama that made the prairie a unique and tangled web of interacting organisms. Where rolling grasslands once flourished beneath the clear prairie sky, rectangular and circular patches of wheat, barley, corn, soybeans, marijuana, and other cash crops (amber waves of grain) now span the landscape beneath the haze and pollution of America's heartland. The cycle of growth, death, and decomposition accelerated by periodic wildfire has been replaced by fertilizer, pesticide, electronic irrigation, and fume-belching tractor and combine. Gone are the free-flowing prairie rivers, their living currents and rich floodplains now inundated behind massive walls of concrete. Drained are the ponds and marshes of the central and northern plains, where waterfowl gathered in profusion.

The Woodland Caribou is nearly extinct south of Canada. (A remnant herd in northern Idaho's Selkirk Mountains has just been augmented by a reintroduction.) Beaver have been eliminated from most of their former habitats. The Wild Turkey—Ben Franklin's choice for America's national symbol—has fallen from 10 million to 2 million, with many populations living in habitats outside the historic range of the species. (The gobbler was nearly extinct at the end of the 19th century.) Black Bears have been eliminated from two-thirds of their former habitat east of the Mississippi, and have recently dwindled to precariously low numbers even in one of their major eastern strongholds, the Southern Appalachians.

Although no longer on the verge of extinction, as it was before the banning of DDT, the Peregrine Falcon remains at only a tiny fraction of its former numbers. The situation is similar for the Bald Eagle. Bobcat populations have been decimated over most of their range, as have most populations of "fur bearer" species such as Mink, River Otter, and Fisher. Trapping was and is the main culprit in the reduc-

tion of furbearers. Bighorn Sheep now survive only as scattered remnant bands, often where they have been reintroduced decades after localized man-caused extinction.

To the best of our knowledge, the California Condor and the Black-footed Ferret are extinct from the wild. The Ivory-billed Woodpecker is extinct in the US and barely survives at the edge of oblivion in one Cuban forest. One population of Red Wolves lives in the coastal bottomlands of North Carolina, reintroduced after the species had been driven to extinction from the wild. The Passenger Pigeon, Carolina Parakeet, Great Auk, and Heath Hen are forever gone. So are dozens of species and subspecies of reptile, amphibian, insect, fish and flowering plant. The American Chestnut, once king of the eastern deciduous forest, now survives only as saplings (which die before reaching maturity) beneath a forest canopy lacking the elegance of its recent past.

The awe-inspiring Rockies have been mined, logged, roaded, invaded by condominiums and ski resorts, and otherwise sliced into mere fragments of what was perhaps the ultimate American wilderness. Migratory routes have been severed by roads and fences; and critical winter ranges have been subdivided, fenced, overgrazed, invaded by exotics, and thus rendered useless. The Great Basin is now largely an overgrazed area of sagebrush and dirt. The Colorado River has been dammed to death and literally sucked dry so that it no longer even reaches the Gulf of California. Many of its canyons, such as the Glen, lie embedded in silt beneath hundreds of feet of stagnant reservoir water, awaiting liberation. In the Pacific Northwest, less than 10% of the great conifer forest survives as old growth; prior to 1800, old growth constituted roughly 60-70% of the big-tree domain. The remaining old monarchs are fast being cut. The eastern forests have suffered a similar fate, but worse. For example, in the mixed hardwood and hemlock forests of northern Wisconsin, historical records indicate that 80% of the mesic forest was mature or old growth, with 20% in successional stages. Today, less than 5% of the forest is mature or old growth.

Anadromous salmon, in tiny fractions of their former numbers, struggle to survive dams, locks, seine nets, and other obstacles in their often futile quest for their ancestral freshwater spawning beds. Gene pools have been and are being impoverished, as domestic dogs interbreed with wolves and Coyotes, introduced fish

threaten genetically pure strains of native trout, starlings displace native bluebirds; and Halogeton (not all bad—it's poisonous to livestock!), Russian Thistle (tumbleweed), Crested Wheatgrass, and Cheatgrass cover an impoverished intermountain landscape formerly dominated by Blue-bunch Wheatgrass and Idaho Fescue. Almost everywhere, introduced non-native plants and animals have taken over niches from native species.

cludes the 2.2-million-acre Park and roughly 12 million acres of surrounding primarily public lands, is the most well-known large wilderness complex in the contiguous 48 states. Here, in a magnificent setting of rugged peaks and high plateaus, some of America's largest tracts of wilderness survive. Although the government intentionally exterminated most of the Park's large predators—including wolves, Mountain Lions, and Lynx—during the

Until the recent assault on the Earth's tropical forests, never had so much diversity been destroyed in so short a time, by so few people, as happened in the United States of America. And the plunder continues.

Civilization, over thousands of years of high-density agrarian and industrial habitation, has drastically reduced the natural diversity of most of the Eurasian land mass, creating an ecologically impoverished landscape that we in America must never duplicate. The faunal-rich African wilderness is now but a mere shadow of its former self and the destruction is accelerating. The deforestation of Latin America is rapidly consuming the world's greatest bank of genetic material. The great wilderness of Australia is also under attack, as is wildness on islands and peninsulas throughout the world. Yet, until the recent assault on the Earth's tropical forests, never had so much diversity been destroyed in so short a time, by so few people, as happened in the United States of America. And the plunder continues.



In spite of it all, parts of the US still remain relatively wild. There's far more wilderness in the US than in China, more natural biological diversity than in Australia, more hope for long-term sane land use than in Africa or Latin America. Moreover, there are more freedom-roused tree-huggers and their ilk here to oppose mad industrialism than there are in the Soviet Union (not many more, but more).

Yellowstone, in northwest Wyoming, southwest Montana, and extreme eastern Idaho, is the world's first National Park, and it forms the core of one of the world's least spoiled temperate zone regions. The Greater Yellowstone Ecosystem, which in-

early 1900s, nearly all native pre-Columbian species, with the notable exception of the Gray Wolf, still survive—at least in small numbers—in the region. Nevertheless, the Grizzly is in trouble, and Mountain Lions and other predators survive only in severely reduced numbers. Yet, if we forced the Forest Service to halt logging, mining, and resort development on National Forests adjacent to the Park, and forced the National Park Service to halt further development and to remove tourist facilities from prime Grizzly habitats, then enlightened management and reintroductions (beginning with wolves) could insure the Yellowstone Ecosystem's survival as an evolving wonderland of outstanding natural diversity and unique geologic phenomena.

The largest mass of primarily wild country in the US outside of Alaska is the Central Idaho Wilderness Complex. Including most of central Idaho, parts of far western Montana, and perhaps (depending upon how one perceives its boundaries) Hell's Canyon and the Wallowa Mountains of northeastern Oregon, this region is probably the largest complex of temperate-zone wildlands remaining on Earth. Although known for high glaciated mountains such as the Sawtooths, Anacondas, Bighorn Crags, Bitterroots, and Lemhis, this is primarily a region of steep forested mountains and ridges broken by the deep, untamed river canyons of the Salmon, Selway, Lochsa, Snake, and St. Joe. At its core is the largest remaining roadless area

continued next page

in the contiguous states, the Frank Church River of No Return Wilderness, generally known simply as the River of No Return (RNR), and adjacent undesignated roadless acreage. But Forest Service logging and road-building, as well as mining and other destructive activities, expand further into the region's wild core each year; and Grizzly Bears, Gray Wolves, and Caribou survive—if at all—only as scattered individuals.

At the end of 1985, only 32.3 million acres — a little over 1.5% — of the lower 48 states had been designated Wilderness by Congress.

In northwestern Montana bordering Canada and adjacent to the high plains is the wild Northern Continental Divide Ecosystem (NCDE). This land of mountains, glaciers, rivers, forests, and prairies includes Glacier National Park, the Mission and Whitefish Ranges, and the Bob Marshall country—a 2.5-million-acre chunk of wilderness that includes the Bob Marshall, Scapegoat, and Great Bear Wildernesses, and nearly a million acres of vulnerable unprotected wildlands. Although dwarfed in size by the Central Idaho and Greater Yellowstone complexes, the NCDE is our healthiest wildland ecosystem south of Canada, with all known native animals of pre-Columbian times, except the Bison, still surviving. Here, even the Grizzly is finding adequate habitat to maintain its numbers, and, thanks to a recent natural migration out of Canada, the call of the wild—the howl of the northern Rocky Mountain Gray Wolf—can once again be heard among the pines, firs, and larches. Although “The Bob” is the fifth largest chunk of roadless wild country in the contiguous states, and although most of Glacier Park is protected from development, for unprotected parts of the ecosystem it's the same old story: Road-building, logging, oil exploration, subdivisions, and coal mining (in nearby Canada) continue to reduce the size and wildness of the ecosystem.

We still have a nearly pristine Sonoran Desert Ecosystem centered around the Cabeza Prieta National Wildlife Refuge and Organ Pipe Cactus National Monu-

ment, and extending south from Arizona into Mexico's rugged and stark Pinacate Desert. This harsh, arid, hot and wind-blown area is the wild essence of a desert which, as a whole, constitutes the most botanically diverse desert landscape on Earth. But, as elsewhere, bureaucrats threaten it with new roads. Also, off-road vehicles (ORVs) scar the fragile soils, and poaching and military bombing threaten the long-term viability of the ecosystem.

developed Ponderosa Pine forest anywhere.

There remain big wildland complexes in the North Cascades of Washington adjacent to the Canadian border and in the southern Sierra Nevada within and adjacent to Sequoia, Kings Canyon, and Yosemite National Parks. There are even some measurable tracts of wild country in the Northeast, particularly within New York's 6-million-acre Adirondack Park. Diverse deciduous forest wilderness survives in and near the Smokies (the Southern Appalachian Highlands Ecosystem). Pockets of wildness and natural diversity, many unprotected, still grace the American landscape from the Okefenokee to the Olympics, and from the Boundary Waters to Big Bend. These remaining pockets, mostly on public lands, are the echoes of a wilderness past nearly too great to comprehend, and with a bit of care, thoughtful expansion, and biologically sound reintroductions, could provide a sound land base for mending the genetic fabric of this country.



We still have a predominantly wild Colorado Plateau, sliced by roads and jeep trails into numerous fair-sized chunks of wild country, but still spectacular, remote, rugged, geologically unique, and capable of refurbishing habitat for a number of long-extirpated species. The once living heart of the region, the Glen Canyon of the Colorado, is inundated but waiting for liberation from the deadwater created by the ugly and vile Glen Canyon Dam.

Less than 100 miles north of Mexico is a wilderness complex of nearly unsurpassed ecosystem diversity, where biotic communities representative of Mexico's Sierra Madre Occidental, the American Rockies, and the Chihuahuan Desert all thrive in a rich setting of steep mountains, ridges, and lush river canyons which harbor more species of deciduous trees—including oaks, hackberry, walnut, ash, alder, sycamore, cottonwood, and Boxelder—than any place else in the West. The Gila and Aldo Leopold Wildernesses, the Blue Range Primitive Area, the San Francisco and Gila river canyons, and a few hundred thousand acres of unprotected, mostly National Forest wildlands largely comprise this bioregion. Unfortunately, though, the Merriam's Elk is extinct (non-native Rocky Mountain Elk, introduced earlier this century, are now fairly abundant) and the absence of Grizzly and wolf populations constitutes a void where large carnivores should be. And once again, land managers continue to piecemeal the wilderness to death, promoting more roads and more logging of the largest primarily un-

How much of the landscape of the contiguous United States remains wild today? For various reasons, that question is difficult to answer, and no matter what the criteria one uses to define and locate wilderness, subjectivity inevitably enters into the answer. For one thing, wildland inventories undertaken by the federal land management agencies—especially the Forest Service and the BLM—have been notoriously incomplete. For instance, in the Forest Service's second major inventory of its roadless and undeveloped lands (RARE II), which culminated in a final Environmental Impact Statement dated January 1, 1979, the agency only evaluated the wilderness potential of some 62 million acres of wild National Forestlands, out of an estimated 80 million acres that were wild but unprotected at the time. In addition, other federal lands, such as military ranges, have never been inventoried for wilderness since preservation of wilderness isn't one of the Pentagon's priorities. Nor has there ever been a complete inventory of either protected areas or *de facto* wilderness on state, private, or Indian lands.

Moreover, even the legal definition of wilderness is subject to differing interpretation regarding matters such as the exact definition of a road, the level of roading or jeep-trail development at which an area would no longer be wilderness as defined by law, and the level of overgrazing at which an otherwise undeveloped area

would no longer be considered to be primarily natural. Furthermore, many of our remaining wilderness lands—designated and de facto—are far too small, far too hemmed in by civilization, and far too biologically impoverished to be considered wilderness in any true sense of the term.

In spite of the subjectivity of defining wilderness, one can make an educated guess, based upon generally accepted standards, as to the extent of wilderness (defined by section 2-C of the Wilderness Act) in the modern American landscape. According to my calculations, if all the known acreages of public wilderness lands administered by the four major federal land management agencies (the first four categories in Table 1) are added to acreage estimates for state, military, Indian reservation, and private lands, then roughly 167 million acres of the contiguous 48 states remain wild today. This figure includes both designated and unprotected wilderness, and is equivalent to approximately 9% of the country's land area.

As of the end of 1985 there were (in the contiguous states) 26.7 million acres of National Forest Wilderness, and about 54 million acres of unprotected (de facto) National Forest wilderness. (Thanks go to the The Wilderness Society for these figures.) The BLM figure is based upon their initial roadless inventory (BLM Wilderness Review, late 1970s) of 54 million acres; it's rounded down because mineral and other developments have continued to whittle down BLM wilderness during the ensuing years. The exact figure, though, is unknown because there hasn't been a comprehensive inventory since. (Thanks go to the Sierra Club's Washington, DC, office for that figure.)

TABLE 1
Total Wilderness Resource of the Contiguous 48 States
(millions of acres)

National Forest	80.7
Bureau of Land Management (BLM)	50
National Park Service (NPS)	10.5
US Fish and Wildlife Service (FWS)	6.2
state	6
Indian reservation	5
military	4
private	5
Total	167.4

(Total land area of contiguous 48 states: 1.825 billion acres)

As of April 1986, there were 4.3 million acres of designated Wilderness in our

National Parks and Monuments, and about 6 million acres of de facto wilderness under National Park Service jurisdiction. Also, there were 0.7 million acres of designated Wilderness in the National Wildlife Refuges and another 5 million acres that remained unprotected. (These are agency figures, courtesy of The Wilderness Society.)

The above figure for state lands is an educated guess based upon existing state wilderness systems in states that have them, and upon consultation with other conservationists. Although some states, such as California, New York, Michigan, and Minnesota have extensive state parks and forests which include both designated and de facto wilderness, most do not. No state has yet conducted a comprehensive inventory of all of its undeveloped lands exceeding 5000 acres (the standard minimum of the Wilderness Act). Each state should initiate such an inventory so that accurate figures can be obtained.

Similarly, a wilderness inventory of Indian reservations is needed. Large chunks of Wyoming's Wind River Range and Montana's Mission Range are formally protected by Indian tribes, but there are also sizable areas on reservations throughout the West of undeveloped lands lacking any protection. The 5-million-acre figure is a guess, as is the 4-million-acre figure for military lands. There are large tracts of undeveloped land on military reservations adjacent to at least three western National Wildlife Refuges: the Cabeza Prieta and the Kofa in Arizona, and the Desert in Nevada.

The 5-million-acre figure for private lands is more educated guesswork, and may be conservative. It includes lands on private ranches adjacent to federal wildlands throughout the West, and private lands adjacent to state wildernesses in places such as New York's Adirondack Forest Preserve. Measurable tracts of wilderness are also owned or managed by The Nature Conservancy.

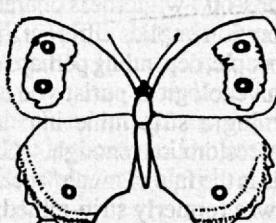
At the end of 1985, only 32.3 million acres—a little over 1.5%—of the lower 48 states had been designated Wilderness by Congress. (Even including Alaska, there are only about 87 million acres of designated Wilderness in the US, which is less than 4% of the entire American landscape.) If one assumes that another 2 million acres of state, private, and Indian reservation wildlands in tracts exceeding 5000 acres are now protected from development (that may be optimistic), then about 2% of our landscape outside sub-arctic and Arctic regions is protected Wilderness. Put

another way, less than a quarter of our remaining wildland is actually safe from development. Furthermore, of the 9% of the landscape that is still wilderness by conventional definition, very little even approaches the ecological wilderness ideal: perhaps 15 million acres or so in a few big western wildernesses, or approximately 1% of our countryside.



The effort to protect what little wilderness remains—all of it—must indeed be the top priority for wildland activists. But the positive impact of our efforts to protect these tiny remnants can only be enhanced if wilderness proponents begin to advocate wilderness as it ought to be. We can shift the parameters of the controversy, if we dare. Biotic wholeness, ecological wilderness, Wilderness Recovery Areas: these are the ideas of hope.

Thus far, our continent has lost relatively few species when compared with Europe, Asia, and Latin America. Most indigenous species still survive in at least small numbers somewhere on the continent. Our losses to date have primarily been at the subspecies and population levels. But even these losses result in tragic reductions in ecosystem and genetic diversity, and in species diversity for various regions; and even these losses alter the course of evolution. Wilderness—the fabric which binds together our living continent—is habitat, and habitat is hope. As the last old-growth conifers of the Northwest fall and are replaced by managed tree farms, as the last free-flowing rivers are dammed, as the few remaining unaltered big game winter ranges are subdivided, and as the last of the diverse eastern forests are clearcut; more and more species will become extinct, more native ecosystems will disappear, more noxious weeds and other exotics will invade the depleted landscape, and more genetic material will be forever lost. The quality of our portion of the planet will continue to plummet, unless, perhaps, those who care about, bleed for, and love wild country begin to work to *reverse* the tragic depletion of life, natural diversity, and wildness.



Ecosystem Restoration

An Example for Florida

by Reed F. Noss, Ph. D.

(first run in *Earth First!*, 9-85; amended 2-91)

Recovery implies a healing process. Exclude man, let nature be, and everything will return to naturalness and purity. If it were only so simple! Unfortunately, ecologically degraded areas seldom will heal on their own, in the sense of returning to pre-disturbance or presettlement condition. Soils may have washed away, water has often been diverted or polluted, acid rain may be falling, large carnivores and other sensitive species have usually been eliminated, and recolonization sources may be at a great distance across an inhospitable, human-dominated terrain.

THE NEED FOR ACTIVE RESTORATION

Even the act of excluding harmful human activities from a natural area is a form of active land management. Eliminating all possible traces of human influence requires even more management. Letting things be is unfortunately not a viable management option in a world overrun by *Homo sapiens*. Active habitat restoration efforts; removal of roads, structures, and other intrusions; reestablishment of original drainage patterns; reintroduction of large predators and other missing ecosystem components; and guarding against human trespass, poaching and overuse are necessary steps in a true wilderness recovery program. This is the irony of our age: "hands-on" management is needed to restore "hands-off" wilderness character.

Restoration implies different things to different people, depending perhaps on how much of an ecological purist you are. To some, turning a strip mine into a cattle pasture is restoration enough. Unfortunately, this is the fate of much "reclaimed" land that was formerly strip-mined; restoration of a pre-mining natural community

is rarely a goal in these federally-funded programs. In other cases, naturalists believe that planting a patch of prairie with a nice mix of native grasses and forbs is a crowning achievement of conservation. Prairie "restoration," usually on the scale of a few acres, is a popular pastime in the Midwest, even in areas where no prairie existed originally. While I will not deny the esthetic value of these "islands of life" in a corn-soybean and shopping center landscape, this is not sufficient restoration for me. I believe that ecological restoration and wilderness recovery should be closely related concepts, close together on a spectrum of conservation effort. Ecological restoration should, whenever possible, re-create the presettlement-type *structure, function, and integrity* of ecosystems, while allowing for natural dynamism.

Structure is the characteristic species composition, diversity, and relative abundance patterns, encompassing complete food webs and the physical environment that existed on the site and across the landscape. Function is the suite of ecological and evolutionary processes associated with that structure—in short, the natural flow and cycling of things, and the events that punctuate that flow. Integrity is an emergent, somewhat intangible quality that arises from natural structure and function, and implies naturalness and beauty. What must be restored or re-created, then, are whole ecosystems, not pieces of ecosystems. The heart of a whole ecosystem is wilderness.

Restoring ecosystems and re-creating wilderness are not easy tasks in human-dominated landscapes. The main problem with these landscapes, which increasingly overwhelm the earth, is that they are fragmented. They are pieces, not wholes. As white settlers (and to a lesser extent, the Indians before them) moved into North

America, they removed native vegetation, replaced it with crops, or simply cleared and burned to improve travel, visibility for hunting, or to reduce pestiferous insect populations. Trails and then roads were built, criss-crossing the wilderness and ultimately taming the land. All regions became more accessible, and the animals easier to hunt and destroy. Large carnivores and omnivores were persecuted with particular ruthlessness, and their rapid demise effectively removed the top of the food pyramid. This disruption of the food web, combined with a colossal invasion of opportunistic plant and animal weeds—many of them Eurasian species introduced or inadvertently brought over by European settlers—significantly altered the native ecosystems of North America. The land became tame, weedy, humanized. Remnant natural areas are now scattered, disturbed and incomplete. In all but the very largest wild areas, natural ecosystem structure, function, and integrity have been lost, replaced by systems that are depauperate, homogenous, and unstable.

THE FRAGMENTED LANDSCAPE

Many conservation biologists agreed with Wilcox and Murphy (1985) that "habitat fragmentation is the most serious threat to biological diversity and is the primary cause of the present extinction crisis." Fragmentation involves both a reduction in total area of natural habitat and an apportionment of the remaining area into isolated pieces.

Island biogeography theory (MacArthur & Wilson 1967), though not always supported by the many empirical studies it spawned (F.S. Gilbert 1980), was important in drawing natural land managers' attention to the effects of reserve size and isolation on biodiversity. Those who applied biogeography theory to public land management (e.g., Diamond 1975, Wilson & Willis 1975) emphasized the need for large reserves and proximity or interconnections among reserves. Other empirical generalizations, such as the finding that most natural populations tend to fluctuate through time rather than remaining stable at some constant carrying capacity, have underscored the need for large preserves. Large animals with large home ranges (e.g.,

top carnivores), ecological specialists, and species with variable populations that depend on patchy or unpredictable resources (Terborgh & Winter 1980, Karr 1982, Wright & Hubbell 1983) are especially prone to extinction in small, isolated reserves. In general, small populations in small reserves are likely to suffer from problems related to environmental stochasticity, demographic stochasticity, social dysfunction, or genetic deterioration brought on by inbreeding or genetic drift (Frankel & Soulé 1981, Shaffer 1981, Schonewald-Cox et. al. 1983, Soulé & Simberloff 1986).

Agricultural and urban development obviously fragment the landscape, but even by themselves roads are significant fragmenting factors. Roads isolate species that depend on interior habitat and/or are unwilling to cross open areas (e.g., Garland & Bradley 1984, Maier 1984); they create artificial edges that encourage invasion by weeds and opportunists such as the Brown-headed Cowbird (e.g., Whitcomb et. al. 1976); and they serve as direct sources of mortality to many animals (e.g., Wilkins & Schmidley 1980, Wilson & Porras 1983, USFWS 1986). Perhaps the most insidious effect of roads is that they create access for humans to log, mine, develop, poach, "go four-wheelin'," and otherwise disturb species and their habitats.

Some animals are particularly sensitive to roads and associated development or simply to human presence. In northern Wisconsin, a historical study supplemented by modern radio-telemetry data determined that road density is the best predictor of Gray Wolf population density (Thiel 1985). When road density exceeds approximately .93 miles of road for every square mile of habitat, wolves disappear. Roads provide access to people who kill wolves, either legally or illegally.

Mountain Lions (Cougar, Puma, Panther) are similarly sensitive to roads and development. Extensive radio-telemetry studies in Arizona and Utah have demonstrated that individual lions avoid roads, especially hard-surfaced and improved dirt roads, whenever possible (Van Dyke et. al. 1986a, 1986b). Lions selected home areas with lower than average road density, no recent timber sales (whether or not logging was occurring at the time), and few or no sites of human residence. In Florida, highways are the leading known cause of Panther deaths (USFWS 1986). These and other studies suggest that roads are often incompatible with the preservation of intact ecosystems that include top predators.

CONVENTIONAL CONSERVATION

Traditional, anthropocentric conservation efforts do not adequately address these far-reaching consequences of landscape fragmentation. They view remnant natural areas as "living museums," and evaluate wilderness in terms of "visitor days." Fragmentation is not recognized as a problem because evaluations are site-specific and blind to the processes that operate at large spatial and temporal scales. Parks and preserves are seen as show pieces and recreation areas, not as ecosystems or sacred groves. Both the rational and the intuitive understanding of nature are precluded by a management regime that focuses only on short-term benefits to humans.

HOLISTIC APPROACHES

We can do better. Not with a myopic conception of "let it be" preservation—few wildernesses on Earth are large and pristine enough for that—but instead with an ecocentric and scientifically cognizant program of ecological restoration. Science and gut-level ethics need not clash, but can work together toward the re-creation of whole ecosystems and wilderness. We know intuitively, as followers of deep ecology, what is right. We are beginning to know rationally, as scientific ecologists, how to restore what is right. A holistic approach to preservation requires an intermingling of ecological science and ecological ethics. Like yin and yang, neither alone will suffice.

The Earth First! proposals for wilderness recovery areas and ecosystem preserves, presented in *Earth First! Journal* throughout the 1980s, were right in line with what most scientific ecologists are recommending to counter the effects of landscape fragmentation (e.g., see my review of *The Fragmented Forest* in *EF!* 5-85). In short, we need large, essentially inviolate wilderness areas, interconnected and buffered by broad habitat corridors, with restoration of all habitats within these preserves to presettlement-type, dynamic ecosystems. We must demand nothing less than an interconnected network of restored wilderness in all areas of Earth where wilderness has been lost. This re-creation of the primitive and wild is, in the grand scheme of things, just as important as preserving the last vestiges of original wilderness.

As the growth of human populations and technology continues, ecological res-

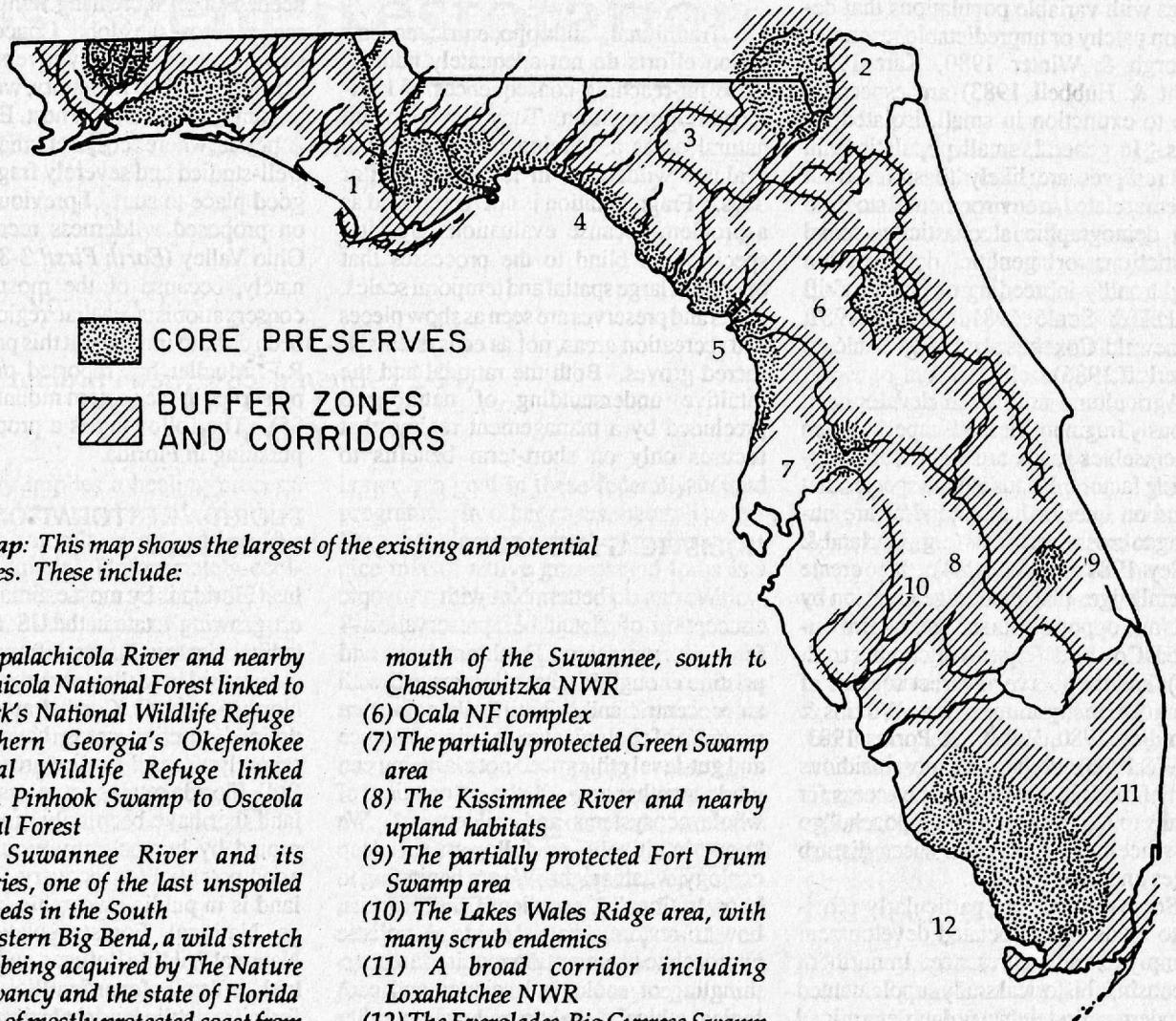
toration and wilderness recovery will be needed in an increasing number of landscapes across the globe. Concomitant with slowing and eventually reversing the cancerous growth of humanity, we must begin restoration efforts in earnest. Eastern North America, where ecosystems have been both well-studied and severely fragmented, is a good place to start. I previously reported on proposed wilderness recovery in the Ohio Valley (*Earth First!* 3-83—unfortunately, because of the mostly spineless conservationists in that region, little has been done to implement this proposal), and R.F. Mueller has reported on ecological preserves in the eastern mountains (*EF!* 9-85). The following is a proposal we are pursuing in Florida.

FLORIDA RESTORATION POTENTIAL

Florida is by most estimates the "fastest-growing" state in the US, meaning that habitat destruction and fragmentation is more rapid here than perhaps anywhere in North America. Coastal areas and well-drained interior areas have been most severely affected, but few areas are pristine. Still, Florida retains some vast acreages of land that have been only moderately disrupted by human activity and thus hold good potential for recovery. Much of this land is in public ownership, administered as National Forests, National Parks, National Wildlife Refuges, and various state and local areas (over 5 million acres total—far more public land than most states in the East have). Florida also has, in comparison with most states, an aggressive land acquisition campaign, both on the part of the state government and The Nature Conservancy. Furthermore, there is enormous public support for preservation and reintroduction of Florida's "state animal," the Florida Panther, which requires a significant acreage of wilderness for survival. The Florida Panther, a potent symbol of Florida's vanishing wilderness, is an appropriate rallying point for a visionary conservation strategy that seeks to restore whole ecosystems.

The Florida Panther Technical Advisory Council was appointed by the Governor of Florida to develop a strategy to preserve the Florida Panther in its present range in south Florida, and to reintroduce the Panther into appropriate areas elsewhere in the state. Dr. Larry Harris of the University of Florida and I have

continued next page



MUM Map: This map shows the largest of the existing and potential preserves. These include:

- (1) The Apalachicola River and nearby Apalachicola National Forest linked to St. Mark's National Wildlife Refuge
- (2) Southern Georgia's Okefenokee National Wildlife Refuge linked through Pinhook Swamp to Osceola National Forest
- (3) The Suwannee River and its tributaries, one of the last unspoiled watersheds in the South
- (4) The eastern Big Bend, a wild stretch of coast being acquired by The Nature Conservancy and the state of Florida
- (5) A strip of mostly protected coast from the Lower Suwannee NWR, at the

proposed networks of interconnected wilderness and natural areas in Florida that would allow restoration of ecosystems and reintroduction of the Panther. Upon request, I submitted a detailed report to the Florida Panther Technical Advisory Council on how landscapes might be managed to fulfill these goals.

MUM'S THE WORD

The accompanying map shows a system of "MUM Networks" that we proposed for Florida. An MUM is a "multiple-use module," an extension of the biosphere reserve concept to multiple levels of biological hierarchy (e.g., from a local population to a macro-ecosystem) and to any conceivable landscape. Each MUM consists of an inviolable core pre-

serve managed as wilderness and surrounded by a gradation of buffer zones. Buffer zones permit a spectrum of human activities that are consistent with preservation of the wilderness core, and protect the core from the more intensive land-use of surrounding, humanized land. Inner buffer zones might permit activities such as hiking, canoeing, and other relatively "non-consumptive" outdoor activities. Outer buffer zones might allow uses such as primitive hunting and long-rotation forestry toward the interior, and more intensive forestry, range use, recreation and perhaps low-density housing toward the exterior. MUMs are organized into networks by appropriate habitat corridors that facilitate the flow of nutrients, individuals, genes, energy, habitat patches, and other elements among core preserves. Although knowl-

edge of dispersal processes is incomplete, recent studies have documented that habitat corridors facilitate the movement of organisms across a landscape mosaic. The converse effect, that of restriction of movement by barriers such as roads and agricultural fields, has also been documented. The corridors shown in the map mostly follow stream drainage systems and thus can be called riparian strips. Organization of MUMs into networks would, we hope, prevent the deleterious effects of inbreeding within populations, minimize extinctions, and help restore the shifting disturbance and succession patterns characteristic of natural landscapes.

The MUM Network strategy is fundamentally dependent upon a system of inviolable core preserves, areas managed to restore and perpetuate native ecosystem

structure, function and integrity. No compromises can be allowed in the protection of MUM cores! Each core preserve should be as large as possible and managed to protect the most sensitive elements that exist or will be reintroduced there. If a recreational activity potentially conflicts with strict protection, then it should be disallowed. Many MUM cores should be totally closed to *Homo sapiens*, except for the few qualified individuals engaged in ecological restoration and monitoring in each area. As pointed out above, a complete "hands-off," preservationist approach is usually unwise, and reflects an ecological naivete. Conservation ecologists unanimously recognize the necessity of scientific management in restoring and perpetuating natural areas. Active habitat restoration should apply state-of-the-art management techniques to mimic the natural environmental regime, keeping human intervention down to the minimum necessary to restore natural conditions. The smaller the area, the more management and vigilant protection are needed. Few wilderness areas remaining on Earth are large enough to contain natural disturbance, hydrological, and biogeochemical regimes within their boundaries; and recolonization sources for lost species are often far away. Thus, ironically, some human intervention is necessary to maintain most core preserves in a "natural" state.

Existing public lands must usually form the core preserves of a MUM Network. The largest core preserves portrayed in the map are under federal ownership and include the Apalachicola, Osceola, and Ocala National Forests in north Florida, the Okefenokee National Wildlife Refuge in south Georgia and north Florida, and the Big Cypress National Preserve and Everglades National Park in south Florida. Several other National Wildlife Refuges, and state-owned parks, preserves, and water management areas are also proposed as core preserves. Some smaller core preserves are not shown on the map at this scale. Proposed buffer zones and connecting corridors include public lands, but also much private land. Not all in the latter category need be acquired by government agencies, however. Rather, conservation easements and management agreements with landowners should generally provide sufficient protection to outer buffer zones.

Because relatively little land need be acquired to complete the Florida MUM Network, lack of funds is not expected to be a major problem. Instead, the impediment to rapid progress at this time is resis-

tance on the part of the public agencies that manage the land proposed as core preserves. Although the plan has been actively endorsed by two governor-appointed councils (the Florida Panther Technical Advisory Council and the Nongame Wildlife Advisory Council), and by staff (but not administrators) of the Florida Game and Fresh Water Fish Commission and the Florida Department of Natural Resources, relatively little of the land in question is under their jurisdiction. Instead the bulk is federal land. Not surprisingly, most of the resistance to ecological restoration in Florida comes from the US Forest Service.

The 1985 proposed Land and Resource Management Plan for the National Forests in Florida, with accompanying Draft Environmental Impact Statement, is a disaster for Florida ecosystems. Timber production is blatantly assumed to be the primary function of National Forests, with other uses accommodated only when they do not interfere with production. None of the alternatives discussed in the DEIS guarantees preservation or restoration of native ecosystems at any meaningful scale, and the preferred alternative would hasten the conversion of National Forests into high-density tree farms.

I reviewed the plan as Conservation Chair for the Florida Native Plant Society, and the comments I submitted represented an Earth First! perspective. This perspective, where restoration and perpetuation of native ecosystems in the National Forests is given the highest priority, was strongly evident in comments submitted to the Forest Service by many other Florida biologists and conservationists. Yet the Forest Service is unlikely to listen to reasonable arguments that disaccord with their warped conception of multiple use. It is now necessary for everyone who cares about the real Florida to apply a full spectrum of tactics, legal and illegal, to assure that the Freddies maintain these immensely valuable lands in a condition where they can function as core preserves in the Florida MUM Network. Florida has more than enough tree farms on private industry land, and these tree farms can actually perform a useful function as outer buffer zones for MUM preserves. The National Forests, on the other hand, are virtually the only lands in north Florida where large-scale ecosystem restoration is possible.

One hope we have of changing the management regime of the Florida National Forests lies in the Florida Panther reintroduction plan. The first phases of this plan are already in operation. A public opinion

survey has been completed, which shows enthusiastic support for Panther reintroduction throughout the state. Captive propagation of Panthers, necessary to supply animals for release to the wild, has recently been approved by the Florida Game and Fresh Water Fish Commission. Panthers used in the breeding program will include existing captives and road-injured individuals too crippled to be released themselves. We hope additional animals will come from closely related, non-endangered subspecies of Cougars in the west (e.g., Texas), rather than from the critically Endangered wild Florida population, which now numbers only 20 to 30 individuals. Another possibility is to use females from related subspecies as surrogate mothers, with eggs and sperm taken from Florida Panthers in the wild.

The reintroduction of Panthers into the National Forests of north Florida, and the Okefenokee Swamp of south Georgia/north Florida, has long been an explicit goal of the Florida Panther recovery program. But when I asked Assistant Forest Supervisor Ray Mason, primary author of the Forest Plan, why Panthers were not considered in the Plan, he claimed that all he has heard of the Panther reintroduction program has been rumors in the press. This points to a serious deficiency in communication among agencies. Apparently the Forest Service, the Fish & Wildlife Service, and the Florida Game and Fresh Water Fish Commission do not talk much to each other. Established conservation groups such as the National Wildlife Federation, the Sierra Club, and the Florida Audubon Society should have filed a lawsuit over the Forest Service's failure to consider Panther recovery in its Forest Plan.

Reintroduction of Panthers into the National Forests of Florida would be disastrous until drastic changes in the management of these areas occur. Numerous roads need to be closed and removed, logging must be curtailed in large core areas of each Forest, natural communities must be restored, and many recreational activities must cease. The best way to accomplish most of the necessary changes would be to designate most of each Forest as Wilderness. Furthermore, the Forests must be interconnected with each other and with other core preserves, and buffered from developed land, so that Panthers can follow their normal instincts to wander without coming into frequent contact with humans. This is the goal of the MUM Network as

continued next page

portrayed in the map. None of the terrestrial ecosystems of Florida can be considered complete until they regain healthy populations of their top predator, the Panther (reintroduction of Red Wolves, another top predator now totally in captivity, is still a remote possibility). [ed. note: Since this was written, Red Wolves have been experimentally reintroduced to several National Wildlife Refuges in the Southeast. They appear to be faring well in North Carolina's Alligator River NWR.]

Of course, core areas other than National Forests are also in need of better management if the MUM Network is to function successfully. The Big Cypress National Preserve in south Florida, where a significant portion of the existing Panther population survives, has been severely damaged by water mismanagement, over-hunting, ORVs, and other abuses. The deer population has been seriously reduced, and Panthers in the area are under-nourished. The Florida Game and Fresh Water Fish Commission, which administers hunting regulations for the area, has recently limited hunting with dogs and from ORVs. But this is not enough. A total ban on hunting in the Preserve is needed, along with a closure of all roads through the area. The upgrading of Alligator Alley (State Route 84) to Interstate 75 can help the Panther only if it is elevated for its entire length through Panther-occupied habitat, not just at the most high-frequency Panther crossings, and if all access roads are prohibited. New developments in the area should be outlawed (see *EF!* 2-85).

The MUM Network strategy for Florida, with the Florida Panther as its most potent symbol, is based on the premise that degraded ecosystems can be restored and wilderness can be re-created. This premise can be proven correct only if we insist on an ambitious basis for conservation and avoid compromises along the way. The National Forests and other public lands in Florida must undergo a radical change in management, with restoration and perpetuation of ecosystems given the highest priority. Individual Wilderness Areas and preserves must be seen not as isolated entities, but as interacting parts of a much larger system. They must be physically integrated into the larger system by a network of habitat corridors that permit dispersal and flow of biotic and abiotic elements, including the Florida Panther.

We are encouraged that some land-managing agencies in Florida are sympathetic to this strategy, and that most of the public seems to be behind it. We must now

When the animals come to us,
asking for our help,
will we know what they are saying?

When the plants speak to us
in their delicate, beautiful language,
will we be able to answer them?

When the planet herself
sings to us in our dreams,
will we be able to wake ourselves, and act?

—Gary Lawless, from *First Sight of Land*
(Blackberry Books, 1990; RR1 Box 228,
Nobleboro, ME 04555)

fight hard to see the strategy put into operation. Time is of the essence. Nothing short of an immense undertaking, beginning right now, can save the Panther and the native ecosystems of Florida. We hope that conservationists in other bioregions across the globe will adopt similar strategies to inter-connect, restore, and perpetuate native ecosystems to preserve indigenous diversity. Pieces of nature are not enough—we need the whole.

POSTSCRIPT

Reading over my 1985 article, I see very little that does not still apply today. The statewide wilderness recovery map has been refined and made even more ambitious (shown here is the latest version), and it has proven of value as a conceptual guide and source of inspiration to conservationists in Florida and beyond. Versions of it have appeared in state government documents, on the front pages of newspapers, and in scientific journals. The Nature Conservancy and state and federal governments have purchased lands within some of the most important corridors proposed in my map. The state of Florida now spends over \$300 million annually on conservation land purchases. The basic strategy of ambitious land protection and linkages at a statewide or larger scale is much better accepted today than when I wrote the article for *Earth First!* six years ago.

But now the bottom line: Is the strategy being implemented quickly and thoroughly enough to protect Florida's biodiversity? My answer is an unhesitating "no." The problems that make the Florida strategy less than successful are: (1) conservation land purchases have failed to keep pace with human population growth and habitat destruction; (2) each corridor is crossed by

many roads, which serve as barriers to wildlife movement and cause roadkills; (3) public land-managing agencies, particularly the Forest Service, have failed to manage the "core preserves" in a responsible manner; and (4) mainstream Florida conservation groups have not supported the strategy. I briefly discuss these problems below.

Florida has a net population growth of over 1000 humans daily, plus visitation by over 50 million tourists each year. Unsurprisingly, \$300 million worth of habitat protection annually is insufficient. Even several billion dollars annually would not be enough. Conservation of biodiversity will not succeed until Florida's human population growth is reversed, until the state loses 1000 or more humans each day. Many Floridians realize this, but not those in power.

Roads and wildlife are essentially incompatible. As documented by Dr. Larry Harris of the University of Florida, road mileage in Florida has increased at an average rate of 4.6 miles of primary and interstate highway per day for the past 50 years. The corridor strategy will function adequately only when road density is significantly reduced within all corridors, dropped to zero within designated core preserves, and when remaining open roads that intersect corridors are elevated as bridges, to allow passage of wildlife underneath (see *Earth First!* roads tabloid, 5-90). So far, conservation groups and agencies have not come to grips with this issue.

The "core preserves" shown on the map are still fantasies. Although composed almost entirely of public lands, they are not being managed in a way that will maintain and restore biodiversity. A case in point: The large core preserve in the north-eastern part of Florida, overlapping Geor-

gia, is the Okefenokee National Wildlife Refuge/Osceola National Forest complex, about 1.5 million acres and the first priority reintroduction site for the Florida Panther (now near extinction in south Florida). The "internal" corridor that links the Okefenokee and Osceola is Pinhook Swamp. Most of Pinhook Swamp was purchased, with the help of The Nature Conservancy, and added to Osceola NF. The linkage was never completed, however; some 10,000 acres remain in private ownership. Inholdings pepper much of the complex and roads wind everywhere. As an experiment to test the feasibility of Panther reintroduction, five neutered and radio-collared Texas Puma were released into the area in 1988. Within a few months, three of the cats were killed, two by hunters and one by an unknown cause. The remaining two cats got into trouble with livestock on private lands, were recaptured and released elsewhere, found their way back to the problem areas, and were returned to captivity. The experiment was a failure. Unless the Forest Service and other agencies involved have the courage to close all roads within the Okefenokee/Osceola complex, condemn all inholdings, and remove all livestock, Florida Panthers can never safely return to the landscape and the wilderness remains incomplete. There is no indication that the agencies are willing to take these steps.

Finally, I hate to bash fellow environmentalists, but the mainstream groups in Florida are the wimpiest bunch of lightweights I have met anywhere. In Florida, state bureaucrats are often more ambitious conservationists than the "advocacy" groups! The biggest groups—Sierra Club, Florida Audubon Society, and Florida Defenders of the Environment—have never supported the Florida statewide network and have opposed road closures and major reform of the Forest Service management policies.

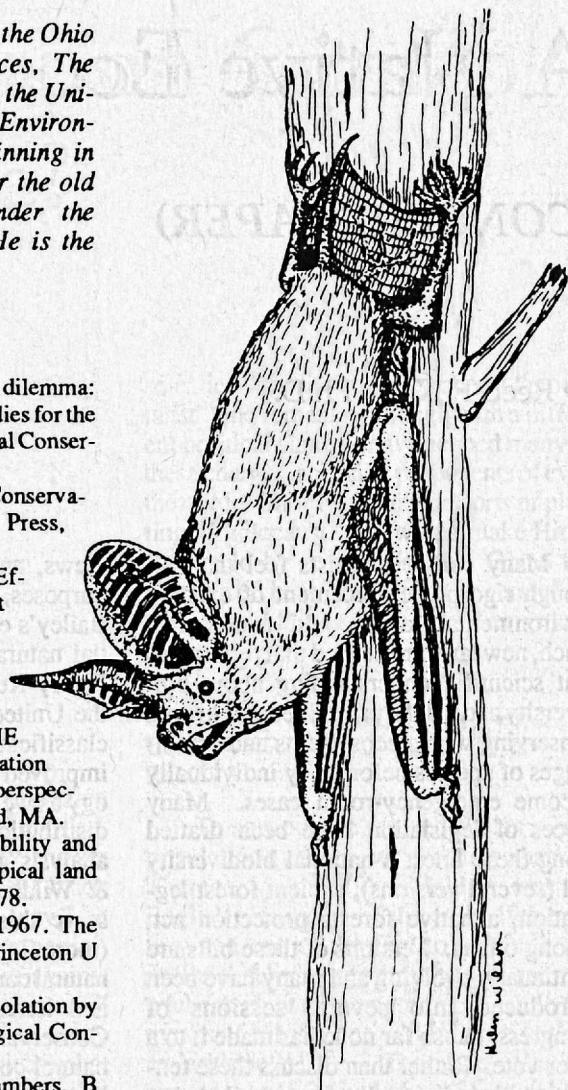
So, I have become cynical about the chances of success of the wilderness recovery strategy I wrote about in 1985. Six years of rampant habitat destruction and an additional 2 million human residents have had an alarming effect on Florida's ecosystems. But I have not given up, nor has the small but determined band of Florida environmentalists who have seen too much damage to accept one more acre lost and who demand at least 50% of Florida's wilderness back!

Reed Noss, Ph.D., is self-employed as a conservation biologist in Corvallis,

Oregon. He formerly worked for the Ohio Department of Natural Resources, The Florida Natural Areas Inventory, the University of Florida, and the US Environmental Protection Agency. Beginning in 1982, he wrote many articles for the old EF! Journal, most recently under the pseudonym "Diamondback." He is the science editor for Wild Earth.

LITERATURE CITED

- Diamond, JM. 1975. The island dilemma: lessons of modern biogeographic studies for the design of natural preserves. *Biological Conservation* 7: 129-146.
- Frankel, OH & ME Soulé. 1981. *Conservation and Evolution*. Cambridge U Press, Cambridge, England.
- Garland, T & WG Bradley. 1984. Effects of a highway on Mojave Desert rodent populations. *American Midland Naturalist* 111: 47-56.
- Gilbert, LE. 1980. Food web organization and the conservation of neotropical diversity. Pp.11-33 in ME Soulé & BA Wilcox, eds., *Conservation Biology: an evolutionary-ecological perspective*. Sinauer Associates, Sunderland, MA.
- Karr, JR. 1982. Population variability and extinction in the avifauna of a tropical land bridge island. *Ecology* 63: 1975-1978.
- MacArthur, RH & EO Wilson. 1967. *The Theory of Island Biogeography*. Princeton U Press, Princeton, NJ.
- Mader, HJ. 1984. Animal habitat isolation by roads and agricultural fields. *Biological Conservation* 29: 81-96.
- Schonewald-Cox, CM, SM Chambers, B MacBryde, and WL Thomas. 1983. Genetics and conservation: a reference for managing wild animal and plant populations. Benjamin/Cummings, Menlo Park, CA.
- Shaffer, ML. 1981. Minimal population sizes for species conservation. *BioScience* 31: 131-134.
- Soulé, ME & D Simberloff. 1986. What do genetics and ecology tell us about the design of nature reserves? *Biological Conservation* 35: 19-40.
- Terborgh, J & B Winter. 1980. Some causes of extinction. Pp.119-133 in Soulé & Wilcox, eds., *Conservation Biology: an ecological perspective*. Sinauer Assoc., Sunderland, MA.
- Thiel, RP. 1985. Relationship between road densities and wolf habitat suitability in Wisconsin. *American Midland Naturalist* 113: 404-407.
- US Fish & Wildlife Service 1986. Florida panther (*Felis concolor coryi*) recovery plan. Prepared by the Florida Panther Interagency Committee for the Fish & Wildlife Service, Atlanta, GA.
- Van Dyke, FG, RH Brocke, HG Shaw, BA Ackerman, TH Hemker, & FG Lindzey. 1986a. Reactions of mountain lions to logging and human activity. *Journal of Wildlife Management* 50:95-102.
- Van Dyke, FG, RH Brocke, HG Shaw. 1986b. Use of road track counts as indices of mountain lion presence. *Journal of Wildlife Management* 50:102-109.
- Whitcomb, RF, JF Lynch, PA Opler, & CS Robbins. 1976. Island biogeography and conservation: strategy and limitations. *Science* 193: 1030-1032.
- Wilcox, BA & DD Murphy. 1985. Conservation strategy: the effects of fragmentation on extinction. *American Naturalist* 125: 879-887.
- Wilkins, KT & DJ Schmidley. 1980. Highway mortality of vertebrates in southeastern Texas. *Texas Journal of Science* 32: 343-350.
- Wilson, EO & EO Willis. 1975. Applied biogeography. Pp.522-534 in ML Cody and JM Diamond, eds., *Ecology and Evolution of Communities*. Belknap Press of Harvard U Press, Cambridge, MA.
- Wilson, LD & L Porras. 1983. The ecological impact of man on the south Florida herpetofauna. *U of Kansas Special Publication No. 9*. Lawrence, KS.
- Wright, SJ & SP Hubbell. 1983. Stochastic extinction and reserve size: a focal species approach. *Oikos* 41: 466-476.



A Native Ecosystems Act

(CONCEPT PAPER)

by Reed F. Noss, Ph.D.

Many conservationists feel that, although rigorous enforcement of existing environmental laws could accomplish much, new laws are needed that reflect current scientific understanding about biodiversity and to take proactive steps toward conserving whole ecosystems and assemblages of species before they individually become emergency-room cases. Many pieces of legislation have been drafted along these lines: a national biodiversity bill (several versions), ancient forest legislation, a native forests protection act, among others. Versions of these bills are continually evolving and many have been introduced into several sessions of Congress, but so far none has made it to a floor vote. Rather than discuss these tentative bills individually, I present below a synopsis of the kind of legislation I think is really needed to maintain biodiversity in the United States.

Many scientists and conservationists (including myself) have spoken of the need for some kind of "endangered ecosystems act." A draft bill along these lines has been written by Dr. Mark Liverman of the Portland Audubon Society. I now believe we should go further and create a "Native Ecosystems Act" to fully protect and restore the entire spectrum of native plant and animal communities, ecosystems, and landscapes across the United States. The Native Ecosystems Act would have 2 primary sections: (1) endangered ecosystems; (2) representative ecosystems.

The endangered ecosystems section of the Native Ecosystems Act would be modeled after the Endangered Species Act. Ecosystems would be defined according to a 2-part hierarchical classification, the higher level being a refined Bailey-Kuchler classification, a system used by the Forest Service for their initial roadless area re-

views, and by other agencies for other purposes, and consisting of an overlay of Bailey's ecoregions and Kuchler's potential natural vegetation types. Some 261 Bailey-Kuchler ecosystem types occur in the United States and Puerto Rico. The classification needs revision to reflect improved knowledge of vegetation ecology as well as the current (not "potential") distribution of vegetation types (the "gap analysis" project by Mike Scott of the Fish & Wildlife Service and colleagues will serve this function).^{*} The lower-level (more finely split) classification would be natural community types (aquatic, wetland, and terrestrial) defined by The Nature Conservancy. Florida, for example, has 81 natural community types, including xeric hammock, coastal berm, basin marsh, sink-hole lake, and marine warm reef.

Ecosystem types at either level of hierarchy that have declined in areal coverage or quality (defined by standards of native species composition and habitat structure) by at least 80% would be listed as Endangered and protected from all further "taking" (roading, logging, livestock grazing, mining, development, or other habitat degradation). Recovery goals would be set and recovery plans developed, to reestablish large, viable examples of these ecosystem types in their native landscapes. The natural spatial distribution of vegetation or other ecosystem types along environmental gradients in the landscape

mosaic would be restored, as would natural disturbance regimes and populations of extirpated species. Threatened ecosystems, defined as any ecosystems that have declined by 50-79%, would be listed, monitored, and managed so as to prevent further degradation. Recovery goals would be established.

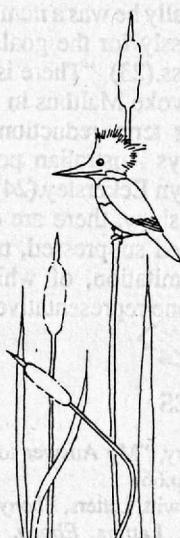
The second major section of the Native Ecosystems Act, representative ecosystems, would seek to represent viable examples of all native ecosystem types (as defined above) in a network of protected areas, regardless of their current rarity and distributed across their full range of natural variation. Recent analyses have shown that existing reserves (some 5% of the land base in the US) do a poor job of representing ecosystem diversity. Of the 261 Bailey-Kuchler ecosystem types, 104 (40%) are not represented in designated Wilderness Areas; only 50 (19%) of the types are represented in units at least 250,000 acres in size, half of them in Alaska. A representative ecosystems section would complement the recovery process for Endangered ecosystems and prevent further degradation of Threatened and non-threatened ecosystems (by the above definitions). The "gap analysis" project mentioned above would be used to determine where large reserves should be located in order to capture centers of native species richness and endemism within each major ecosystem type. Design and management guidelines for reserves, including connecting corridors and buffer zones, would also be specified in this section. Because most ecosystem types are already heavily modified, ecological restoration (including species reintroductions) would be emphasized throughout.

Although a Native Ecosystems Act is more ambitious than even the floundering biodiversity bills and forest protection legislation, it is not too early for conservationists to begin working for its passage. Remember that the Wilderness Act took 8

*"Gap analysis" is a Geographic Information System (GIS) analysis of the "gaps" in the protection of biodiversity within reserves of various kinds. Existing rather than potential vegetation is mapped because potential vegetation assumes the development of climax vegetation in the absence of all disturbance, including natural disturbances such as fire. Also, a map of current vegetation shows what actually exists in a near-natural state, as well as areas that have been converted to entirely artificial cover types such as cities and agricultural fields. Restoration of many abused areas to natural vegetation is not precluded by this approach, and would be aided by comparison of current vegetation maps with Bailey-Kuchler ecosystem maps.

years to pass; if we can pass a Native Ecosystems Act within 5-10 years, a significant portion of our natural heritage can still be saved. The sooner it passes, the more will be saved and the less expensive restoration will be required. I believe that only legislation of this type, founded on the emerging principles of conservation biology, can effectively address the biodiversity crisis. A Native Ecosystems Act will not work in isolation, of course. Air and water pollution, stratospheric ozone depletion, and global warming, unless checked, will make even the ideal reserve system unsuitable for all but the most tolerant and adaptable species. But for now, habitat alteration remains the most severe threat to both aquatic and terrestrial biodiversity, so habitat protection and restoration remain the highest conservation priorities.

Reed Noss, Wild Earth's science editor, is soliciting comments on this idea so that he can refine it and draft a bill. Please send comments to Reed at 925 NW 31st St, Corvallis, OR 97330.



Is Population Control Genocide?

Part 1

by Bill McCormick

INTRODUCTION

In the early 1970s, *Ebony* magazine ran a cover story by Dick Gregory entitled, "My Answer to Genocide." "My answer to genocide, quite simply, is eight black kids—and another baby on the way," he wrote. "Of course, I could never participate in birth control because I'm against doing anything that goes against Nature." He even jokes, "my wife had so many babies at the same hospital in Chicago that they put a revolving door in her room in the maternity ward."⁽¹⁾

Fortunately, *Ebony*'s readers did not view Gregory's article as a joke, and dozens of their letters were printed in subsequent issues. "The African Bushman practiced birth control 50,000 years before Dick Gregory was born,"⁽²⁾ wrote one. "If birth control is a plot by whites to eliminate blacks, then why have ... so many young whites decided to forego having children?"⁽³⁾ wrote another. The highly respected *Black Scholar* published an article refuting Gregory's view.⁽⁴⁾

Of all the issues facing contemporary society, the population/birth control debate has been the most shrill and vociferous. Even in the 1990s, the rhetoric employed in some circles makes it virtually impossible to have a rational discussion of the issues. Some on the left have claimed that "wealthy, privileged white males"⁽⁵⁾ are behind the overpopulation "hoax," spoken of "Population Control as Genocide,"⁽⁶⁾ and claimed its advocates espouse "ecofascism" and "ecobrutalism."⁽⁷⁾ Others of the

so-called "pro-life" (more properly, "pronatalist") movement — though with a different political slant — have echoed many of these charges, accusing proponents of even the mildest family planning efforts of plotting a "holocaust" that would make Hitler look mild by comparison.⁽⁸⁾ Given the amount of heat and smoke generated, it seems only fair to ask what these groups are so upset about.

THE MALTHUS/GODWIN DEBATE: UNCOVERING SOME OF THE ROOTS

To sort out the tangled skeins of the population question, we need to go back to Thomas Malthus.⁽⁹⁾ Malthus was an English clergyman of the early 19th century and one of the first to put forth the notion that human population will grow, if unchecked, at a geometric rate, while the means of subsistence will increase at only an arithmetic rate. Therefore, Malthus argued, hopes for widespread human happiness and justice would always be in vain, as population growth would always outrun the growth of production. No political reforms could change this, in his view.

Malthus's analysis of overpopulation was flawed in many ways, not the least of which were his pronounced upper class bias, his hostility to relief programs for the poor, and his religious opposition to birth control as a means of checking population!⁽¹⁰⁾ "Indeed, I should always reprobate any artificial and unnatural modes of checking population,"⁽¹¹⁾ he wrote in 1817. Malthus advocated abstinence or late marriage instead, and apparently felt other "positive checks" such as war, famine and ill health ought to be left to run their course as a means of leveling population. Many of these beliefs would be repugnant to most people alive today, and it is important to remember that Malthus was very much a man of his time, of the industrialist class and its prejudices. Nevertheless, I will

continued next page

argue that the core of Malthus's theory—that the Earth tends to place limits on the growth of human numbers, and when these limits are pressed against, disaster cannot be far behind—is even more relevant today than when his *Essay* was first published. The relevance of Malthus's theory today helps explain why, almost two centuries later, one can still find highly informed people choosing sides for and against Malthus. Both sides are correct. On the one hand, Malthus was an ecological visionary. On the other hand, Malthus was a social reactionary. Who wouldn't be confused??

It is significant that Malthus wrote his original treatise as a response to the "limitless perfectibility" theories of the Marquis de Condorcet and William Godwin. Godwin is sometimes referred to as "the father of anarchism," a school of thought that, along with Marxism, figures heavily in criticisms of population control. Condorcet perhaps best summed up the exuberance of this period when he wrote:

We have witnessed the development of a new doctrine which is to deliver the final blow to the already tottering structure of prejudice. It is the idea of the limitless perfectibility of the human species.(12)

William Godwin believed the day was coming, perhaps not far off, when: "There will be no war, no crimes, no administration of justice, as it is called, and no Government. Besides this, there will be neither disease, anguish, melancholy, nor resentment. Every man will seek with ineffable ardour the good of all."(13)

As pertains to the population issue, Godwin got so carried away he could write things like this:

If I were to say that the globe would maintain twenty times its present inhabitants, or, in other words, that for every human creature now called into existence, twenty might exist in a state of greater plenty and happiness than our small number at present, I should find no one timid and saturnine enough to contradict me.(14)

It was against such unbounded optimism and naiveté that Malthus first set his arguments. Godwin's presentation would fit in well with the Julian Simon/Ben Wattenberg "full speed ahead on population growth" position, were it written today.(15)

FRANCIS PLACE OFFERS A WAY OUT

As far as we know, Francis Place in 1822 became the first propagandist of birth

control as a means of curtailing large families and social misery. Place distributed "diabolical handbills," as they were called by the guardians of the status quo.(16)

Though the early advocates of birth control were attacked and jailed as if they were a new plague on the Earth, it is important to realize that the "desire to control fertility, to plan one's family and not leave child-bearing to chance, has been pretty well universal throughout human prehistory and history."(17) What was new, as contraceptive historian Norman Himes pointed out, was that "we have been able, more effectively than our ancestors to winnow out the reliable"(18) methods. Therefore the exponents of birth control "have merely crystallized a discontent—or, if you will, a constructive desire—which dates from pre-history."(19)

Though they were both also men of their times and had their flaws, Norman Himes wrote a brilliant introduction to Francis Place's book, which is worth quoting at length:

Malthus was doubtless wrong in supposing that overpopulation was "imminent and immediate," but Godwin was certainly further from the truth in thinking of it as "myriads of centuries" away. The truth lay in between....(20)

Himes agreed that Malthus's proposals for limiting population were unrealistic:

Place realized that Malthus's remedy was no solution at all. Convinced of the possibility of making a distinctive contribution, and realizing that others were unwilling to step forward and say publicly what they knew, he resolved to go ahead unaided and alone....

Detecting a false dichotomy in the Malthus/Godwin controversy, he saw the truth on both sides and conceived that a mid-position was more tenable.... Why argue on the one hand as if political institutions ... were "light as a feather" in determining poverty and prosperity for the masses? On the other hand, why argue as if to strive to maintain the position that human institutions alone were responsible, and as if population increase had "no bearing" whatever on the production of these evils? ... Must we have all of one explanation or none? ... For this reason it is to the credit of Francis Place, the self-taught working man, that he saw the unreal contrast, the false alternatives in the respective positions of Godwin and Malthus ... he never forgot that human institutions were malleable under the concerted will of man....(21)

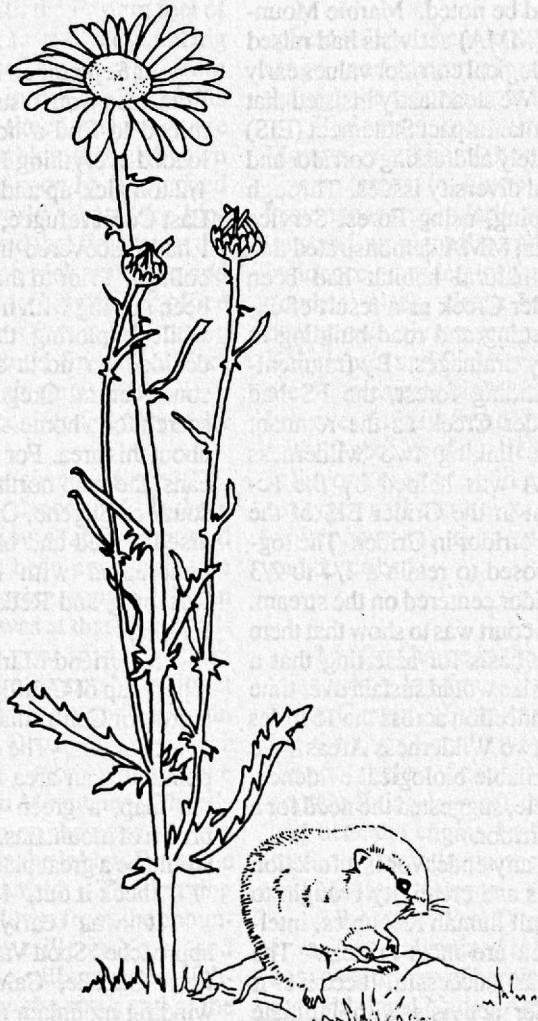
As I alluded earlier, those who use the term "Malthusian" (often in a highly derogatory manner) to describe advocates of birth control are perpetuating an historic fallacy. Malthus was anti-contraceptive. Francis Place was probably the first to engage in "the democratization of birth control," or to attempt to provide reliable methods of stopping unwanted pregnancies to the masses in an effort to break the cycle of more children/more poverty. Later, this cause was enthusiastically taken up by feminist radicals such as Margaret Sanger and Emma Goldman, who saw the opportunity to lift women out of their oppression as "childbearing machines," and provide them with new social and economic opportunities. Some labor agitators, like Elizabeth Gurley Flynn, and members of the irrepressible IWW (Wobblies), went so far as to propose a sort of pregnancy strike against the bosses, for as Flynn said: "the large family system rivets the chains of slavery upon labor more securely. It crushes the parents, starves the children, and provides cheap fodder for machines and cannons."(22) (We need more such activists today!)

Unfortunately, I might say tragically, traditions such as these have been minimized over the years, while the importance of people like Malthus has been inflated. Malthus did have some far-reaching ideas about the carrying capacity of Earth, and for this he deserves credit. But politically and theologically he was a numbskull, who worked tirelessly for the goals of the industrialist class.(23) "There is absolutely no need to invoke Malthus in making the case for long term reduction in human numbers," says Australian political philosopher Robyn Eckersley.(24) As I have attempted to show, there are other, what might be called suppressed, traditions of population limitation, of which Francis Place is just one representative.

FOOTNOTES

1. Dick Gregory, "My Answer to Genocide," *Ebony*, 10-71, p.66.
2. Howard Figowitz, Letters, *Ebony*, 12-71, p.16.
3. Mary Shaw, Letters, *Ebony*, 12-71, p.16. There were a handful who wrote in support of Gregory's views: "If I have a lot of children, God will help make a way for them." Charles Trimble, *Ebony*, 2-72, p.28.
4. John Hudgins, "Is Birth Control Genocide?" *The Black Scholar*, 11/12-72.
5. Ynestra King, in "The Population Bomb: An Explosive Issue for the Environmental Movement," *Utne Reader*, 1-88, p.85.

6. George Bradford, "Women's Freedom: Key to the Population Question," *Fifth Estate*, Spring 88, p.23. Bradford devoted several issues of his post-situationist anarchist paper to denouncing the "genocidal" character of population control, as part of his running battle with deep ecology. Also see Fall 1987 and Spring 1989.
7. Murray Bookchin, "Social Ecology vs. Deep Ecology," *Socialist Review*, 3-88, p.13, among others.
8. E.C. Hooper, "Abortion History is Racist," *Charlottesville Daily Progress*, 3-22-90, p.4.
9. Thomas Malthus (1766-1834). In 1798 Malthus first published his enormously influential and enormously flawed *Essay on the Principle of Population as it Affects the Future Improvement of Society, with Remarks on the Speculations of Mr. Godwin, M. Condorcet and Other Writers*, J. Johnson, London, 1798.
10. J.R. Burrow, "A Specter at the Feast," *Horizon*, Autumn 1975. "There can be no doubt that he would have hated the use of his name in 'Malthusian' or 'neo-Malthusian' as a euphemism for contraception and its advocates. But some of the younger political economists, notably John Stuart Mill, and radical journalists like Francis Place and Richard Carlile, were uninhibited by Malthus's scruples and deliberately set out to spread information about birth control, even though publications on the subject long continued to risk prosecution...." p.47.
11. Thomas Malthus, *Essay*, appendix to the 1817 edition.
12. Marquis de Condorcet (1743-1794, French philosopher associated with the Enlightenment). Here quoted in S. Chandrasekhar, *A Dirty, Filthy Book*, U of CA Press, Berkeley, 1981, p.7.
13. William Godwin (1756-1836) quoted in same, p.7.
14. Godwin, *Of Population; An Answer to Mr. Malthus*, Longman, Hurst, Rees, Orme and Brown, London, 1820, p.15. Godwin goes on to say: "What immense deserts, what vast tracts of yet unconquered forests, the asylum only of wild beasts, or the most pernicious and contemptible animals, have we occasion to observe!... Man seems formed to subdue all these, to chase the wild beasts and either tame or destroy their species, to fell the forests, and to render the most ungrateful soil productive. If indeed we are qualified to 'increase and multiply and replenish the earth,' it might be hoped that, at a period however distant, the whole surface of all lands might be cultivated like a garden." pp.446-7
- This is the father of modern anarchism speaking! Yet where do ecologically-minded anarchists like George Bradford and Murray Bookchin deal with these astonishingly insensitive statements?
15. Julian Simon, *The Ultimate Resource*, Princeton U Press, Princeton, NJ, 1981; and Benjamin Wattenburg, *The Birth Dearth*, Pharos Books, NY, 1987. Simon and Wattenburg were the cornucopian gurus of the Reagan revolution.
16. Critics of Francis Place (1771-1854) called him "a monster and a diabolical wretch," a "reptile" whose "reactionary manifestation of malthusianism" "deserved public scorn and political annihilation"; as quoted in Peter Fryer, *The Birth Controllers*, Stein and Day, NY, 1966, p.83. (Sounds remarkably familiar, doesn't it?)
17. Ibid, p.17.
18. Norman Himes, *The Medical History of Contraception*, William and Wilkins, Baltimore, 1936, p.422.
19. Ibid, p.XIII & XIV.
20. Himes, introduction to Francis Place, *Illustrations and Proofs of the Principle of Population*, Houghton Mifflin, Boston, 1930 (reissued), p.30.
21. Ibid, pp.35, 37-8.
22. Elizabeth Gurley Flynn, *Words on Fire*, Rutgers U Press, New Brunswick, NJ, 1987, p.137.
23. Place, *Illustrations*: "I would not, however, be understood as approving the whole of Mr. Malthus's expedients, neither do I believe that Mr. Malthus would himself, were he not ... but too often disposed to favour the prejudices of the rich. The consequence of this haste and prejudice has been to create ill-will, and to perpetuate animosities." p.8.
24. Ms. Robyn Eckersley, personal correspondence.



Bill McCormick is a deep ecologist, student of population issues, and widely published writer living in Charlottesville, Virginia. Parts 2 and 3 of his article will appear in our upcoming issues.

The Grider Creek Story

Biodiversity and Biological Corridors in the Klamath Mountains

by Felice Pace

On 13 September 1990, the US Court of Appeals for the Ninth Circuit rendered a decision in the matter of Marble Mountain Audubon et al vs Robert Rice in his capacity as supervisor of the Klamath National Forest. The decision has been hailed as "precedent setting." For the first time a US Court has interpreted the National Environmental Policy Act (NEPA) as requiring that an agency take a "hard look" at the impacts of a proposed action on biological diversity values. Specifically, the Court ruled that the Klamath National Forest had failed to analyze the impacts of logging and road-building on Grider Creek as a biological corridor linking two Wilderness Areas—the Red Buttes Wilderness to the north and the Marble Mountain Wilderness to the south.

The Grider victory is important to forest defenders because it saved, at least for the moment, an ancient forest watershed from the devastation that passes for "timber management" in the Northwest. It is also important because, if properly utilized by forest activists, it can help preserve other threatened ancient forests adjacent to or between Wilderness Areas and other reserves. It might even be possible to apply the Grider Decision off public lands, for example to situations that involve private land development in wildlife corridors between parks.

Marble Mountain Audubon vs Rice is also important as one of a growing number of cases bringing biological principles and concepts, in particular the principles of conservation biology, into federal courtrooms. This extraordinary victory has the potential to significantly influence the way the Forest Service and other federal agencies assess the impacts of their actions. While environmental assessments don't guarantee sound deci-

sions, they do make it harder for bureaucrats to ignore critical information and they provide insights helpful in administrative appeals and court challenges.

Of course, the special conditions of this case should be noted. Marble Mountain Audubon (MMA) activists had raised the issue of biological corridor values early in the process. We steadfastly insisted that the Environmental Impact Statement (EIS) was not adequately addressing corridor and other biological diversity issues. Through intensive mapping, using Forest Service (FS) timber data, MMA demonstrated that a corridor of natural habitat had been created in Grider Creek as a result of extensive clearcutting and road-building in all other nearby drainages. By fragmenting the surrounding forest, the FS had "selected" Grider Creek as the remnant natural habitat linking two wilderness islands. MMA was helped by the acknowledgement in the Grider EIS of the existence of a corridor in Grider. The logging plan proposed to retain a 1/4 to 2/3 mile wide corridor centered on the stream.

Our task in court was to show that there is no scientific basis for asserting that a corridor of this size would sustain over time a biological connection across the 15 miles separating the two Wilderness Areas. We argued that available biological evidence, while incomplete, suggested the need for a much wider corridor.

Success in any endeavor is a function of the resources and creativity brought to bear on it. Of all human resources, intellect and passion are most critical. The Grider suit was successful because it brought together activists with intimate knowledge of the Grider drainage and surrounding Klamath Mountains, tenacious and talented environmental attorneys, and conservation biologists with the knowledge

and courage to take a stand for the ancient forests. Neil Lawrence and David Edelson, attorneys with the Natural Resources Defence Council (NRDC), provided outstanding legal counsel. Several biologists, most notably Reed Noss, provided expert testimony. Three foresters contributed survey work, slogging through deep snow in winter to collect critical data on forest conditions. The Grider story is about place and people interacting over time, the development of relationship, of knowledge, of friendship and love, and the application of knowledge to action. My goal is to tell the story in a way that makes it available as an example, perhaps even a model, of how to defend native ecosystem values.



In September 1975 I returned to San Francisco from a summer in Alaska determined to find a home in the country. I loaded everything I owned in the back of a 1/2 ton pick-up and headed north. I am an East Coast refugee, a child of the city, and I had discovered the outdoors only after college. Prior to the Alaska summer I had been staying with friends in San Francisco while exploring the hinterland. I had decided on north-central California and south-central Oregon as the focus of my search for a home. I knew next to nothing about this area. For me, as for most Americans, the map north of San Francisco and south of Eugene, Oregon was a blur traversed by red and blue line highways and punctuated with mysterious names—Roseburg and Redding, Grants Pass and Eureka.

My friend Mark, a geographer, had a relief map of California tacked to his wall. Northern California appeared as a jumble of mountains. The day I left Frisco, Mark pointed to an area near the top center of the map, a green valley amid the gray brown of mountains. "I always thought this would be a great place to explore," he said. "I'll check it out," I replied.

It was early October when I approached Scott Valley, up and over a pass from Gazelle, California, on a narrow, winding mountain road following the old stage route. The air was cool and clear after rain and the sun shone brightly—an Indian summer day. As I topped the pass and started to descend I was astounded to see

rust red and yellow foliage. I had not been aware of missing the colorful Eastern fall, but clearly a void was being filled. I wove down from the pass into the Valley feeling more comfortable on the land than I had since leaving New England.

As I came to the Valley floor, an occasional car would pass. This occasioned my second shock of the day. As they cruised past, folks waved! Here I was alone, a stranger, and folks were waving to me.

That night I camped near Etna. There was a dance in town at the "hall" above the city office, and after eating at the cafe across the street I went over. The dance provided my third surprise of the day. I had already seen enough of Scott Valley to expect cowboys, and I'd been in Northern California long enough to expect loggers, but by the end of the night I'd met local Native Americans, miners, fundamentalist Christians, and back-to-the-land hippies.

The cultural diversity encountered that first night coupled with the Eastern feel of the Valley's fall colors and the amazing friendliness expressed in waves from strangers all figured in my choice of this area as home. At the time I was not aware I had chosen an area which, though known to few people, would soon be recognized by biologists as a world center for biodiversity. I had stopped that first day at the local ranger station to pick up maps and read the brochures. Nothing at that office told me I was less than five miles from an area in which you could find 17 distinct conifer species in a single square mile—perhaps the greatest conifer diversity in the world.

Many things have changed since 1975. There aren't as many dances in Etna these days, the old cafe is now a fabric store, and the campground has been converted to a city park. The amazing square mile in Sugar Creek, which was at that time available for logging, is now in the Russian Wilderness, and a storefront on Main Street serves as base for two groups active in defense of the forest. Biodiversity is a buzz word now, and many more people have heard of the Klamath Mountains. There's a new ranger station on the edge of Etna with fancy displays in the lobby. But some things have not changed. The logging trucks still rumble down from the mountains and out to the mills in Yreka and Oregon; most people still wave to neighbors and strangers on the road; and at the new ranger station you still can't find a brochure on the Sugar Creek conifers.



Spanning the California/Oregon border, the Klamath Mountain Province is characterized by steeply folded, granite cored mountains of phenomenal geological complexity. Here are found the oldest rocks in Oregon and some of the oldest in California. The Province is strategically located at the junction of the Northwest (Cascadian), Californian, and Great Basin Bioregions. Within the Province the maximum elevation is slightly over 9000 feet,

miscarried and babies were born with birth defects. Why was the Forest Service intent on using poisons in the forest? It was some time before we discovered "the allowable cut effect." Spraying herbicides allowed the managers to claim faster growth; faster growth meant plantations would reach cutting age sooner; if trees could be cut sooner, more could be cut now. Such rationales are familiar to those working on public lands issues today. Then, it was new infor-

My first home in the Klamath Mountains was a log-frame cabin in the Scott River Canyon. From my deck overlooking the river I could watch otters play in the pools below. I could also see giant helicopters flying logs off the mountainsides ...

upland valleys occur in the 1500-3000 foot range, and major river canyons wind through the mountains to the Pacific shore.

Biologists recognize the Klamath Mountains as one of the most biologically diverse areas in North America. The Province is particularly noteworthy for its outstanding plant diversity. It has a high incidence of endemics (species that occur nowhere else). Some herbaceous plants here grow only on serpentine soils of the Kalmiopsis and Siskiyou Mountains. The area's greatest biological significance, however, is in its tree diversity. The forest with 17 species of conifers on Sugar Creek is but one example of a great array of forest types and plant associations, many of which have yet to be adequately studied and described.



My first home in the Klamath Mountains was a log-frame cabin in the Scott River Canyon. From my deck overlooking the river I could watch otters play in the pools below. I could also see giant helicopters flying logs off the mountainsides and hear the engine brakes of log trucks careening over the passes to mills in Yreka and Medford, Oregon.

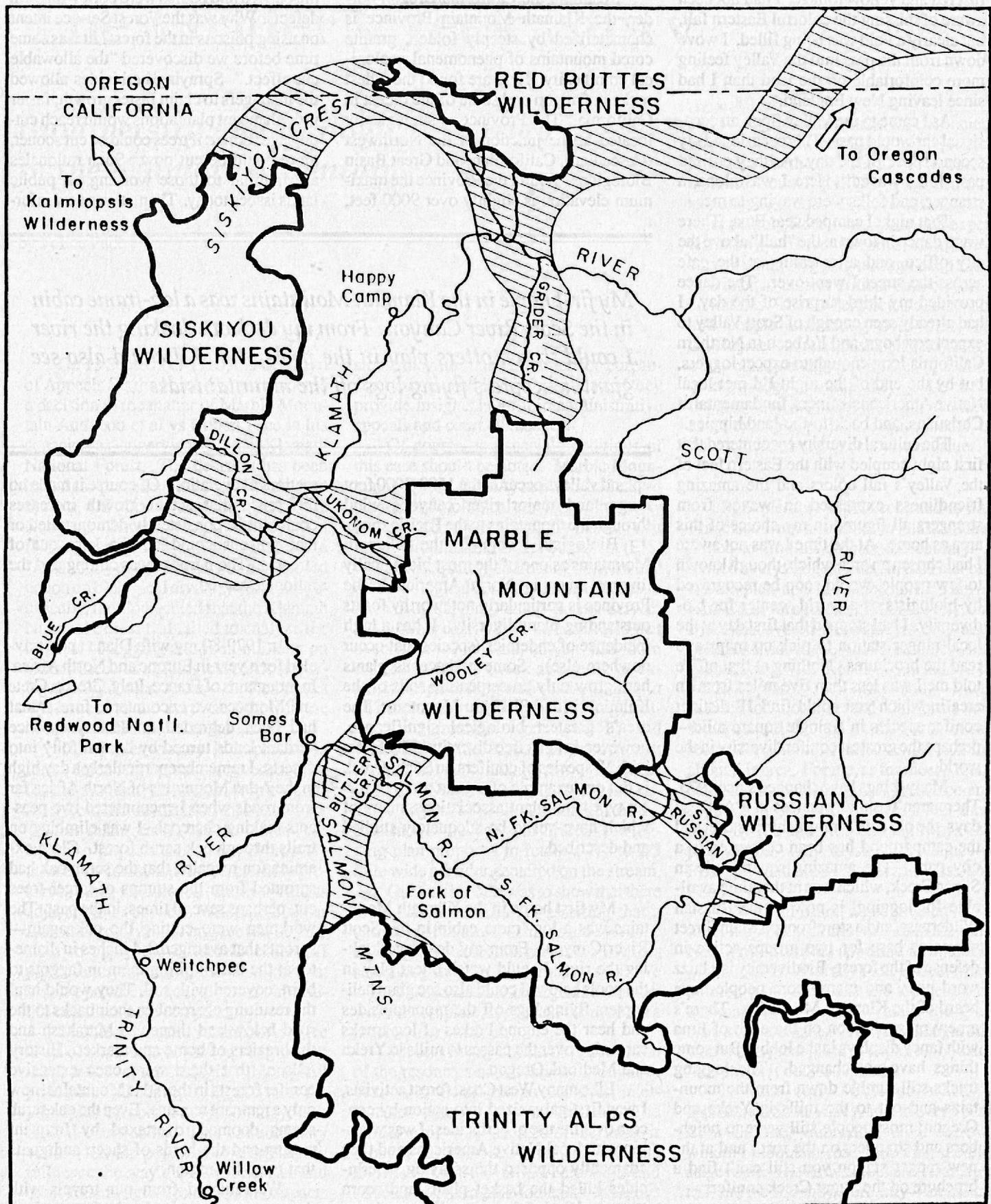
Like many West Coast forest activists, I was first galvanized into action by concern over the use of herbicides. I was working with local Native Americans and they adamantly opposed the spraying. Herbicides killed the basket plants and acorn trees, and fouled the water. When a drainage was sprayed, healthy women suddenly

mation, a revelation. Of course it made no difference that actual growth increases could not be consistently demonstrated or that poisons could not be kept out of streams. The purpose was cutting and the rationale served.



In 1979-80 my wife Diana and I traveled for a year in Europe and North Africa. In mountains of France, Italy, Greece, Crete and Morocco we encountered forests that had been degraded or destroyed; once verdant lands turned by human folly into deserts. I remember particularly a day high in the Atlas Mountains of North Africa far from roads when I encountered two peasants making charcoal. I was climbing on trails through oak scrub forest. Close examination revealed that the scrub oak had sprouted from the stumps of larger trees cut, perhaps several times, in the past. The workmen were cutting the oak again—sprouts that averaged 2-4 inches in diameter at the base—piling them in faggots to burn, covered with soil. They would haul the resulting charcoal on their backs to the road below and thence to Marakesh and the braziers of home and market. History tells us that there were once extensive conifer forests in the Atlas Mountains, now only a remnant remains. Even the oak scrub seems doomed, overtaxed by frequent cutting and the herds of sheep and goats that roam the region.

We returned from our travels with deepened appreciation for the forests of our home. Our travels had provided perspec-



tive. We had come home to an embattled remnant of the vast temperate forests that once encircled the Northern Hemisphere. This realization inspired action. We joined a few friends to found Marble Mountain Audubon, the first environmental organization based within the borders of the Klamath National Forest.

These were the days of RARE II [the FS's second Roadless Area Review and Evaluation] and the battle, state by state, for additional Wilderness on the National Forests. MMA played a role in this effort and, again, it shaped our consciousness. Two congressmen, John Seiberling of Ohio and Jim Weaver of Oregon, twice brought wilderness hearings to the Klamath Mountains. Watching these men challenge timber executives and forest supervisors, questioning the dominant management paradigms, provided inspiration and an understanding of land management politics.

As a RARE II area, Grider Creek was eligible for designation by Congress as Wilderness. Despite this, the Forest Service prepared an environmental assessment to support an extensive plan for roads and timber extraction. Huey Johnson, at that time director of California's Resources Agency, along with NRDC, filed suit to block this and other development plans in RARE II roadless areas. State of California vs Block stopped development of Grider and many other California roadless areas pending passage of a wilderness bill for the state.

In 1984 the long awaited California Wilderness Bill became law. In the Klamath Mountains, Wooley Creek, the Trinity Alps and a few other areas were protected. The bulk, however, including Grider Creek, were "released" for other uses. The Grider Creek Environmental Assessment, subject of California vs Block, was taken down from the shelf and dusted off. A few of the worst roads were dropped and a laundry list of "mitigation measures" added "to protect water quality." On 5 July 1985 Robert Rice, Klamath National Forest supervisor, issued a "Finding of No Significant Impact and Decision Notice." In order to meet "multiple-use objectives" 74 million board feet of timber would be removed from 2621 acres in the drainage. Over 40 miles of new roads would be built. Grider, a beautiful salmon stream with the Pacific Crest Trail running most of its length, would be made to resemble the growing number of watersheds in the Klamath Mountains ravaged by clearcuts, crisscrossed by roads, and degraded by eroded sediments.

MMA, Salmon River Concerned Citizens and the Karuk Tribe of California joined together to challenge the decision. Development plans were suspended pending hearings on our administrative appeal. Regional forester Zane Smith found no merit in our arguments but, upon petition, the Chief of the Forest Service reversed his decision.

Figuring strongly in our victory were the grave reservations that California's Department of Fish & Game had expressed concerning impacts to fisheries. Though state agencies charged with protection of wildlife and water quality rarely challenge Forest Service decisions, strong statements of their concerns in the environmental planning records can be critical in appeals and court actions brought by private organizations or citizens. Our appeal also cited an important decision of the US District Court known as the GO Road Decision [resulting from attempts to block the Gasquet to Orleans Road on Six Rivers NF]. In a challenge to road-building and logging in the Blue Creek drainage, also in the Klamath Mountains, the Court found that simply listing mitigation measures was not sufficient to meet water quality standards. Mitigations had to be specified on the ground and analysis completed which demonstrated that planned mitigations would be effective in reducing watershed impacts to comply with state standards. FS managers had again been frustrated in their attempts to "develop" Grider Creek.



Forest activists rarely have time to keep current with the scientific literature pertinent to their concerns. There always seems to be a crisis demanding attention and action. In depth study is deferred; books collect dust on shelves. For the most part we are forced to rely on articles, conference presentations, and phone conversations to gain the knowledge and concepts we need to support our work. When we do make the time, however, study of primary sources can provide powerful insights which serve to organize our on-the-ground knowledge and guide our work.

At the time of the Grider administrative appeal, the Spotted Owl was gaining a prominent place in the debate over management of West Coast forests. I had ordered a book, *The Fragmented Forest*, by biologist Larry Harris. A train trip provided a rare opportunity to read the book in its entirety. It was a revelation. Harris's work on the Willamette Forest in Oregon had provided the basis for Forest Service plans

to "manage" for survival of the Spotted Owl and other species associated with Northwest Ancient Forests. The "plan" was to retain a polka dot network of old-growth islands in the sea of clearcuts the managers were creating at breakneck speed. But Harris had called for more than this network. He had stressed the need for "corridors" linking the habitat islands to provide for dispersal of young and interchange of genetic material over time. In typical fashion, managers had chosen to incorporate in their plans only the more convenient aspects of the strategy.

The Forest Service plan for the Spotted Owl has since been recognized for what it always was: "a recipe for extinction." It now seems obvious that a strategy relying on fragments of habitat scattered across a landscape could not possibly be effective in countering the effects of forest fragmentation. Maintaining or restoring forest connectivity is the most (perhaps only) effective way to counteract the impacts of forest fragmentation which result from logging as practiced in our Western forests.

The Fragmented Forest provided the concepts activists needed to develop a vision of how the Klamath Forest should be "managed." First we convinced the Forest Service and California's Department of Fish & Game to join us in sponsoring a 3-day workshop on forest fragmentation and corridors. Fortunately a former student and colleague of Harris's, Reed Noss, had recently moved to Oregon and was available. The workshop, held on the Klamath Forest in April 1989, was well attended by state and federal biologists. It produced draft guidelines for "biodiversity corridors." There appeared to be hope for a cooperative approach to planning for biodiversity in the Klamath Mountain Province. It soon became clear, however, that government biologists were not ready to advocate excluding logging from large areas. FS biologists on the Klamath and Six Rivers National Forests proposed connecting the isolated Spotted Owl habitat islands with narrow (1/8-1/2 mile) dispersal corridors. MMA and the newly organized Klamath Forest Alliance, recognizing the vulnerability of narrow travel corridors, wanted to go farther. The Klamath Corridors Proposal (see map) uses entire watersheds and ridge systems to link current reserves (wilderness, parks, etc.) on the Klamath and adjacent forests.

One goal of the Klamath Corridors Proposal is to increase the effective size of

continued next page

the reserves. To function properly the corridors must do more than provide travel ways for large animals. Smaller animals and plants must be able to migrate and interact over long time frames. Effective landscape linkages provide for a continuity of life between adjacent reserves. For maximum effectiveness we selected watersheds and ridge systems that had not yet been subjected to extensive logging and road-building. Because very few such areas remain, this was not always possible. Consequently, some of the proposed corridors require extensive restoration (road removal, vegetation planting, etc.) before they can function properly.

The Klamath Corridors are designed to be wide enough to encompass large natural disturbances, such as forest fires. During the late summer and fall of 1987 fires burned large sections of the Klamath Province. On the Klamath National Forest over 230,000 acres burned, including a big part of the Grider Corridor. In Grider the fire was for the most part a classic underburn.

Fire is an essential process in Western forests. We now understand that periodic fire is needed to create the cathedral qualities and to preserve the biological functions associated with the Ancient Forests. Human fire suppression and plantation forestry, however, have combined to dramatically alter the fire regime. As a result, catastrophic fire is becoming more prevalent and with it the federal managers' mania to get in and log. In salvage logging dead and live trees are sold at bargain prices. These sales typically lose money for the government. Dead wood, a prime component of the forest's biological legacy, is sold off; timber companies reap windfall profits; and the American taxpayer foots the bill.

The 1987 fires provided another opportunity for Forest Service managers to get into Grider. This time they were deter-

mined not to fail: over 3 million dollars was spent constructing the complicated justification and EIS known as the "Grider Recovery Project." The result was yet another defeat, the precedent setting Grider Decision described above. The managers were stunned. Perhaps now they suspect as I believe that some force is at work in Grider, some earth genie or power, which does not want this place to become like so many others to the west and east, north and south, a shadow of its former self.



When asked to comment on the Grider Decision, the attorney representing three timber companies who wanted to log Grider said, "I think they (environmentalists) will see biological corridors everywhere." And so it has come to pass. Recognizing the need for habitat connectivity and inspired by the Klamath Corridors Proposal and Grider Decision, forest activists are identifying numerous corridors in proposals to protect West Coast Ancient Forest Ecosystems.

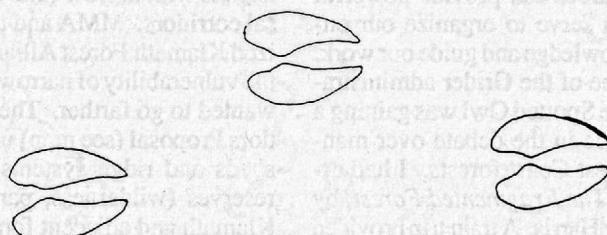
Connectivity, however, is only one of the principles of landscape ecology and conservation biology that must be applied if we are to design strategies adequate to the task before us. That task is to preserve what remains of our native heritage and to restore to native integrity as much as possible of what has been destroyed in our species' rush to subjugate the earth. In the Klamath Mountain Province this means creating much larger reserves, on the order of 2-3 million acres, and connecting these with broad corridors, thereby forming a reserve network capable of supporting the Gray Wolf, Grizzly Bear, Elk and other critters as they reinhabit their former ranges. It means restoring natural habitat connections between our mountains and the Cascades to the northeast, Sierra Nevada to the southeast, and Coast Ranges to the west. Our challenge is to extend our native con-

sciousness outward in space and forward in time to conceive a vision of a reserve system which may someday stretch from the rainforests of Southeast Alaska to the Alerce forests of Chile—and then to bring this vision into reality.

And where does *Homo sapiens*, the two legged species, fit in this vision? How should we respond to the fear, anger and misunderstanding of the humans who live in the rural regions and to the obstructionism of the corporate and political elites? The Biosphere Reserve model developed by the United Nations provides a framework from which we can work to reconcile extensive wild reserves and the needs of human communities. In this model, core reserves are surrounded by buffer zones in which human alterations are allowed at low intensities. Outside the buffer zones are the lands where humans and their works dominate.

In the Klamath Mountains the large forest reserves (core areas and corridors) and the buffer areas would be located mostly on public lands. Buffer zones would be managed with ecologically sensitive techniques, for example, what is currently called "new forestry" or, in Forest Service jargon, "New Perspectives." The surrounding private forest, agricultural and urbanized lands would be managed as traditional use areas. Ecosystem restoration would be needed, particularly in the buffer zones. Restoration forestry and agriculture, fisheries and wildlife restoration, road removal and revegetation with native species provide means to mitigate the economic changes needed to restore balance between nature and civilization. Involving humans in restoration would also promote a land ethic based on stewardship, a change in human consciousness essential to the success of such a vision. If properly designed and executed, this system would result in sustainable ecosystems and sustainable economies, a synthesis critical to survival for all critters, including the human variety.

Since creating the Klamath Corridors Proposal, activists from the Klamath Forest Alliance have been working with other forest activists in the Klamath Mountain Province and all along the West Coast on wider applications of these approaches. During the next year we will use the Biosphere Reserve model to develop an integrated vision at the scale of the Province. This will involve organizing the knowledge and concerns of activists working on the Siskiyou, Rogue River, Six Rivers, Klamath, and Shasta Trinity National Forests,



as well as folks active in forest and wildlife issues on lands administered by the Bureau of Land Management and National Park Service, and on state and private lands. We believe this work will succeed because of the high degree of congruence that lies beyond (or below) the surface differences in orientation, tactics and organizational affiliation. Consensus, while sometimes not realized, has grown from years of involvement with this Province. It is the native consciousness of the Klamath Mountains, the wisdom of forest and meadow, crag and canyon, which awaits further articulation.

WHAT YOU CAN DO

The Klamath Forest Alliance is working to convince the Forest Service that preservation and restoration of biodiversity should be the #1 priority for managers of the Klamath National Forest. The world class biological importance of this Province can best be protected by creating a large biodiversity reserve centered in the Klamath Forest. Letters to Barbara Holder, Klamath NF supervisor, calling for adoption of KFA's "Critical Klamath Corridors Proposal" would help. Ask her to consider your letter in formulating the final Land Management Plan. You may want to ask her to place your name on the land planning mailing list. Write to Ms. Holder at 1312 Fairlane Rd, Yreka, CA 96097; and if possible send KFA a copy of your letter.

For an information packet on biological corridors, the Grider Decision and the Klamath Corridors Proposal, send \$10 (or whatever you can afford), for duplicating, postage and the people doing the work, to Klamath Forest Alliance, POB 820, Etna, CA 96027. KFA can also provide training for groups or internships for individuals who want to develop skills in applied conservation biology—creating a visionary biodiversity proposal and acting to make it reality. Write for information on workshops and internships or for membership information.

Felice Pace is the director of the Klamath Forest Alliance, and vice-chair of the California Ancient Forest Alliance. He has degrees in economics and education and has worked many years on environmental and Native American issues in northern California.

The EARTH FIRST! Wilderness Preserve System

by Dave Foreman, Howie Wolke, & Bart Koehler

EDITOR'S INTRODUCTION

"*The Earth First! Wilderness Preserve System*" was developed beginning in 1980 by Dave Foreman, Howie Wolke, and Bart Koehler and first presented in the June 1983 issue of *Earth First!* The proposal has been edited slightly for this issue of *Wild Earth* but is presented essentially as originally printed. It is an historical document. The proposal was one of the first *Earth First!* projects. It anticipates by several years the work of most conservation biologists. In 1980 very few biologists were speaking of the need to preserve large inviolate wild areas in order to protect biodiversity. Now many are, and conservation biology is blossoming into a major force in the effort to prevent the untimely and anthropogenic end of the Cenozoic Era.

Obviously, given the great advances in island biogeography and other sub-disciplines of conservation biology made in recent years, if this proposal were being presented today it would look somewhat different. A few of the likely changes are these:

Fewer developed corridors would be allowed. Conservation biologists now realize that some species, in particular large carnivores (Grizzly Bear being a prime example) and raptors, range over vast territories and are very sensitive to human intrusions. In contrast to what this proposal suggests, roads to Old Faithful and Yellowstone Lake, for instance, would be closed or left open only for non-motorized transport (bicycles, feet).

The number of preserves would probably be doubled at least. The East is poorly represented in this proposal, in part because it is so over-developed, of course; but also because Dave, Howie, and Bart

were most familiar with the West. Now we would see on the map a huge dark blob over northern New England and New York (perhaps 30 million acres); much larger preserves in the Central and Southern Appalachians; more preserves and corridors in Florida; stepping stone preserves in the Berkshires of western Massachusetts, the Finger Lakes of western New York, the Catskills of eastern New York, the Allegheny Mountains of Pennsylvania, the Red River Gorge and Rockcastle River area of eastern Kentucky, and elsewhere. (I displayed my own bias here—for the Northeast.)

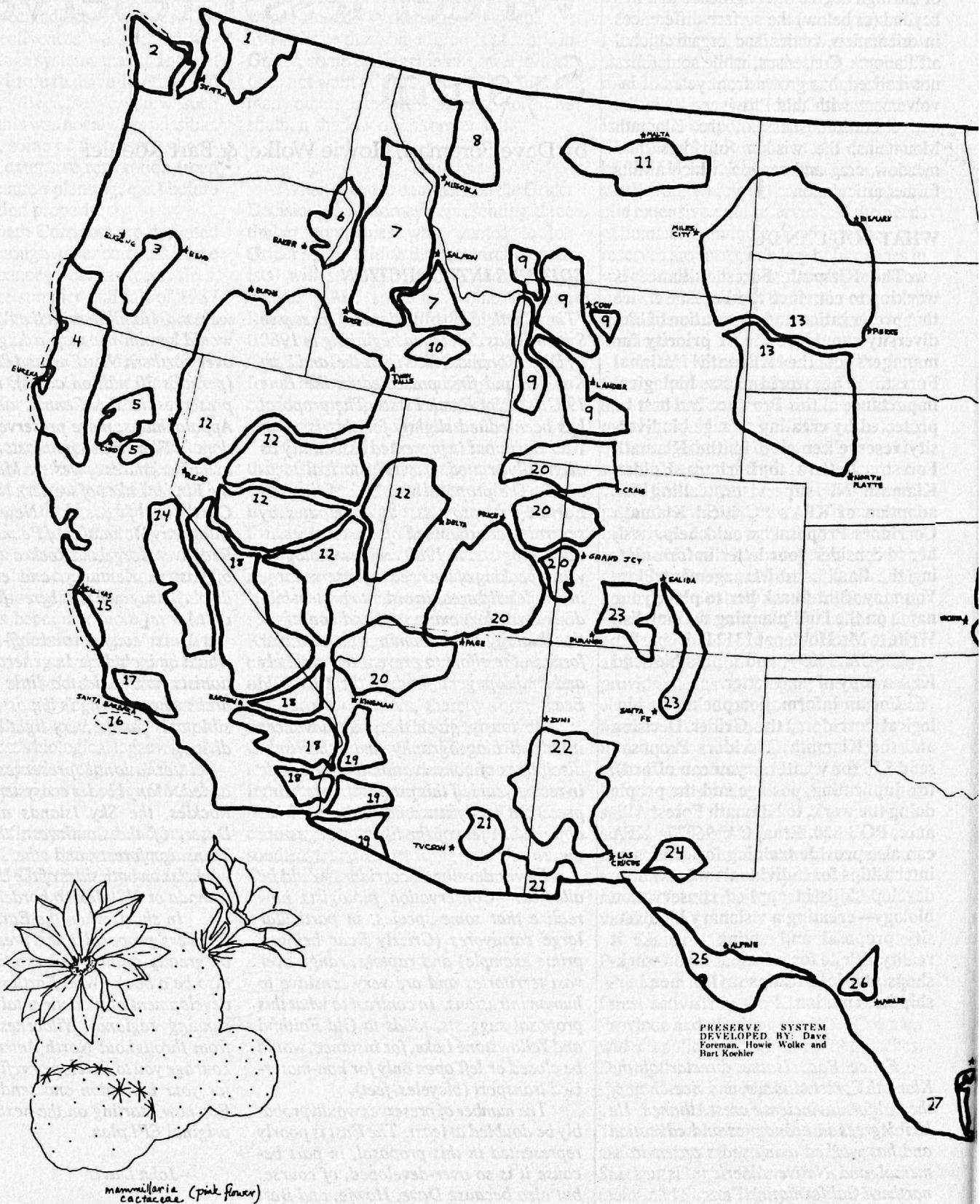
More coastal and off-shore areas would be included. In general, conservationists have paid too little attention to areas where hiking is impossible (or possible only for the very light and the very divine).

International preserves would be added. Many border ecosystems—the Wild Rockies, the Sky Islands and Sonoran Desert of the Southwest, the Northern Transition forests, and others—still retain wilderness on both sides of the United States/Canada or US/Mexico border.

In short, when the *Earth First!* co-founders' proposal is next presented, it will be greatly refined and expanded. It may also be a book. *Wild Earth* will facilitate development of a continental proposal by running regional Wilderness proposals from throughout North America. We encourage you to develop or refine proposals for your bioregion and send them to us. For now, starting on the next page is the original EF! plan.

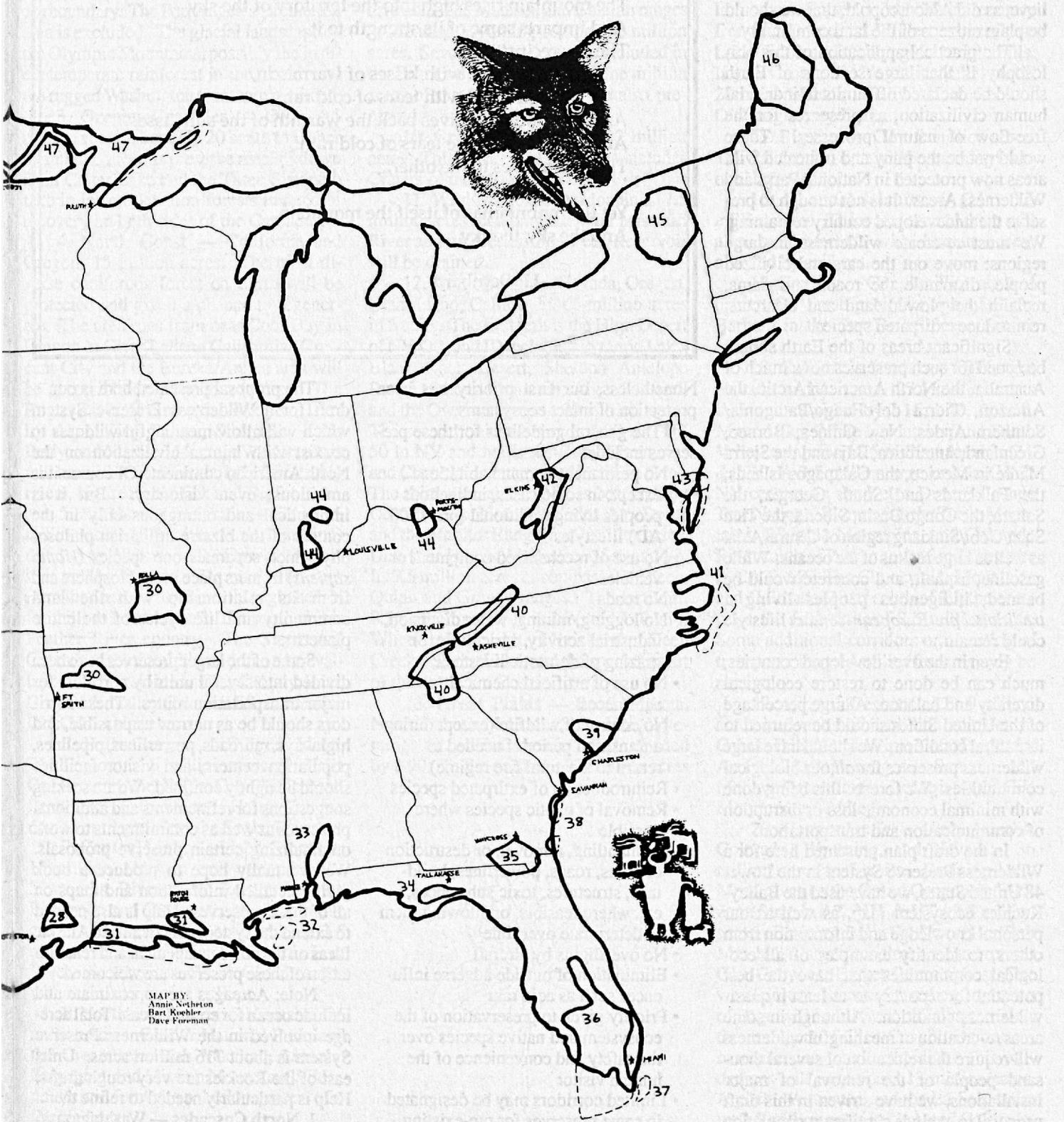
—John Davis

THE EARTH FIRST! WILDE



mammillariae (pink flower)
cactaceae

NESS SYSTEM PRESERVE



MAP BY:
Annie Netherton
Bart Koehler
Dave Foreman

The central idea of Earth First! is that humans have no right to subdue the Earth, that we are merely one of several million life forms on this planet. We reject even the notion of benevolent stewardship, as that implies dominance. Instead, we believe, as did Aldo Leopold, that we should be plain citizens of the land community.

The practical application of this philosophy is that large sections of Earth should be declared off-limits to industrial human civilization, as preserves for the free-flow of natural processes. These would not be the puny and truncated wild areas now protected in National Parks and Wilderness Areas. It is not enough to preserve the undeveloped country remaining. We must re-create wilderness in large regions: move out the cars and civilized people, dismantle the roads and dams, reclaim the plowed land and clearcuts, reintroduce extirpated species.

Significant areas of the Earth should be zoned for such preserves now: much of Australia, the North American Arctic, the Amazon, Tierra del Fuego/Patagonia/Southern Andes, New Guinea, Borneo, Greenland, Antarctica, Baja and the Sierra Madre in Mexico, the Galapagos Islands, the Falklands and South Georgia, the Sahara, the Congo Basin, Siberia, the Tien Shan/Gobi/Sinkiang region of Central Asia, as well as large realms of the oceans. While gasoline, asphalt, and concrete would be banned, indigenous peoples living a *traditional pre-European-contact* lifestyle could remain.

Even in the over-developed countries, much can be done to restore ecological diversity and balance. A large percentage of the United States should be returned to its natural condition. We should have large wilderness preserves for *all* our biological communities. We foresee this being done with minimal economic loss or disruption of communication and transportation.

In the draft plan presented here for a Wilderness Preserve System in the Lower 48 United States, we have used the Bailey-Kuchler ecosystem map, as well as our personal knowledge and information from others, to identify examples of all ecological communities that have the best potential for recovery to at least a quasi-wilderness condition. Although in some areas re-creation of meaningful wilderness will require the relocation of several thousand people or the removal of major installations, we have striven in this draft proposal to exclude significant population centers, agricultural and industrial zones, major highways, railroads, and powerlines.

WEDDING POEM

The mountain rises high into the territory of the sky
And imparts some of its strength to it.

The sky reciprocates:

sometimes with kisses of warm sun,
sometimes with tears of cold rain.

And the mountain gives back the warmth of the sun kisses,

And carries away the tears of cold rain.

Thus each gives to the other,
and takes.

Yet the mountain is of itself the mountain,
And the sky, the sky.

—J.P. Bernhard

Nonetheless, our first priority has been protection of intact ecosystems.

The general guidelines for these preserves include:

- No permanent human habitation except, in some cases, indigenous peoples living traditional (pre-1500 AD) lifestyles
- No use of mechanized equipment or vehicles
- No roads
- No logging, mining, water diversion, industrial activity, agriculture, or grazing of domestic livestock
- No use of artificial chemical substances
- No control of wildfire (except during a transition period if needed to return to a natural fire regime)
- Reintroduction of extirpated species
- Removal of exotic species where possible
- Dismantling, removal, or destruction of dams, roads, powerlines, buildings, structures, toxic substances, etc. where feasible, or allowing them to deteriorate over time
- No overflights by aircraft
- Elimination of outside adverse influences such as acid rain
- Priority given to preservation of the ecosystem and native species over the safety and convenience of the human visitor
- Limited corridors may be designated in some preserves for pre-existing transportation, utility and communications systems.

The proposal presented here is our draft for a Wilderness Preserve System which will allow meaningful wildness to coexist with human civilization on the North American continent. Of course it is ambitious, even visionary. But it is impractical and outrageous only in the context of the bizarre utilitarian philosophy which separates one species (*Homo sapiens*) from its place in the biosphere and from its relationship with the land community and life cycles of the entire planet.

Some of the larger preserves have been divided into several units by corridors for major transportation routes. These corridors should be as narrow as possible, and highways, railroads, powerlines, pipelines, population centers, and visitor facilities should be tightly confined. We are seeking suggestions for refinements and additional preserves as well as commitments to work on finalizing certain preserve proposals. We eventually hope to produce a book giving detailed information and maps on all of these preserves. Help is also needed to extend the system to Hawaii and Alaska. Ideas on the non-management and rehabilitation of these preserves are welcomed.

Note: Acreages are approximate and include ocean for coastal areas. Total acreage involved in the Wilderness Preserve System is about 716 million acres. Units east of the Rockies are very rough drafts. Help is particularly needed to refine them.

1. **North Cascades — Washington:** 6 million acres. From the Canadian border to I-90, this high country paradise includes

Glacier Peak, Mt. Baker, North Cascades National Park, Pasaytan Wilderness, Lake Chelan, and the Alpine Lakes. Diablo Dam and Ross Dam will be dismantled.

2. Olympic Peninsula — Washington: 4.5 million acres. US 12 is the southern boundary. The Port Angeles/Bremerton area is excluded. The glacial landscape of the Olympic Mountains, possibly the lushest temperate rainforest in the world, and the rugged Washington Coast are included.

3. Oregon Cascades — OR: 4.5 million acres. From US 20 south to Upper Klamath Lake, this preserve reaches down from Crater Lake and the Three Sisters to take in lower elevation forests in need of recovery on both sides of the Cascades.

4. North Coast — California and Oregon: 15 million acres. The most diverse coniferous forest on Earth will be protected and given a chance to regenerate. The area runs from near Coos Bay in Oregon to Clear Lake in California. Crescent City and the Eureka/Arcata area will be accessible only by boat or foot. The Rogue River, Kalmiopsis, Siskiyou, Trinity Alps, King Range, Sinkyone, Yolla Bolly, and Marble Mountain Wildernesses will be united: Redwoods, kelp forests, big rivers, big trees, big fish and Bigfoot.

5. Northern California — CA: 3.5 million acres (2.5 million and 1 million) divided by Highway 70. Oroville Reservoir will be drained. The north unit runs from the Sacramento River through the Ishi foothills to Lassen Peak. The south unit is Feather River country. The Sierra and Cascades, the foothills and the river valleys will be rejoined. The Grizzly Bear, Gray Wolf, Valley Oak, and Elk can return: Old California reborn.

6. Hells Canyon — Oregon, Idaho, Washington: 4.5 million acres of Hells Canyon and the Eagle Cap Wilderness. Brownlee, Oxbow and Hells Canyon dams must go. Free the Snake River!

7. Central Idaho — Idaho, Montana: 18 million acres in one unit with the Sawtooths, River of No Return, Selway/Bitterroot, and Clearwater reunited in one great wilderness. A second unit of 3.5 million acres includes the Lemhi, Lost River, Pioneers and White Cloud ranges with their intervening valleys.

8. Northern Rockies — Montana: 6.5 million acres. Glacier National Park, and the Great Bear, Bob Marshall, Lincoln/Scapegoat, and Mission Mountains Wildernesses will form one unbroken preserve for the big bear.

9. Yellowstone — Wyoming, Montana, Idaho: 25 million acres in 5 units in

order to allow road access to Old Faithful, Yellowstone Lake and Canyon, and Jackson Hole. The Gros Ventre, Wind Rivers, and Red Desert will be combined in a 11.5 million acre unit. Tetons, Palisades, and Grayback are in a 3.5 million acre unit. The Madison and Gallatin ranges in Montana/Wyoming comprise 2 million acres. Seven million acres are included in the Beartooth/Absaroka unit. One million acres of the Bighorn Basin are also preserved.

10. Great Rift — Idaho: 2 million acres. This recent lava flow area includes Craters of the Moon.

11. Wild Missouri — Montana: 7.5 million acres including the Wild Missouri River and its Breaks. Fort Peck Reservoir will be drained.

12. Great Basin — Nevada, Oregon, Utah, Idaho, California: 66 million acres in 5 units. The first unit is the High Desert of NV, OR, and ID including Pyramid Lake, Black Rock Desert, Sheldon Antelope Range, Steens Mountain, Alvord Desert, and the Owyhee country: 30 million acres. The second unit is between I-80 and US 50 in NV and holds the Ruby Mountains and Clan Alpine ranges for 11 million acres. The third unit, also in NV, is bordered by US 50, 6, & 95 and includes Arc Dome and the Monitor Range, for 9 million acres. Unit four is in NV between US 6 and 93. Its 7.5 million acres encompass the Sheep, Quinn and Grange ranges. The last unit, 8.5 million acres, is in NV and UT with Wheeler Peak, Mt. Moriah, the Deep Creeks, Sevier Lake, and the southern part of the Salt Lake Desert.

13. Great Plains — South Dakota, North Dakota, Nebraska, Montana, Wyoming: 58 million acres in 2 units divided by I-90. To the north are 37 million acres

and to the south 21 million acres. Reintroduce the Buffalo, Grizzly Bear, Gray Wolf and Elk. Free the Lakota nation. The Shortgrass Prairie and Black Hills can live again.

14. High Sierra — California: 8.5 million acres. Preserve John Muir's country from the Domeland Wilderness nearly to Lake Tahoe and reaching down into hills. If you want to see Yosemite Valley, walk 20 miles. Hetch Hetchy will be freed of O'Shaughnessy Dam.

15. Big Sur — CA: 2 million acres. The California Coast will be stunning without Highway 1.

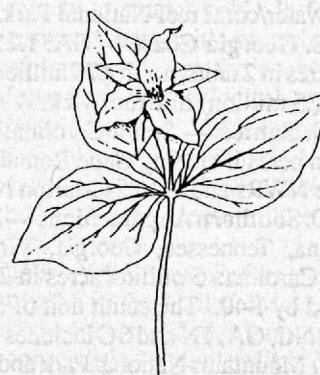
16. Channel Islands — CA: 1.5 million acres. The water around them will also be protected, with human access allowed by sailboat.

17. Condor — CA: 3 million acres of habitat for the big birds north of Santa Barbara in the San Rafael/Sespe-Frazier country.

18. California Desert — California, Nevada, and Arizona: 27.5 million acres in 5 units divided by I-15, I-40, & I-10. Mono Lake, White Mountains, and Death Valley comprise 15.5 million acres in CA & NV. A 3.5 million acre unit in CA & NV centers on the Kelso Dunes. Joshua Tree National Monument, the Turtle Mountains, Whipple Mountains, and Colorado River south of Parker cover 6 million acres in CA & AZ. The Chuckwalla Mountains and Colorado River south of Blythe comprise the fifth unit, of 2.5 million acres. Some additional corridors or rerouting of transportation and utility features may be necessary.

19. Arizona Desert — AZ: 9 million acres in 3 units of 3 million acres each: Cabeza Prieta/Organ Pipe; Kofa; Buckskin/Arrastra/Hualapi ranges. Sonoran and Mohave Deserts meet. Leave it for the Gila Monsters and Abbey.

20. Canyons — Utah, Arizona, Colorado, Wyoming, and Nevada: 36 million acres in 5 units. Draining Lake Mead gives us the Grand Canyon and Arizona Strip in AZ, NV, & UT: 8.5 million acres. Draining Lake Foul recreates Bob Marshall's largest roadless area and returns Glen Canyon to Everett Reuss's ghost. One way [sic] road access from the ghost town of Page will be allowed so folks can view the remnants of Glen Canyon Dam as a monument to man's stupidity. This wilderness will encompass 13 million acres. Arches, Westwater, and the La Sals make up 2.5 million acres in Utah and Colorado. A fourth unit, of 5.5 million acres, stretches from Desolation Canyon to the Book Cliffs



in UT and CO. Sorry, boys, no oil shale development. Flaming Gorge Reservoir will be drained for a 6.5 million acre Uintah/Dinosaur/Abode Town unit in Wyoming, Colorado, and Utah.

21. **Sierra Madre** — Arizona, New Mexico: 5 million acres in 2 units. A unit of 2.5 million acres, wholly in Arizona, includes the Galiuros, Pinalenos, and Catalinas ranges, Aravaipa Canyon, and important mesquite-grassland valleys. The eastern 2.5 million acres, in NM and AZ, has the Chiricahuas, Peloncillos, Animas, and Big Hatchets. This is a home of the trogon and coatimundi.

22. **Mogollon Highlands** — NM, AZ: 13 million acres. This is where the Rockies and Sierra Madre meet the desert and the plains. The preserve will encompass the Gila, Blue Range, Aldo Leopold, and Mt. Baldy Wildernesses, San Francisco Canyon, Plains of San Augustine, and Zuni Salt Lake. A special variance can allow the VLA to remain in the north part. Victorio wins in the end.

23. **Southern Rockies** — Colorado, New Mexico: 8.5 million acres in 2 units. The west unit, 4 million acres, connects the San Juan, Weminuche, La Garita, Big Blue, and Cruces Basin Wilderness Areas of CO and NM. The east unit is 4.5 million acres in the Sangre de Cristos of NM and CO.

24. **Guadalupe Escarpment** — New Mexico, Texas: 2.5 million acres in the vicinity of Carlsbad Caverns and Guadalupe Mountains National Parks. Carlsbad Caverns will have vehicle access but many other caves will be in the preserve.

25. **Big Bend** — Texas: 6 million acres. The Chihuahuan Desert of Big Bend National Park and the Rio Grande River will be protected. Presidio will be accessible by vehicle or train only through Mexico.

26. **Hill Country** — Texas: 2 million acres bounded by Uvalde, Del Rio, and Junction. This is an important transition zone between the East and the desert.

27. **Texas Coast** — TX: 2 million acres including Padre Island, Laguna Madre, and Laguna Atascosa Wildlife Refuge. Ocelots, Alligators and Green Jays will be safe again.

28. **Big Thicket** — TX: 1 million acres at the biological crossroads of America. Long live the Ivory-billed Woodpecker!

29. **Tall Grass Prairie** — Kansas: 5.75 million acres in 2 units. Between Emporia, Independence, Arkansas City and El Dorado is a unit of 4.5 million acres; between Emporia and Junction City are

1.25 million. Let the long grass lick the bellies of the Buffalo and let the ghosts of the Plains Wolf and the Comanche awaken.

30. **Ozark** — Missouri, Arkansas: 4.5 million acres in 2 units. Ozark Water-Ways in Missouri is 3 million between Rolla, Potosoi, Poplar Bluff, and Willow Springs. The Ozark Mountains of 1.5 million are in Arkansas and bordered by I-40, US 71 & 65, and AR 68, 23, & 16.

31. **Atchafalaya** — Louisiana: 6 million acres in 2 units. Here lies one of the world's great swamps. Five million acres are south of Lake Charles, New Iberia and Houma. The other million is between Morgan City and Plaquemine. A special corridor might be necessary for the Intra-coastal Waterway.

32. **Gulf Islands** — Mississippi and Louisiana: 1.25 million acres in 2 units. Half a million are in Mississippi around Gulf Islands National Seashore; .75 million are in Louisiana around Breton National Wildlife Refuge. The surrounding waters are also included.

33. **Alabama River** — Alabama: 1.5 million acres of southern bottomlands between I-65 and Alabama 10.

34. **Apalachee** — Florida: 1 million acres including the Apalachicola National Forest and St. Marks National Wildlife Refuge.

35. **Okefenokee** — Georgia, Florida: 1.75 million acres. The Swamp will be protected from I-10 to Waycross, GA.

36. **Everglades** — Florida: 8.75 million acres. To restore this unique wetlands complex, its natural water flow must be returned. In addition to Everglades National Park, the unit would include Florida Bay, Big Cypress, Lake Okeechobee, and the Kissimmee River. Alligator Alley, Tamiami Trail, and US 27 would be closed.

37. **Biscayne Bay** — Florida: .5 million acres. It's time to really protect our underwater/coral reef National Park.

38. **Georgia Coast** — GA: 1.25 million acres in 2 units, north (.75 million) and south (.5 million) of Brunswick.

39. **Santee** — South Carolina: 1.25 million acres including Cape Romain and Santee NWRs and Francis Marion NF.

40. **Southern Appalachians** — North Carolina, Tennessee, Georgia, Virginia, South Carolina: 5 million acres in 2 units divided by I-40. The south unit of 3 million in NC, GA, TN and SC includes Great Smoky Mountains National Park and parts of the Nantahala, Chattahoochee, and Cherokee National Forests. The north unit of 2 million in TN, NC, and VA runs from

Wytheville, VA to I-40.

41. **Outer Banks** — North Carolina: 1.25 million acres including Cape Hatteras and Cape Lookout National Seashores south of Nags Head.

42. **Monongahela** — West Virginia, Virginia: 2 million acres; the high plateau between US 50 and I-64.

43. **Delmarva** — Maryland, Virginia: 1.4 million acres; the Eastern Shore south of Pocomoke City and Ocean City.

44. **Eastern Deciduous Forest** — Indiana, Ohio, Kentucky: 1.65 million acres in 3 units: 2 in and around the Hoosier National Forest, 1 million acres and 330,000 acres; and 310,000 acres on the Ohio River in OH and KY. The big broad-leaved trees will again live unmolested.

45. **Adirondacks** — New York: 6 million acres. Let's reclaim most of this "forever wild" state park of northern forest, rivers, peaks and lakes. Some corridors may be necessary.

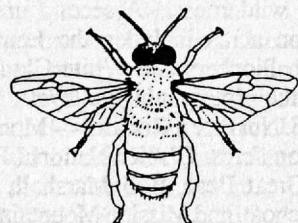
46. **Maine Woods** — ME: 6.5 million acres. Thoreau's country, north of Maine 16 and between US 201 and I-95, has wild rivers, Common Loons, Moose, and *Ktaadn* [highest mountain in Maine].

47. **North Woods** — Minnesota, Michigan: 14 million acres in 3 units. The eastern unit, 6 million acres, includes the Boundary Waters Canoe Area, Isle Royale, and part of Lake Superior. The central unit is between US 71, 53, & 2 and takes in 3 million. The western unit, 5 million acres, runs from US 2 to Lake of the Woods. Dedicate this to the blackfly, wolf, mosquito, canoe and Sigurd Olson.

48. **White Mountains** — New Hampshire: To be developed. [They were, alas.—ed.]

49. **Sand County** — Wisconsin: To be developed.

50. **Illinois Prairie** — IL: To be developed.



A Greater Yellowstone Ecosystem Marshall Plan

by George Wuerthner

The Greater Yellowstone Ecosystem (GYE) is centered on Yellowstone National Park in the tri-state area of Idaho, Wyoming and Montana. With the park as centerpiece, the ecosystem is generally considered to encompass all the public and private lands surrounding Yellowstone Park, including all or portions of seven National Forests (Bridger-Teton, Targhee, Shoshone, Custer, Gallatin, Caribou, Beaverhead), plus three wildlife refuges (National Elk Refuge, and Red Rock Lakes and Grays Lake National Wildlife Refuges), and Grand Teton National Park.

Many of the higher mountains are managed by the US Forest Service and are designated Wilderness, precluding most forms of development. The lower elevation public lands, plus several major mountain ranges—such as the Wyoming Range and Salt River Range in Wyoming, the Gravelley Range and Gallatin Range in Montana, and the Caribou Mountains and Snake River Range in Idaho—are open to development such as logging, oil and gas exploration, mining, and roading. Most of the private lands are either subdivided into small vacation home lots or maintained as livestock ranches—and are subject to all kinds of developmental activities with little consideration of the affects upon nearby public resources.

The GYE is nearly 18 million acres in size and is home to the largest Elk herds in the nation, the largest free roaming Bison herd, the greatest concentration of Bighorn Sheep, the biological stronghold for Yellowstone Cutthroat Trout, plus numerous species that are or should be listed as Endangered or Threatened including Grizzly Bear, Trumpeter Swan, Boreal Owl, Peregrine Falcon, Bald Eagle, and Black-footed Ferret. It is also the headwaters of three major river systems

including the Yellowstone-Missouri, Green-Colorado, and Snake-Columbia and contains the largest concentration of thermal features in the world.

Threats to the ecosystem's integrity include increasing mining activity, proposed oil and gas development, widespread grazing of domestic livestock, and continued timber harvests. Subdivision and development on private lands also continue.

Despite these threats, the Greater Yellowstone Ecosystem is often referred to as one of the last intact temperate zone ecosystems in the world. But this distinction has come about more by accident than by plan. Traditionally, the GYE's lands have been exploited for commodity development—timber, livestock grazing, mining and irrigation projects were given first priority in management decisions.

There has been increasing recognition that such development is not the best "use" of these lands. There are better places to grow trees, more productive areas to raise livestock; and it is difficult to show that the human condition is significantly improved by destroying a mountain or river basin merely to extract gold. In fact the only resources here with overwhelming national importance are the ecosystem's wildlife, watershed, ecological, scenery, and recreation values. These values have been recognized by the United Nations, which has designated Yellowstone National Park both a World Heritage Site and a Biosphere Reserve.

Though Yellowstone Park is one of the largest parks in the United States and is comparatively unmodified, it is not, according to conservation biologists like Michael Soulé, large enough to sustain fully functioning ecological processes and genetic diversity over the long haul. Nor is any

other designated natural area within the Greater Yellowstone Ecosystem. If we think of the GYE as a puzzle, it presents a large picture with most of the image complete, but with critical pieces missing. Greater Yellowstone is an ecosystem with a foundation weakened by major cracks. Trying to maintain such a fragmented ecosystem is very costly, just as trying to build a house on a poorly laid foundation will result in a never ending need for repairs. Much of the controversy over land use management in the GYE ultimately stems from these shortcomings.

We need to acknowledge that when Yellowstone National Park was initially set aside as a preserve, we had almost no knowledge of wildlife use patterns, genetic diversity, ecological processes and principles of conservation biology. We need to recognize that if we truly wish to preserve Yellowstone, we need to fill in the holes and cracks in the foundation. Pragmatically speaking, given the number of people who visit or live in and around the GYE, a fully natural and unmanipulated wildlands complex is likely impossible to recreate, but that does not mean we should abandon such an ideal as our goal, for it is possible to move much closer to that concept than we are at present.

To do so, we need to change the way we think about land use. Fully 90% of the Greater Yellowstone Ecosystem is publicly owned. Again, though commodity development has dominated federal management of these lands for many decades, more and more people realize that the highest values of these lands lie not in their timber, livestock forage, minerals, and oil but in their wildlife habitat, biological diversity, and recreation opportunities.

Some land uses are more compatible with preserving the natural ecosystem than others. Using the GYE public rangelands to grow Grizzly Bears, Yellow-bellied Marmots, Bison, Elk, Bighorn Sheep, and Pronghorns is much more ecologically sound than using them to produce livestock.

continued next page

OUR PEREGRINES

One superb, intense, insatiable pair.

Three inscrutable eggs.

Three small fluffy balls of down

how adorable!

Displaced from the ledge by man and the elements
To leave the scope trained on empty tattered
nest, their home

Facing toward cities of millions.

I sit amid cigarette butts and soda water bottles
with my back to the cities

And watch the empty nest with saddened heart
And watch the sky empty of the indomitable pair.

How? Are they mine that I should lament their loss?
Are they not strong enough to carry on, and succeed

Here

Elsewhere

Should we choose to step out of the way.

—Anonymous

The nation has many other places to grow cows and domestic sheep, but few other areas where native wildlife, especially wide ranging species like Grizzly and Elk, can be maintained. Likewise, trying to manage for timber at 8-9000 feet is pure folly. For any investment of money, time and energy you will get far better results growing timber in Georgia or Oregon where climate and terrain favor tree growth.

On the other hand, tourism—with proper planning and sufficient restrictions—may offer an economic foundation that will not severely compromise the GYE's biological and geological values. The first step in preserving Greater Yellowstone is to determine which land uses are truly compatible with the long-term preservation of the ecosystem. Commodity extractive uses, except for those (if any) that can be demonstrated to be ecologically sound and of national significance, should be phased out.

In addition, we need to immediately assess all private lands in the GYE for their biological, ecological and geological value.

Those private lands with critical value for migration corridors, wildlife habitat, ecological processes or geological features should be targeted for public acquisition or safeguarded by other means, which may include purchase of development rights, restrictive zoning, or fee-simple purchase.

A program of outright fee purchase or even the acquisition of development rights will be costly. However, this cost must be balanced against the long-term expense of trying to maintain an incomplete ecosystem.

As an example of costs entailed by trying to maintain a fragmented ecosystem, consider the management of the Grizzly Bear. We are spending millions of dollars to recover Grizzly Bear populations in the GYE, when part of the problem stems from inappropriate development on private lands. If this same amount of money were spent on habitat acquisition, ecosystem recovery, and perhaps Grizzly reintroductions into vacant but suitable habitat, we might save considerable expense in the long run, and come closer to ensuring the

long-term survival of a Grizzly population.

Moreover, we need to put land acquisition costs into perspective. We regularly spend hundreds of millions, sometimes billions, of dollars on public projects of questionable public benefit, such as large irrigation and dam projects. For instance, the proposed Animas-La Plata project on the Animas River in Colorado has an estimated price tag of nearly a billion dollars. This project would have massive ecological impacts and provide few benefits to the nation as a whole, even though all citizens would be paying for its construction.

I propose, therefore, that a Greater Yellowstone Ecosystem Completion Fund be set up by Congress so that funding is available to purchase private parcels or buy development rights to critically important lands. By having money set aside in advance, the federal government can move quickly to buy lands critical to the recovery and long-term preservation of the ecosystem.

Although presumably most of the money would be spent to purchase property from willing sellers, it is likely that the government will need to use its power of eminent domain to bring about protection of some lands. Of course, this power should be used judiciously and only after all other avenues available for protection have been exhausted. But use of eminent domain should be recognized as a legitimate tool. After all, we regularly buy property from unwilling sellers for freeways, reservoirs or other developments considered to have overriding benefits. Does preservation of wildlife habitat, ecological processes and scenery have any less value?

We should begin to lobby for a Greater Yellowstone Ecosystem completion bill immediately. Every year of delay means the ultimate loss in both ecosystem integrity and dollars becomes far greater.

George Wuerthner is a wildlife biologist and freelance writer based in Livingston, Montana. He will be writing frequently for Wild Earth.



On the Toxic Trail With Dr. Dioxin

Deep Doo Doo in the Deep South

Greetings *Wild Earth* readers. I am speaking to you via a hand-held, battery powered, micro-cassette recorder as I meander to the next destination on my long list of "hot spots." This is the Toxic Trail, and I am Dr. Dioxin.

I am investigating the effects of 2,3,7,8 Tetrachlorodibenzo-p-dioxin on the aquatic ecosystems of America. It is a nasty job; some fool's gotta do it. They chose me.

My pickup truck follows the crumbling highways and byways of the Deep South, the routes of the Spanish explorers who would have done us all a great favor by staying from whence they came. I pass a huge truck loaded with freshly killed trees. I am drawing near.

Somewhere close by is a pulp and paper mill. I can smell its sulfurous odors as they waft into the cab. This place stinks. Very typical of the rural South. White paper has replaced white cotton. Massive loads of bleached pulp travel through Dixie and on to Korea and Europe. It is indicative of the scenario transpiring all across America: trash the land, pollute the Earth, ship the residue overseas for a bank balance.

One can stand on the banks of the Leaf River in southern Mississippi and stare in disbelief as giant blobs of dark brown scum emerge from below the surface. The discolored liquid is effluent from a paper mill not a mile away. The mill's discharge pipes are cleverly hidden on the river bottom. Out of sight, out of mind. This particular mill pumps millions of gallons of effluent into the Leaf every day. Upstream from the submerged pipes, the Leaf appears much like other rivers throughout the South: lazy, wandering, scenic, fish laden water.

From the air, one can spot the confluence of the Leaf and the Chickasawhay. The two rivers merge to form the Pasca-

goula River which eventually finds its way to the Mississippi Sound and beyond into the Gulf of Mexico. At the confluence there is a distinct line of demarcation. The Chickasawhay is a bright, shiny, emerald green; the Leaf is black.

Where the Leaf meets the Escatawpa River, there are signs bearing a message: "WARNING FISHERMEN: Do Not Eat Fish Or Other Seafood From These Waters. Fish from these waters have been found to contain elevated levels of dioxin. Scientific studies suggest long-term exposure to dioxins increase the risk of cancer...."

No mention is made of the risk to the aquatic species residing in the posted waters. One can only guess at the damage already done.

Where the Pascagoula and Escatawpa converge, in southern Mississippi, is one of America's larger inland swamps. By boat, I travel for hours through the intertwining bayous and channels that make up this huge wetland. The Osprey is making a serious comeback here. Its nests dot cypress trees all along the banks. Spanish moss dangles beneath the big round domiciles. Occasionally, one can spy a whitish head poking up from the nest.

Local fishers speak of the "good ole days" when fishing was the way of life here. They talk longingly of catching "big cats" in the Leaf and Pascagoula. This is now taboo. Recent tests showed high levels of dioxin in the fillets of several species of catfish. Some lawyer from Hattiesberg talked a judge into issuing a temporary ban on "all fishing" for some areas. One wonders how Mississippi's attorney general intends to enforce such a rule. Will armed police be arresting thousands of cane pole fishers soon?

I cruise the rivers in search of fish. My fish finding device sees very little below

the surface. Encountering some men fishing from a flat-bottomed boat in Whiskey Bayou, I ask "how's it going?" Their reply is the same as the other responses I receive all day: "Nothin bitin," or, "ain't no fish round here no more." The men sound slightly cajun.

I search the flats for Alligators and Nutria. Nothing. Perhaps it is still too chilly for gators. But I am troubled at the lack of bird life here. There should be numerous avian species out on this sunny day. I spot a few Great Blue Heron in the grass flats, a gull here, a Cardinal there, the Osprey in its nest. Occasionally I spook sparrows. But, over all, it is lonely in the swamp now.

I swing the boat into a canal that serves as the discharge route for another paper mill. The boat begins churning up an ebony wake. A few turtles poke their heads up out of the scum. The finder shows no fish. I make a note to inquire if the State has checked for dioxin in turtles. (The answer is "no.")

As the boat reaches the end of the canal, I face a gate. Beyond the gate is a water treatment area; aerators spit dark effluent in the air in an effort to reduce the amount of brown foam on the pond's surface. Occasionally, when the wind gets rowdy, this foam becomes airborne and lands in people's backyards.

From the bow of the boat, I stand and see the entire treatment zone. Past the gate is thick brown foam. One wonders how much of what is behind the gate eventually makes its way into the Escatawpa. Perhaps the boat's black wake presents an answer.

I wish this were an isolated instance. It isn't. From a helicopter I see thick ribbons of reddish brown foam heading toward the Red River of Arkansas. An aerial photo shows swirling patterns of dark brown pollution entering Florida's Perdido Bay from a small creek. One can see North Carolina's Pigeon River change from a

continued next page

sparkling stream to a dark ribbon of effluent. There are health advisories posted on Alabama's Lay Lake. And so on.

The Environmental Protection Agency calls dioxin the most toxic man-made chemical it has ever researched. It has been documented to cause cancer in rats. It also is capable of causing immune system disregulation, reproductive problems (fetotoxicity), liver damage, and a whole slough of other noxious diseases. So, why is this chemical spewing into the nation's waterways?

It doesn't take a genius to understand that the countless critters living in the path of this chemical are being affected in a myriad of ways. And we know that dioxin is only a part of the story; paper mill effluent has many other dangerous constituents. Many of them may work in concert. Toxic soup.

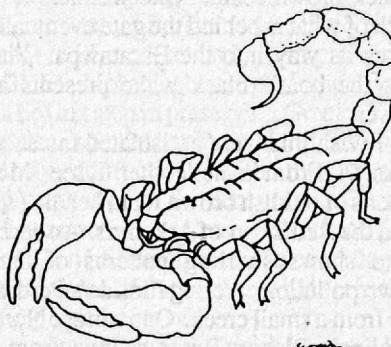
Water is the stuff of life. We treat it as if it were impervious to degradation. We discharge hundreds of millions of gallons of dangerously filthy chemicals into our aquatic ecosystems every day. We are killing this place.

I will document the situation and report my findings. Human risk assessments notwithstanding, I seek the truth regarding the effects of dioxin on aquatic species and ecosystems in general. If it is a threat to us, imagine having to live IN the stuff.

Dioxin has a half life of ten years. Stay away from it if you can.

I am sending this report to my secretary (Patty Sue). Assuming she transcribes the recording and gets it to the Journal before the deadline, it will serve as my first entry from the Toxic Trail. More will follow.

Dr. Dioxin is an environmental attorney and slough sleuth. He will talk to us regularly as he treads the toxic trail, telling tales of lacustrine, riparian and benthic woe.



THUNDERBEAR

ed. note: We are proud to present as a regular contributor to our pages the ursine and avuncular P.J. Ryan. P.J. will provide us with regular bursts of humor, straight — nay, twistedly — from his newsletter Thunderbear, "The Oldest Alternative Newsletter in the Federal Government." The most ingenuous paragraph you'll find in this hilariously insightful monthly is his back page blurb:

Thunderbear is a non-profit newsletter, privately printed at no cost to the taxpayer. It in no way reflects the official views of the National Park Service or the Department of the Interior. Thunderbear is printed monthly at \$12 for 12 issues ... POB 71621, New Orleans, LA 70172-1621.

Thunderbear debuts here with two pieces from issue #121 (September 1990).

THE POPE AND MULTIPLE USE

Like the US, the Vatican has fallen upon hard economic times, and the Pope, like George Bush, has difficulty in balancing the budget.

Fortunately, when Christ said "Render unto Caesar that which is Caesar's and unto the Lord, that which is the Lord's" I am sure that he had a Forest Service Multiple Use Program in mind.

What I am saying is that there is a way out of the Vatican's financial dilemma if the Pope is willing to be a bit creative and not stick to a single use bias concerning the use of church property.

Consider if you will, the possibilities of the Sistine Chapel.

Every year thousands of American couples visit the Sistine Chapel to gaze in awe at the frescos of Michelangelo. Or rather, the wives gaze in awe. The husbands are a bit bored with the whole thing. When the guide tells them that it took Michelangelo 8 years to paint the ceiling, the American husband knows in his heart of hearts that Earl Scheib could have done the job in a tenth of the time and half the cost, but he is too polite to say so.

It strikes me that there must be a way to profitably involve the husband, while the wife stares at this renaissance masterpiece. There must be some way of combining contemplation and action.

Fortunately, I just finished reading an expert on combining recreation and old-growth logging in the Pacific Northwest, so I must credit the Forest Service with this

inspiration: Skeet shooting in the Sistine Chapel! I admit that like all great ideas it's so obvious that you wonder why you didn't think of it first! But I'm not going to charge the Pope royalty. The Sistine Chapel is a large high ceiling room, perfect for indoor skeet. Every effort would be made to protect the frescoes; they would be given a protective polyurethane coat and only plastic shot would be allowed with relatively light loads. As the visitors interested in the art will be wearing Walkman type audio cassette players, the noise of the shotguns will be inaudible. The skeetshooter would rent a shot gun and buy ammunition at a discreet concession near the entrance of the chapel, small boys would be employed sweeping up the spent shells and the broken clay pigeons. While the operation will not balance the Vatican books, it will provide a modest but steady income for the Sistine Chapel, benefit free enterprise, and provide wholesome family recreation, which is what multiple use is all about.

NUTRIA BLUES

What rabbits are to Australia, Nutria are to Southern Louisiana.

Nutria are a South American exotic rodent that resembles a perverted amphibious Woodchuck with orange teeth. They have a rich, glossy brown fur that takes dye well, allowing the working poor to have a genuine mink dyed nutria fur coat just like their betters.

The Nutria were introduced into Louisiana as a possible candidate for fur

ranching, but a hurricane released them and they began to multiply, my-oh-my, did they multiply.

At first, this was no problem. Although they were more difficult to skin than the native Muskrat, there were more of them and the price of Nutria fur was nearly as good as Muskrat.

Now, buckaroos, there was time in America when one of the prizes given a grinning Miss America was a \$20,000 fur coat and just about every woman rich or poor, unless they were Carmelite Nuns, had to have a fur coat. This tended to control the Nutria population of South Louisiana.

Then along came the animal rights folks who went on about the horrors of trapping and the cruelty of it all, and it must be admitted that the average woman does look sort of corny dressed up like Nanook of the North in downtown Dallas.

This of course, had an ecological effect on South Louisiana. No one told the Nutria that they weren't fashionable anymore, and they kept right on making little Nutria. Unchecked by Alligators who are only recently making a comeback from being purses and shoes, the Nutria began to go through the marsh like carpet beetles in a Navajo rug. Soon large areas of "eat outs" were visible from the air. With no plant life to hold the soil it eroded quickly into the Gulf, causing us to lose chunks of

the Barataria unit of Jean Lafitte National Historical Park & Preserve about as fast as we could buy it.

Not that we hadn't planned for Nutria, buckaroos. That is the reason for the "Preserve" in Jean Lafitte National Historical Park & Preserve. You can do a lot of things in a Preserve that you can't do in a National Park.

Down here in the Barataria Preserve, the Southern Louisianians are allowed to do all their "traditional" things; they may hunt, trap, fish (commercially and sport) and look for oil. They may not log, dump garbage or smuggle.

It was believed that dozens of industrious trappers, doing their traditional thing, would keep the Nutria in check; but as noted, fashions changed and the bottom dropped out of the fur market.

One study suggests that it would be nice if 3000 to 5000 Nutria were removed from Barataria annually.

Since the market for Nutria as pets would be saturated rather quickly, the NPS will have to hire people to trap Nutria or use Park staff to do direct reduction by rifle.

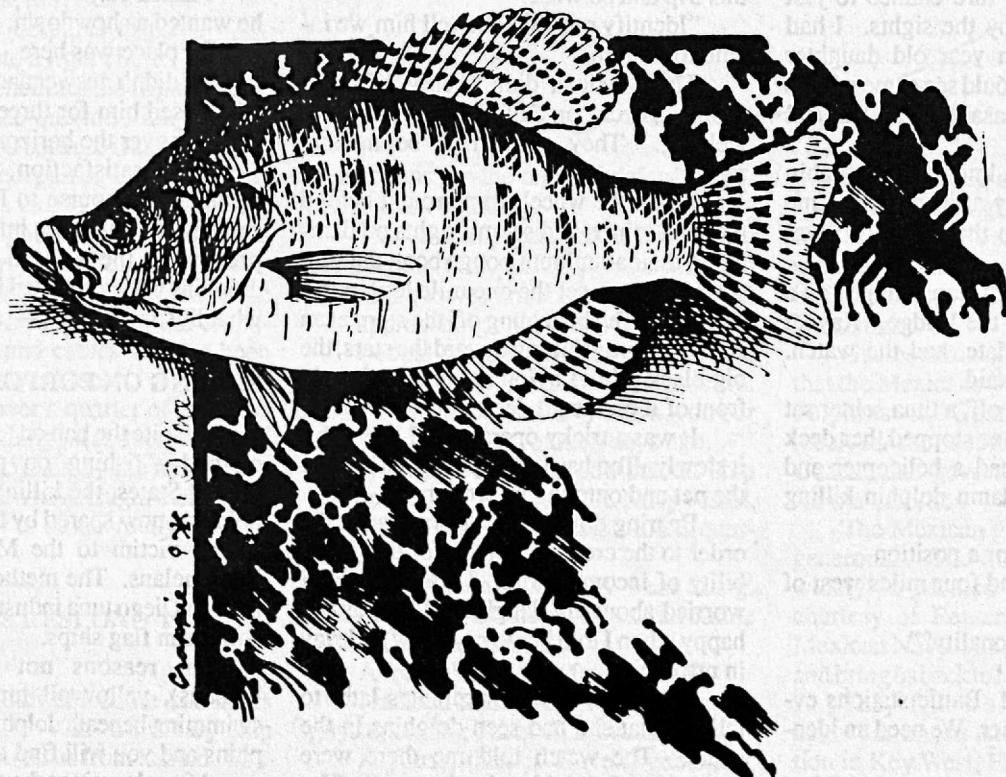
As this might be a controversial solution, I asked our THUNDERBEAR consultant, Dr. Max Weber of the International Fund for Predators, if there was a natural solution to the problem. Dr. Max looked

the situation over and said "Anacondas! That's what you need. Oh, I suppose Jaguars could give you a quick fix, but for the long haul and a balanced ecosystem, you're going to need Anacondas, probably around two or three hundred of them. They tend to keep the Nutria down in South America." I asked Dr. Max if the Anacondas might not eat the Louisianians. "Old wives tale," chuckled Dr. Max. "It is true that the Anaconda is the second largest snake in the world and perhaps the heaviest, but it is physically impossible for an Anaconda to swallow an adult human. Of course," he said depreciatively, "you must remember that it's a learning situation for the snakes. I imagine each Anaconda might squeeze a Cajun or two to death before they find out that you can't swallow them, but after the first few years, I predict almost total dependence on Nutria, and the population will be in balance within ten years as Anacondas are bright as snakes go and are quick learners."

I thanked Dr. Max profusely for his time and effort.

Now all I have to do is find 300 Anacondas.

If you have any solution to the Nutria problem, or better yet, have a shortage of Nutria contact the Superintendent, Jean Lafitte National Historical Park & Preserve, 423 Canal St. Room 210, New Orleans, LA 70130.



REPORTS FROM THE FRONT

SEA SHEPHERD SAVES DOLPHIN POD

by Captain Paul Watson

THE SHOWDOWN

The possibility of a high seas confrontation was the last thing on my mind. I had just hit the sack. It was after midnight.

We were ten days out of San Diego, heading southward toward the Panama Canal, on a simple delivery voyage to Key West in preparation for Sea Shepherd Conservation Society's summer campaign to Iceland. This was a rare chance to just steam along and enjoy the sights. I had even brought my ten year old daughter Liliolani so that she could see some whales and dolphins. A pleasant, quiet tropical voyage.

No such luck. A knock on my cabin door was followed by a voice telling me that I should come to the bridge. It was urgent.

I threw on a pair of jeans, tugged on a t-shirt and ran up to the bridge. Raynel Chaves, our Third Mate, had the watch. "Check this out," he said.

A hundred yards off, a tuna seiner sat motionless, her engines stopped, her deck lights ablaze. She had a helicopter and speed boats—a goddamn dolphin killing bandit.

I asked Raynel for a position.

"One hundred and four miles west of Guatemala."

"What's her nationality?"

"Don't know."

"Wake the crew! Battle stations everyone! Let's circle her. We need an identification."

As the crew prepared, we identified

the vessel as the *Tungui*. Her home port was Ensenada, Mexico.

Monica Tarzier was on the helm. I handed her the radio.

"Monica, you speak Spanish. Ask that bastard how many dolphins he's killed."

On the other end, a chuckle then a voice responded in Spanish.

"What did he say?"

"He said he's killed about a thousand this trip and so what?"

"Identify our ship and tell him we intend to hit him."

The Mexican didn't reply. On the *Tungui*'s deck some of the crew were arc-welding. They seemed to be making repairs.

I took the wheel, came round behind the tuna seiner, and set my sights on damaging their aluminum panga boat, the vessel they use to set the one mile long purse seine net. The boat hung off the stern at an angle, the prow jutting toward the stars, the big black pile of nylon net bunched up in front of it on the aft deck of the seiner.

It was a tricky operation. I had to hit it slowly. Too hard and I could pop it over the net and onto the fishermen.

Bearing down on the stern, I gave the order to the crew to prepare for the possibility of incoming fire. I was especially worried about my daughter. She was not happy when I told her to go below and stay in my cabin.

She came up a few minutes later to tell me that she had seen dolphins in the water. The watch told me there were hundreds of dolphins in the area. The

Mexicans were sitting there waiting for morning, waiting for a chance to lay their net and slaughter more dolphins.

As we moved closer, we throttled down to half speed, then to slow ... still too damn fast. I stopped the engine. Our bow was already obscuring our view of their stern from our bridge.

Unfortunately, with the engines stopped, we began to lose way. My ship began to move to port. We struck the seiner a glancing blow to her stern, missing the panga boat. We scraped down her port side. The Mexicans stood stunned and open-jawed on her decks. The ugly scraping of steel on steel was accompanied by the sickly smell of friction burned paint.

As we cleared the seiner's bow, I pulled the wheel hard to starboard and came around for a second blow. Slowly we completed the circle and struck them on their starboard side, scraping them again.

I circled a third time and sighted the panga boat again. This time I decided to take it from the side. Closer, closer, almost upon them when I saw the water churning to the seiner's stern. The funnel belched thick black smoke. The *Tungui* was running.

We pursued.

A crackle of Spanish erupted on the bridge.

"What did he say?"

Raynel laughed. "He said that he will deal with us if he sees us in port."

I asked Raynel to relay to him that if he wanted a showdown, the time was now and the place was here.

He didn't answer and continued to run. We chased him for three hours before we lost him over the horizon.

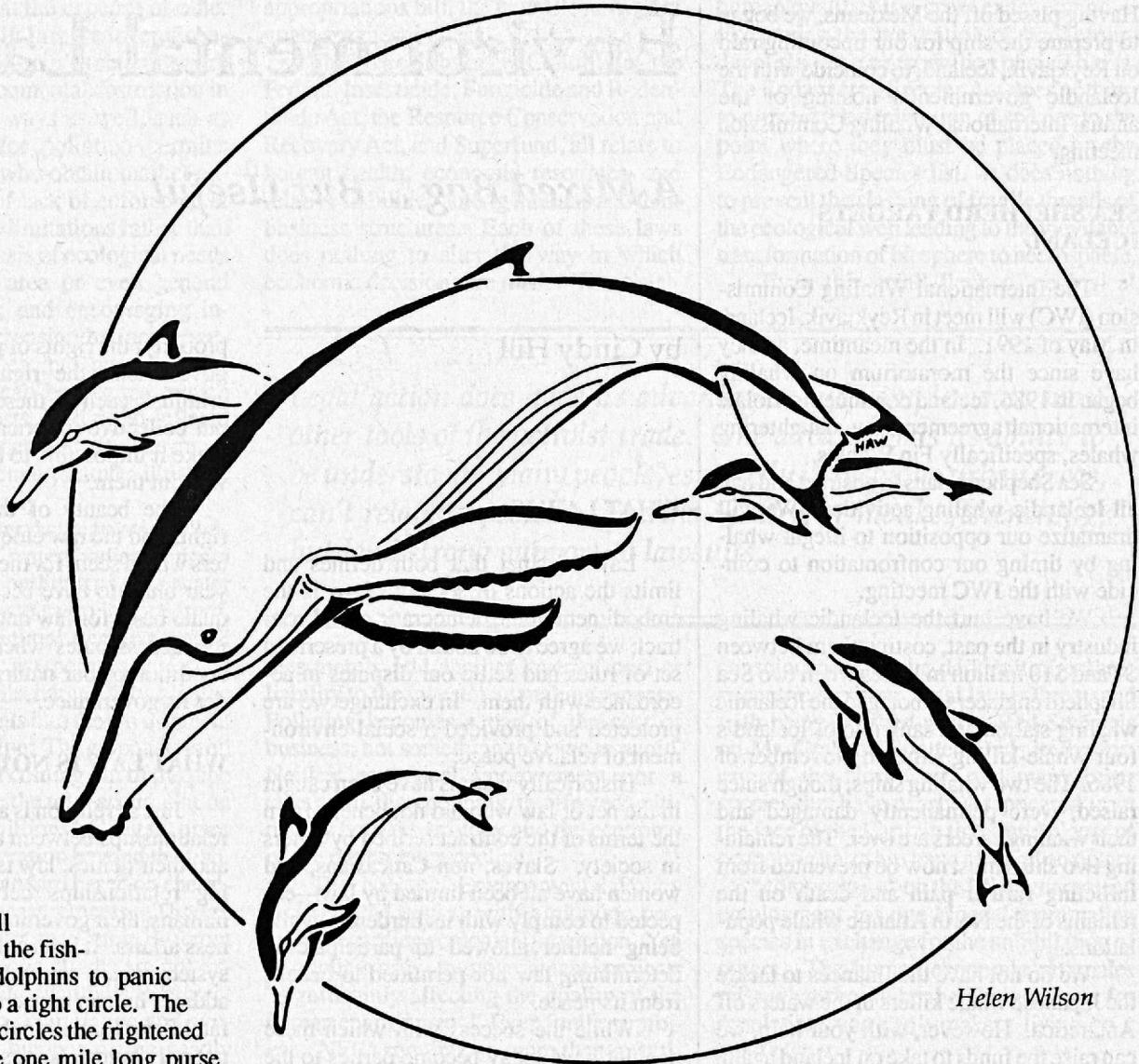
With satisfaction, we turned and resumed our course to Panama. We had ruined his day. More importantly, we had prevented them from setting on the dolphins we had spotted in the area. That's what this is all about—saving lives.

FISHING ON PORPOISE

Despite the ban on tuna caught by this method—"fishing on porpoise"—in the United States, the killing continues. The dolphins now spared by the Americans are falling victim to the Mexicans and the Venezuelans. The methods developed by the San Diego tuna industry still profit non-American flag ships.

For reasons not understood (by humans), yellowtail tuna can be found swimming beneath dolphin pods. Find dolphins and you will find tuna.

After locating the dolphins with a



Helen Wilson

helicopter, the seiner dispatches speed boats to encircle the dolphins. Using small explosive charges, the fishermen cause the dolphins to panic and herd them into a tight circle. The panga boat then encircles the frightened cetaceans with the one mile long purse seine net, so called because it can be closed at the bottom like a purse. Once the net is set, the bottom is closed and the tuna are caught. The dolphins are just incidental victims. They are soon released—excepting those who have drowned in the net or have had a flipper or a tail amputated by the net and cables or have been crushed in the power blocks.

Each year, over a quarter of a million of these highly intelligent and sensitive marine mammals are slain by the nylon nets. American tuna men have taught their Mexican brethren how to be as cruelly efficient as themselves.

AUTHORITIES RESPOND TO SEA SHEPHERD

Heading southward some six hours later, I was notified that a military ship was bearing down on us from behind. Suspecting it was the Mexican Navy, I gave

instructions for the crew to defend themselves from boarding.

The vessel approached at three times our speed. Our position was some 140 miles off the western coast of El Salvador. The approaching ship was a frigate.

I could see the nervous looks on the faces of my crew. The situation was tense. Fighting the Mexican Navy was not on our agenda when we set out ten days ago.

With great relief, we saw that the ship was not Mexican. It was a US Navy vessel.

They radioed us and began to ask questions.

I asked them what they were doing. They replied that they were on a routine patrol of the sea-lanes.

A long bloody way from the US.

I radioed back on the VHF. "Hey, you guys operating out of El Salvador?"

A pause, then ... "Have a good trip, Captain."

So we carried on.

Scott Trimingham in our California office received our story via a helpful HAM radio operator. I asked him to report the incident to the government authorities in Guatemala.

Guatemala confirmed my suspicion that the Mexicans were illegally setting on dolphins in Guatemalan waters. We received the dubious compliment of a Guatemalan government pat on the back for our efforts.

The Mexican government was not so generous. The incident was reported widely in Mexico and reached the US courtesy of Reuters news agency. The Mexican Navy was given orders to find us and bring us back to Mexico for prosecution.

They failed. We reached Panama, made our transit and realized our destination in Key West, Florida.

continued next page

Having pissed off the Mexicans, we began to prepare the ship for our upcoming raid on Reykjavik, Iceland, to coincide with the Icelandic government's hosting of the annual International Whaling Commission meeting.

SEA SHEPHERD TARGETS ICELAND

The International Whaling Commission (IWC) will meet in Reykjavik, Iceland, in May of 1991. In the meantime, as they have since the moratorium on whaling began in 1986, Iceland continues to violate international agreements by slaughtering whales, specifically Fin Whales.

Sea Shepherd plans to obstruct and halt all Icelandic whaling activities. We will dramatize our opposition to illegal whaling by timing our confrontation to coincide with the IWC meeting.

We have hurt the Icelandic whaling industry in the past, costing them between \$7 and \$10 million in losses when two Sea Shepherd engineers sabotaged the Icelandic whaling station and sank two of Iceland's four whale-killing ships in November of 1986. The two whaling ships, though since raised, were permanently damaged and their whaling careers are over. The remaining two ships must now be prevented from inflicting further pain and death on the remains of the North Atlantic whale populations.

We do not have the finances to tackle the Japanese whale killers in the waters off Antarctica. However, with your help, we can raise the funds to take on Iceland again. The occurrence of the IWC meeting in Reykjavik provides a prime time to target that North Atlantic nation.

Also, the Icelandic whale hunt is really a Japanese hunt. All the whale meat is shipped to Japan for marketing. Another advantage of an attack against the Icelandic whalers is to put us in striking distance of the Faeroe Islands, where we intend to spend the month of June preventing the sport hunting of Pilot Whales and dolphins by the Faeroese.

We need to get the *Sea Shepherd II* moving toward Iceland. We need to get the *Edward Abbey* ready for this summer's campaign in the Faeroe Islands. Please send contributions to Sea Shepherd Conservation Society, POB 7000-S, Redondo Beach, CA 90277.

Paul Watson founded the Sea Shepherd Conservation Society. Sea Shepherd is the boldest and most effective wildlife defense group on the high seas.

Environmental Law

A Mixed Bag ... But Useful

by Cindy Hill

WHAT LAW IS

Law is a net that both defines and limits the actions of society. Law is the embodiment of the democratic social contract: we agree to be bound by a prescribed set of rules and settle our disputes in accordance with them. In exchange we are protected and provided a social environment of relative peace.

Historically victims have been caught in the net of law who did not benefit from the terms of the contract scribed by others in society. Slaves, non-Caucasians, and women have all been limited by law—expected to comply with its burdens—while being neither allowed to participate in determining law nor permitted to benefit from its peace.

While the success with which these peoples have today become parties to the social contract may be debated, the legal net is in theory now equally cast around all human inhabitants of the nation. In fact, it extends beyond the human population to encompass our species' economic offspring, such as corporations and ships, which can be considered "persons" in the blind eyes of the law.

Among humans, the law functions with a certain systematic elegance. While there are undoubtedly flaws in both the criminal and civil systems of justice, there is at least a system in place for open (if not always fair) processes; opportunity for (if not always adequate means for) hearings; representation (if not always of exemplary quality) by legal counsel; and so on.

At the core of our legal system lies our Constitution—a radical, revolutionary document meant to free the new American society from tyranny and repression (economic as well as, or perhaps more than, social). The sanctity of life, liberty, and

property; the rights of people against their government; the rights of the accused criminal; each of these is so ingrained in our collective American conscience as to make it impossible to envision our nation without them.

The beauty of these Constitutional rights and the raw eloquence of their drafters would seem for their first two hundred years to have been a more than adequate basis for law and government. But its success pales when one looks at the condition of our natural environment under its governance.

WHAT LAW IS NOT

Just as religion is a system of defining relationships between and among humans and their deities, law is a system of defining relationships between and among humans, their governments, and their business affairs. It is an anthropocentric value system which can only be anticipated to address human concerns. Therein lies its fatal flaw; for within the law's net we find not only human beings but all other living and non-living entities existing within its jurisdictional bounds.

The law, a system of human-imposed order, cannot adequately contemplate the biosphere, a complex ecological process of living and non-living, human and non-human elements dancing in a jumble of chaos and destiny. The fragile glass globe of life has been as callously entangled within the law as dolphins drowned in drifting tuna nets.

Major Federal Environmental Statutes

If "environment" is meant to include wilderness, wildlife, biodiversity, evolution, and natural processes—rather than just those things necessary for immediate survival of individual human beings—the term "environmental law" is an oxymoron.

The so-called environmental laws passed in this country in the last 25 years or so are for the protection of humans. By mitigating against harm to humans, these laws add to the accelerating increase of

human population at the expense of other species—ultimately an “anti-environmental” goal. These statutes actually work to encourage environmental destruction in other, more subtle ways as well, such as creating markets for pollution permits; favoring violators who obtain market advantages because of lack of enforcement; setting end-of-pipe limitations rather than regulating on the basis of ecological needs of the immediate area or even general ambient standards; and encouraging inflated industrial expansion by incorporating known liabilities into operating expenses (liabilities can be insured, which raises operating costs, leading to inflated investment to cover expenses). The major federal “environmental” statutes illustrate these problems clearly.

The Clean Water Act regulates pollutants released into water bodies under a standard of providing humans with water of sufficient quality to swim in, fish from, and drink with minimal negative health impacts. Under the act, permits are issued for “point source discharges,” that is, the dispersal of pollutants into the environment from the end of a pipe. The emphasis is on having the material coming out of the pipe meet certain levels; the total accumulation of the effluent of millions of “legal” pipes is not given consideration beyond the fishable/swimmable standard based on chemical-by-chemical measurements. Though each pipe on a river may emit different substances, synergistic effects are not examined. This statute even fails to protect human health, since cumulative and synergistic effects on humans of the deadly brew of chemicals permitted to be released are not regulated.

The Clean Air Act regulates pollutant levels in the air for protection of human health and human property, such as buildings damaged by smog or consumer goods with shortened life spans due to acid rain. Even more so than the Clean Water Act, the major provisions of the Clean Air Act fail to consider the total effect of pollutants on the environment. For example the emissions of each individual automobile are limited, but with tens of thousands more cars on the roads each year, even if each emitted the minimal possible pollution, air quality would decline. The Clean Air Act revisions passed by Congress in 1990, and signed into law by the President, include some admirable goals, such as 100% reduction of air toxin emissions; but most timetables have been left entirely to an EPA that was gutted of staff and funding over 10 years ago. In the absence of a major

appropriations bill, the new Clean Air Act goals are meaningless.

The Toxic Substances Control Act, the Federal Insecticide, Fungicide and Rodenticide Act, the Resource Conservation and Recovery Act, and Superfund, all relate to human health, economic resources, and relative liabilities among humans and their business structures. Each of these laws does nothing to alter the way in which economic decisions are made. These stat-

utes merely add another layer of cost or liability to the investment making process. Polluting becomes a part of the cost of business, not something to strive to avoid. Neither ecological improvement nor a change in the economy is effected; ultimately both the ecology and the economy of the nation must decline.

Even this small fleck of ecological

Legal action does have its advantages, and complements most other tools of the activist trade. One advantage is its ability to be understood. Many people, especially in litigious urban areas, can't relate to protests, guerilla theater, or monkeywrenching, but lend strong support to lawsuits.

utes merely add another layer of cost or liability to the investment making process. Polluting becomes a part of the cost of business, not something to strive to avoid. Neither ecological improvement nor a change in the economy is effected; ultimately both the ecology and the economy of the nation must decline.

The National Environmental Policy Act (NEPA) begins with a glowing preamble regarding ecological protection. Yet, it applies only to government projects “significantly affecting the quality of the human environment.” Even for these projects, NEPA requires no more than quantitative consideration of environmental values (emphasizing again human factors such as economics and culture) and opportunity for limited human comment and participation in the consideration process. At bottom, our national “Environmental Policy” is merely intended to make it appear as though someone has looked at environmental factors. It offers no substantive requirements for ecological protection whatsoever.

WILDLIFE AND WILDERNESS LAWS

Among all other so-called environmental laws, the Endangered Species Act is the only statute that appears to contemplate ecological values. Some human activities can be halted where it is shown that a species already proven to be near extinction would be injured or eliminated.

But to say this law recognizes non-

consciousness on the dark suit of anthropocentric environmental law is threatened with being brushed away. Red Squirrels on Mt. Graham, Spotted Owls in the forests of the Northwest, and many other species that have nearly disappeared from the face of the Earth in times and places of economic hardship have sparked an outcry for “compromise” on the ESA: guaranteed employment for one bipedal mammalian species in exchange for the annihilation of others. The human economic rationales miss what should be the obvious basis for regulation: you can’t make a living on a dead planet.

The federal “Wilderness” designations and “National Wildlife Refuge System” are only slightly less illusory in their protections. The areas designated are minuscule remnants of the lands necessary to perpetuate natural processes. Their designations are more by default than by reasoned analysis. Lands that have not been totally destroyed are considered—based solely on that characteristic. There is no provision for designation based on ecological necessity, regardless of present condition. Restoration is not even considered.

Even in those small tracts under these apparent protections, a surprising amount of human intrusion is permitted. For example, hunting and motor vehicles are allowed, even encouraged, in National Wildlife Refuges.

The National Park System features units somewhat more realistic in ecolog-

continued next page

cal terms than the Refuge System. Yet research has shown that even the largest National Parks in the lower 48 states are of insufficient size to retain their full complement of species and natural processes—and indeed have already lost species. Moreover, National Parks are managed more for tourists than for the species dependent upon them for survival.

MOVING THE MOUNTAIN

Given the present inability of law to redress ecological concerns, it is easy to understand why people concerned about the natural environment abandon law as a tool for ecological justice, leaving its complicated halls to those more interested in human-oriented issues. Or, they concentrate on lobbying to redraft and create new laws—often an exercise in frustration and political compromise. Ultimately, however, every tool is needed and should be carefully evaluated before being rejected as unworkable.

Legal action does have its advantages, and complements most other tools of the activist trade. One advantage is its ability to be understood. Many people, especially in litigious urban areas, can't relate to protests, guerilla theater, or monkey-wrenching, but lend strong support to lawsuits. Another advantage is reasonable accessibility: the redeeming factor of most so-called environmental laws is provision for citizen enforcement through litigation. The rewards may not be great, but at least an avenue for action is provided. The importance of the citizen suit provisions can be seen by looking at the vigor with which the timber industry and supportive congressional representatives attempted to remove the ability for citizens to appeal timber sales and bidding decisions in the Northwest forests last year.

The most important, and usually overlooked, benefit of legal action is that courts do not rely on public opinion polls to render their decisions. Courts are the only facet of our government that can issue unpopular decisions. It is true that public sentiments and politics frequently play a role, and that public support is still needed to finance legal actions; but one need look no further than the civil rights decisions issued by federal district courts in the South a few decades ago to realize that, given a good legal argument on which to hang their decision, courts are capable of doing the right thing regardless of community sentiment. Convincing one judge may be easier than convincing Congress or the nation.

The trick, then, is to convince that one judge—and another one, and another one. This can only be done by adapting existing law to provide a solid basis for argument of ecological values in court. The law does change, incrementally, with each lawsuit filed in every court around the nation. As with the advent of our civil rights laws through hundreds of test cases, the Earth will enter the courtroom one docket page at a time through repeated creative efforts.

There are a growing number of attempts to reach beyond the constraints of the environmental statutes of the last few decades and find new ways to bring ecological factors into the legal process. (See *The Rights of Nature* by Roderick Nash, and *Should Trees Have Standing?* by Christopher Stone.) One approach involves trying to get an ecosystem recognized by the courts as being able to sue in its own name. In the most notorious experiment, *Sierra Club v. Mineral King*, litigators for the Sierra Club tried to bring suit in the name of a valley threatened by resort development. The Club argued that if non-human things like corporations can sue in their own name, trees or a geographical area or an ecosystem should be able to do the same. The court dismissed this argument and the suit was ultimately filed by the Sierra Club instead of the valley itself.

Unfortunately, this approach has not been followed elsewhere. Activists and environmental attorneys looked to the Sierra Club/Mineral King lawsuit as the definitive word on the subject and have not pressed the issue. Emancipation, desegregation and recognition of women as property owners all failed in the courts on their first few hundred tries as well. If the face of environmental law is to change, litigators must overcome their fear of losing trials or creating bad precedents through adverse decisions. It is worth noting here that the Sierra Club Legal Defense Fund (SCLDF, no longer officially linked with the Sierra Club, and generally more radical than the Club) has an unstated policy of only filing lawsuits it expects to win.

The adage of try, try again must be applied anew. One way to get the ecosystems-lawsuit approach back into the courts may be to come at it from a slightly different angle. For example, instead of asking for the geographic area to be able to sue in its own name, attempt to convince a court to appoint a legal guardian, first for future generations of humans who would be deprived of benefitting from the natural environment; then for the public values of the natural resources; and ultimately for the

wildlife of the area itself.

Others in the legal field are dusting off the old common law doctrine of "public trust." Usually applied to water, the public trust doctrine holds that natural resources must be managed in such a way as to ensure their continued availability for future generations. To date, "availability" has been interpreted to mean use for recreation and boating, so permanent intrusions such as dams and docks are subject to scrutiny under the doctrine.

The public trust doctrine, like the environmental statutes, is founded on human values and looks to cultural and economic factors to determine what must be maintained in trust. A totally sterile, acidified lake is still available for swimming, boating, and drinking water supply and might be seen by some as preferable to a "live" lake with its swimming inhabitants. While the ecology of the living lake is destroyed, the public trust regarding the water has been maintained.

Nonetheless, the public trust doctrine opens the door to present an argument that the healthy aquatic ecosystem, not just the presence of a lake or river, is a matter of public importance. This may develop slowly, such as by trying to gain recognition that not just boating, but fishing as well is held in trust for us by our government; then, that a healthy ecosystem must be maintained to prevent eutrophication and the eventual elimination of the water and fish being protected.

Other potential approaches are awaiting either a likely scenario for a lawsuit or litigators and plaintiffs creative and brave enough to try them. For example, anti-trust actions might be brought against the timber industry in the Northern Forest Lands [the Northern Forest Lands Study area, encompassing northern Maine, New Hampshire, Vermont, and New York—areas largely owned by timber companies] under a new federal consumer protection theory allowing citizens to block corporate mergers or take-overs when they can prove that consumer products (or, here, the environment) would be negatively affected as a result of the corporate action. (The case establishing this theory blocked the merger of two California supermarket chains where it was proven that food prices would rise.)

Suits in *qui tam*, a method of acting as a citizen attorney general, could be brought against contractors who provide misleading data for environmental impact statements. The medical malpractice theory of informed consent might be applied where people are subjected to chemical exposure

without full knowledge. (See report on informed consent by David Orton of Green Web, RR3, Saltspring, Pictou County, Nova Scotia BOK IPO.) If legal activists could demonstrate half the inventiveness the computer software specialists have shown in the past decade, countless other approaches could appear.

AN IMPERFECT SOLUTION

Though there are rays of hope that the law may move in the direction of recognizing ecological values, it will never form a perfect solution. Expansions of protective legal doctrines are riddled with philosophical problems. For example, we compete with other creatures for space, air, food, water; would it be possible within the bounds of the law to define how far into other creatures' territories we can go? It would be easier to draw arbitrary boundaries, such as so many acres to be left available for each Endangered species. Yet no legal line drawing will ever answer the question of the appropriate level of human interaction with, and inevitable destruction of, other living beings.

But no other human system has ever worked perfectly either. Democracy and market economies, for instance, are defined almost more by their failings than their successes. The difference here is that the measure of success for human interaction with the natural environment is survival of life on Earth—not a lasting government structure or a luxury of profitability. We cannot reevaluate, Monday morning quarterback, and start over; if a species is lost, it's lost.

So the question is not whether legal action is a perfect solution, but whether it does more good than harm; whether it is a measurably successful approach to ecological health and continued evolution. The traditional body of environmental statutes presents a doubtful answer to this question, and if left to operate without change may ultimately cause more harm than good. But the possibility of a change toward the new theories presented here and others yet to be invented suggests a more favorable answer.

For the time and energy expended on it, law can be an efficient means of ecological protection. Creative redirecting of environmental legal argument away from regulatory compliance and liability litigation and into ecological values will create a more responsive body of law. As one tool among many others to help reintegrate the human species and the natural environment, legal action should not be abandoned.

Environmental History Review

formerly Environmental Review

A Publication of the American Society for Environmental History

William Cronon, president

John Opie, editor

Environmental History Review, established in 1976, promotes scholarly research in past environmental change. Each quarterly issue is approximately 100 pages of articles, reports, book reviews and news notes. It is strongly interdisciplinary in history, geography, ecology, anthropology, natural resource management, landscape architecture, literature and the humanities.

representative articles published in 1990

Ecology of Order and Chaos

Donald Worster

A Renaissance Change in European Cognition

Alfred W. Crosby

Nature Literature and Modern Science

Thomas R. Dunlap

Genesis Revisited: Murian Musings on the Lynn White, Jr. Debate

J. Baird Callicott

Cities, Technical Systems and the Environment

Martin V. Melosi

Environmental Development in the East St. Louis Region, 1890-1970

Craig E. Colten

The Environmental Crisis in China

Wenhui Hou

The American Society for Environmental History also sponsors a biennial conference at which members gather to share their work. Your annual membership fee includes a subscription to *EHR*, to the "Environmental History Newsletter" (covering meetings, events and issues in the field), special rates at the Society's biennial conference, reference and referral services, and involvement in one of the most exciting new fields of scholarship.

Class of Subscriber	Amount	Name _____
Individual		Address _____
U.S. & Canada	\$24.00	City _____
Outside US & Canada	32.00	State/Country _____ Zip _____
Student & Retired	12.00	
Contributor	100.00	
Patron	300.00	Amount Enclosed _____
Institutional:		
US & Canada	30.00	
Outside US & Canada	38.00	

Mail to: Circulation Manager
Environmental History Review
c/o Center for Technology Studies
New Jersey Institute of Technology
Newark NJ 07102
(phone 201-596-3269/3270)

Cindy Hill is an attorney in Massachusetts who donates much of her time to PAW (Preserve Appalachian Wilderness). She has enabled PAW to present a serious legal challenge to the poisoning of Lake Champlain with lampricide. (Donations to PAW, much needed, can be sent to PAW, RR1 Box 530, N. Stratford, NH 03590.)



LEGISLATIVE CORNER

ed. note: The following legislation report comes to us courtesy of Margaret Hays Young and Mitch Friedman. Margaret is the wildlife chair of the Atlantic Chapter of the Sierra Club. Mitch is the President of the Greater Ecosystem Alliance. (GEA [POB 2813, Bellingham, WA 98227] is a visionary advocate of protecting whole ecosystems, and welcomes donations to further this cause.)

WHAT THE BIG 10 DON'T TELL YOU

The struggle to preserve what remains of our natural heritage sometimes seems futile: For every small battle we win, we lose many others. A mile of river is protected; five miles of condos are built upstream. A timber sale is blocked; ten more go through unopposed... because we don't have enough time or money or volunteers to fight them one by one.

For this reason, much of our struggle necessarily takes place in Congress. If we want comprehensive protection for our wildlands, Congress is about the only place we can go to get it. So, much of our effort must be aimed at passing strong legislation. When it succeeds, legislation can be one of the most effective tools we have.

But some bitter losses take place in Congress too. After a timber sale goes through, you can see the clearcuts. Our legislative failures are harder to see. They produce clearcuts just as surely as an individual timber sale does, but the damage isn't as obvious. When you walk around Washington, you can't see the fouled rivers or the slaughtered wildlife, but that's what is happening around you, as you stand there on Capitol Hill. We lose a lot of wilderness in Washington, even give it away, and never know how we lost it.

This usually happens not because bad legislation is introduced, but because good legislation is *not* introduced. Many sacrifices are made in private meetings that we, the "environmentalists," attend. They are made with our blessing. They are made because we are "realistic"... because we "know" what legislation we can and cannot get passed, and we decide not to ask for what we "know" we can't get.

Most of all, they are made because the

real power for environmental reform in this country is now in the hands of the "Big 10." These groups have the money, the members, and the full-time professional lobbyists to influence Congress. Most of us belong to one or more of these groups. Our dues pay the lobbyists' salaries, and they "represent" our interests in Washington. Like our elected politicians, our big-time environmental politicians decide what is best for us all.

The Big 10 groups have complicated hierarchies; they have political and environmental "experts" who decide what legislation these groups will support; they decide what is "politically realistic"; they decide what to tell Congress about what we (their members) think. Any legislation that does not receive the blessing of these experts will not be introduced.

The only environmental legislation that Congress takes seriously is legislation that the "Majors" have agreed to support. The "Majors" (the Sierra Club, National Audubon Society, Wilderness Society, National Wildlife Federation, etc.) work closely together. They decide (as a group) which bills they will support.

Nowadays, when you go to Washington to lobby for a proposal that you believe in, what your Senator or Representative really wants to know is: "Do the Majors support it?" If the answer is "No," you find that your meeting is, for all practical purposes, over.

These groups' positions are decided in private, by a small number of very powerful people. Individual members' opinions do not enter into their political calculations, because they feel we are not as well informed and we don't have "political expertise." Our lobbyists don't ask what our opinions are. They don't want to know. That's the problem.

Surveys of the individual members' attitudes on conservation issues have been largely abandoned by the Sierra Club, Audubon Society, Wilderness Society, et. al. in recent years. It seems such surveys were becoming embarrassingly inconvenient. It was becoming apparent that the members weren't really in line with the nationals' policies!

What is worse, the environmental managers make no effort to inform their members that there is any alternative to their own position. Members are only informed about environmental legislation that their managers have endorsed. The membership isn't given an opportunity to evaluate the alternatives.

We would like to correct some of this. Henceforth, we will use this space to compare the legislative proposals endorsed by the "Majors" with proposals made by smaller, more progressive groups around the country. (The Big 10 can be relied upon to familiarize their members with industry proposals for development of "resources"; they are anxious to show their members how much progress would be made by their legislation.) We are concerned here with the proposals their members do not hear about, the ones that are ruled out as too radical or politically unrealistic. Below are some comparisons.

(The weak) Ancient Forests Protection Act: Endorsed by the Majors, it would only protect "significant stands" of old-growth forests in "selected areas" of Oregon, Washington, and northern California.

(The worthy) Native Forest Protection Act: NFPA (not supported by the Big 10 and actively opposed by some of their lobbyists) would protect all native virgin forests nationwide; would ban all clearcutting in our National Forests; would stop the Forest Service from spending the \$200 million a year of our taxes to build the roads that make it financially attractive for the timber industry to fell our forests; and would provide compensation for timber-dependent communities by giving them payments in lieu of real estate taxes. [See Mitch's article.]

(The weak) proposals concerning roadless lands in Idaho, Montana, Oregon, Washington, and Wyoming: The Majors have attempted no comprehensive approach to protecting the roadless lands in the Wild Rockies. Their state-by-state wilderness proposals tend to ask for roadless land that is also treeless land. Such proposals, like Alternative W in Montana and the Idaho Conservation Act in Idaho, have been termed "rocks and ice bills,"

since high elevation lands are just about all they protect.

(The worthy) **Wild Rockies National Lands Act:** Vociferously opposed by some Major players, this legislation would designate more than 13 million acres of new Wilderness in what is being called the Wild Rockies Bioregion (including portions of Montana, Idaho, eastern Oregon and Washington, and northwestern Wyoming). It would also create more than 900 miles of new Wild & Scenic rivers and establish 2 new National Parks.

(The weak) **Studds Bill on National Wildlife Refuges:** Last year Representative Studds of Massachusetts introduced a bill endorsed by the Majors (HR 4948) that would require that the US Fish and Wildlife Service determine that any *new* uses of the National Wildlife Refuges be determined to be "compatible" with the purposes of that Refuge. Uses now permitted on Wildlife Refuges—including clearcutting, trapping, grazing, hunting, agriculture, powerboating, ORV joyriding, military artillery and bombing practice—would not be prohibited outright. The bill would simply require that such activities be determined to be compatible, and that a set of guidelines for determining "compatibility" be established. No comprehensive set of guidelines now exists.

(The worthy) **Wildlife Refuge Reform Act:** HR 330, introduced by Representative Bill Green of New York (spoken against publicly by several Major reps), would prohibit hunting and trapping in the National Wildlife Refuges. It should be noted that such abuses of our Wildlife Refuges as clearcutting and grazing are permitted specifically to enhance populations of game animals for hunters and trappers. Without the hunters and trappers, these activities would no longer have any justification. This bill had 72 cosponsors last year, but no mention of it that I know of was ever made in any of the Majors' membership publications.

These are just a few examples of legislative proposals that the "Major" environmental organizations do and do not tell their members about. For this column, we would like to hear from our readers: 1) what good legislative proposals the Big 10 have refused to support; and 2) what (presumably more compromising) proposals they support instead.

Please send us information about such proposals. Since you won't read about the alternatives in the Big 10 groups' publications, we'd like for you to be able to read about them here. [Please include names of

congresspersons who introduced the bills. Please send information on bills pertaining to key issues such as overpopulation, as well as on those directly relating to wildlife.]

And don't give up! Despite what I said earlier about lobbying in Washington, and getting a cold reception if you don't have the support of the "Majors," there have been indications recently that some members of Congress are beginning to suspect they aren't getting the whole story from the Big 10 lobbyists. They may realize the national managers are out of touch with the grassroots; and they do want to hear what we have to say.

Write your Senators at US Senate, Washington, DC 20510; and your Representative at US House of Representatives, DC 20515.

—Margaret Hays Young

FOREST RELATED BILLS

National Biological Diversity Conservation and Recovery Act: Introduced in 1989 and 1990 by Representative Scheuer (NY), this bill would require federal agencies to evaluate the effects of their projects on biodiversity. It would also encourage agency coordination, research, and public

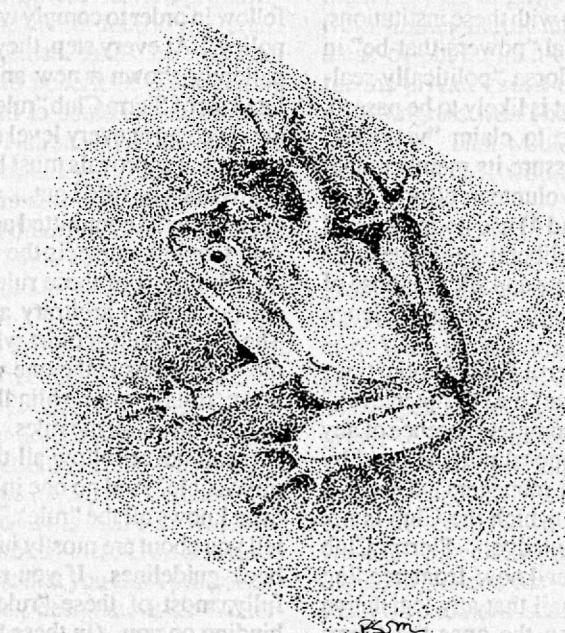
education on biodiversity. It has no teeth, but is a start.

Global Forest Emergency Act: Also introduced by Scheuer, it requires a "no net loss of forest" policy and provides for research and a global reforestation program.

Native Forest Protection Act: This is the bill drafted by the Native Forest Council; not yet introduced in Congress. It would ban logging of the small fraction of natural (never logged) and native (if logged, naturally regenerated and diverse) forest that remains on federal public lands. NFPA would also ban clearcutting and allow only sustainable rates of selection-cutting on all federal forestlands nationwide.

Endangered Ecosystem Act: Drafted by the Portland (OR) Audubon Society, it has not yet been introduced in Congress. It would provide a means to preserve remaining ecosystem diversity, preventing further loss of species and ecological functions. It would classify and inventory ecosystems and implement protection and recovery processes where needed, for all lands nation-wide. [See Reed Noss's Endangered Ecosystem Act Concept Paper in this issue.]

—Mitch Friedman



Pacific Tree Frog, by Peggy Sue McRae

MOVEMENT MUTTERINGS

HOW TO DEAL WITH THE SIERRA CLUB

The Sierra Club is a powerful, venerable institution, with nearly a century of history behind it. It has more than 600,000 members in the United States. It also has a Byzantine bureaucracy that serves to keep its members under control and to ensure that for all their sincere commitment, those members get very little done.

Make no mistake, the individual members of the Sierra Club have a deep commitment to protecting wilderness and wildlife. Most members join "the Club" because they believe that is what the Club stands for. They are right. That is what the Sierra Club stands for. It just isn't what the Sierra Club actually does, anymore.

What the Sierra Club actually does these days is: 1) generate funding, especially from large and conservative grant-making institutions; 2) preserve its good name ("credibility") with these institutions, and with the political "powers-that-be" in Washington; 3) endorse "politically realistic" legislation that is likely to be passed, in order to be able to claim "victories" afterwards, and reassure its members that their dollars and volunteer efforts have done some good; and 4) use its convoluted bureaucracy and deliberately vague rule-structure to intimidate and silence those of its members who might wish to challenge these policies.

If you read Sierra Club publications from anything "above" the "Chapter level," you will notice the complete absence of any mention of any proposal not endorsed by the Club's national managers. This is a form of censorship which the Club is not anxious to acknowledge. Sierra Club members will never know from reading their Sierra Club mail that any legislative proposals other than the ones the Sierra Club managers endorse ever existed. The managers control the flow of information. [See sidebar.]

(We are encouraged to call these managers "Leaders." During the time I

have been involved with the Club, we have not had any "Leaders" that I know of. We do, however, have an overabundance of managers. Leaders lead people; they inspire loyalty and trust. Leaders take chances; they chart new courses; they set an example of courage and self-sacrifice that others aspire to. Managers manage "resources," they take no personal risks, they offer no new ideas, they use corporate double-speak to avoid responsibility, they do not question established authority, and no one really trusts them. Currently, the Sierra Club has managers.)

These managers manage the members well. All over the country, time and time again individual activists are systematically intimidated by the party structure when they advance proposals for real environmental reform. Such activists are routinely instructed by patient, well-meaning, solicitous Sierra Club bureaucrats about the ever more complicated procedures they "must" follow in order to comply with "Sierra Club policy." At every step, they are kindly and patiently shown a new and more convoluted set of Sierra Club "rules"; new hurdles are revealed at every level of bureaucracy; more new approvals must be sought, more forms must be filled out ... until eventually even the most committed activist gives up. And that, of course, is the point.

But most of these rules are nonexistent (as well as arbitrary and capricious). The Sierra Club activist who runs into the most problems is the one who tries to obtain permission, who blindly and faithfully tries to follow all the rules. That's the trick: you can never follow all the "rules." It's impossible. And no one in the Sierra Club even knows all the "rules." The rules they tell you about are mostly just a set of handbook guidelines. If you read them carefully, most of these "rules" aren't even binding on you. (In these handbooks, you are usually told what you "may" do; you are rarely if ever told that you "may" not do otherwise.) Also, if you break these "rules," it is up to the "National Level" folks to a) be paying enough attention to

notice what you are doing; and b) figure out what to do about it.

Never forget that as a volunteer there are real limits to how much you can be pushed around. As a volunteer, you don't have to do anything. You can always walk away. More important, you can always threaten to do so. The Club is very short of volunteers. It can't really afford to turn anyone down. Think about it. How many people are willing to put up with that kind of bureaucracy, for free? With a little thoughtful effort, you can pursue no-compromise objectives quite easily, as a Sierra Club representative. Remember, the only real rules are in the by-laws. Anything else is just what the managers want you to believe you must do.

Most of the bureaucratic structure of the Sierra Club is unnecessary, and it is also largely powerless. What power it does have is mostly derived from its intimidation potential. No one can hurt you unless they have something you want. The only danger you risk is becoming seduced by the wonderfulness of having a title with the Sierra Club, and starting to believe that makes you important. As long as you don't fall into the trap of needing that sort of thing, Sierra Club's management can't do much to you.

The national Sierra Club can threaten to revoke your chapter's charter or disband your chapter's board, but it doesn't really want to do that. It doesn't want to have to run your chapter for you. (Generally, it is too busy and/or incompetent to do so anyway.) And if your chapter actually were disbanded, you and your friends could always run for reelection when it is reorganized, and win. The national by-laws prevent your being thrown out of the Club as long as you are willing to pay your annual dues.

Most important, if such action ever were taken against you, you could talk to everyone under creation about it. The national Club is deathly afraid of bad publicity. Bad publicity from radical, foaming-at-the-mouth groups like Earth First! is one thing, but bad publicity from within the Club is something else. As a bona fide "volunteer leader," your criticisms of "Club policy" carry considerable weight.

All of the above may make you want to just ignore the Sierra Club ... but please

don't. The Sierra Club is one of the oldest and largest environmental groups in the world. As of now, it is still one of the most respected. And we need the Sierra Club if we are to save anything. We need the Sierra Club to be what it claims to be, what most people still think it is.

The danger is that people may begin to realize that the Club isn't living up to its reputation these days. Already, some of the people who really know how to fight for wilderness are giving up in disgust, beaten by the bureaucrats. These folks are walking away and leaving the Club in the hands of a group of hollow status-seekers. Soon, the individual members may realize what is going on. If that happens, the Club will be in danger of collapsing.

Without a strong and sincere Sierra Club, much wilderness and wildlife would be lost that could otherwise be saved. What the Club does in Washington may be disgusting, but what it doesn't do in Montana and Maine may turn out to be tragic.

However, you can stop the Club's decline. Those of you reading this are probably the only people who can. Join the Sierra Club! You may not like the Club, but you can be far more effective as a member, preferably with a title, than you can possibly be from outside it. Anyone can join. With a little patience (say, attending 5 or 6 meetings), anyone can have a title of some kind within the Club. Again, the groups and chapters are desperately short of volunteers; and anyone can run for office. With so few people to choose from, you can expect to be elected to office pretty quickly.

Additionally, anyone can, with a petition containing the signatures of 2% of the number of members who voted in the last national election, force the National Board of the Sierra Club to put any question she or he likes on the ballot for the next national election. Usually between 30,000 and 60,000 vote, so a petition with between 600 and 1200 signatures will do.

If such a referendum passes, the National Board of Directors MUST adopt that resolution as national Sierra Club policy. If you doubt it, read the Sierra Club's National By-Laws, section 11. If you can get 1200 signatures of paid Sierra Club members on a petition, you may be able to change the Club's policies, procedures, structure, by-laws, anything.

These suggestions are meant to help you deal with the Sierra Club more effectively. Many who are now reading this are very likely either current or ex-Sierra Club (or Audubon) members and volunteers. We

would like this column to serve as a place for those readers to exchange information and experience.

We encourage every reader who has any knowledge of incidents of intimidation or censorship in the Sierra Club, the National Audubon Society or any other "major" environmental group to share those experiences with others. All comments received here will be treated as completely confidential. Any comments used in this column will not be attributed unless specific permission to do so is given in advance. Tell us what you've been seeing out there. We've been hearing murmurs about industry infiltration of the groups and chapters, and incidents of local intimidation by the national managers, but have not been able to verify all of them. We want to change what's happening, and we need your help to do so.

Let's pool our knowledge. Maybe we can help each other.

—Hart Schaefer, Sierra Club volunteer

CLUB COURTESY CONFLICTS WITH CONSERVATION

As most readers of Wild Earth know all too well, our public lands are being abused, and are not administered for the benefit of the people who "own" them—and certainly not for the benefit of the wildlife. The National Forests are managed by the US Forest Service primarily for benefit of the timber industry. Bureau of Land Management lands are managed primarily for the benefit of the ranching and mining (and to some extent, timber) industries. The National Wildlife Refuges are managed primarily for the benefit of hunters, trappers and fishermen, often to the exclusion of other, "non-consumptive" visitors. These lands belong to us all, yet they are treated as the private resource-base of a greedy few.

A problem arises when we try to get Congress to correct these abuses, because the US Congress itself seems unable (or unwilling) to understand that all of us—including generations to come—have equal rights to federal lands. As Senator Tim Wirth explained in his office in Washington, DC last October, there is an unwritten rule in the Senate that you can't protect any federal land (i.e., designate it as Wilderness; no other category of public land is actually protected from industrial and recreational abuse) unless you have the permission of the Senators from the state where the land is located. This is called "Senatorial courtesy."

Never mind that this land belongs to us all, regardless of where we live. Never mind that the current commercial users of these lands are destroying them. Never mind that our taxes are used to encourage this exploitation. No Federal land can be protected unless that state's Senators say so!

This is just an "understanding" they have in the Senate; it is not a law, so how has it come to pass? Well ... the timber and mining and ranching industries are very powerful in the West. Most federal land is located in the West. And these industries have been using our federal land this way for so long that they have come to see it as their "right."

Concerning the National Wildlife Refuges, the common political wisdom is that nobody can afford to offend the National Rifle Association. The hunting community refers to hunting as a "right." NRA members expect to have the right to hunt on all public lands, including the Refuges.

No industry, and no one state, has any exclusive right to use these lands, but Senators from the states with federal lands want to protect their local industries (like Weyerhaeuser and Louisiana Pacific). Many of their constituents' jobs (and campaign contributions) depend on using this public land, virtually for free. These Senators are glad to be able to veto any measure that might protect "their" land from further industrial abuse. Thus large areas of public land continue to be used for the private profit of a privileged few, and Congress won't challenge such "entitlements." That would violate Senatorial courtesy, and it wouldn't be "politically realistic."

What about the environmentalists? What about the Big 10, the mainstream groups like the Sierra Club, The Wilderness Society, the National Audubon Society? Well, the national managers of these groups spend a lot of time in Washington. They spend a lot of time lobbying Congress, trying to make deals in order to protect the environment. And everyone gets to know each other.... One makes friends; and one doesn't want to offend one's friends—especially powerful friends, and especially if one may need a favor from them on another issue. And to deal effectively in such an atmosphere, it is important to be "reasonable," to maintain one's "credibility," to play by the rules. So we didn't get much new Wilderness last year.

continued next page

And what about the grassroots folks, those of us who don't live in Washington and whose jobs don't depend on maintaining our credibility with Congressional staff? Sometimes we actually try to stop the abuse of our public lands; try, for example, to outlaw clearcutting in our National Forests, or to stop paying \$200 million in taxes each year to build the roads that make such clearcutting possible. Some of us might even like to get the welfare ranchers off our lands, or to end "Animal Damage Control."

But the national management of the Sierra Club doesn't want us to do any of that. It might damage their credibility, we are told. In fact, they will go to great lengths to prevent us from even asking Congress to stop the abuse of our public lands. Several groups are now working independently to end these abuses, but the national Sierra Club does not support them, and it does not want us to support them. In fact, some Sierra Club volunteers with the Atlantic Chapter have recently been advised by some of our national leaders of two things, relative to the Club's public land policy:

1) Only the national management may take a position on national legislation. If a local group or chapter has an opinion, they had best not express it. (This rule does not appear in the by-laws, but it is what the "leaders" tell us now.)

2) If a chapter takes a position on the use of federal land located in their state, their position is considered to be national's policy until national states otherwise. No other chapter may take a contrary position (read: "any position") concerning that federal land. (As with Mr. Wirth's assertions about Senate "policy," this was communicated to the aforementioned volunteers verbally. This rule is not included in the national by-laws.)

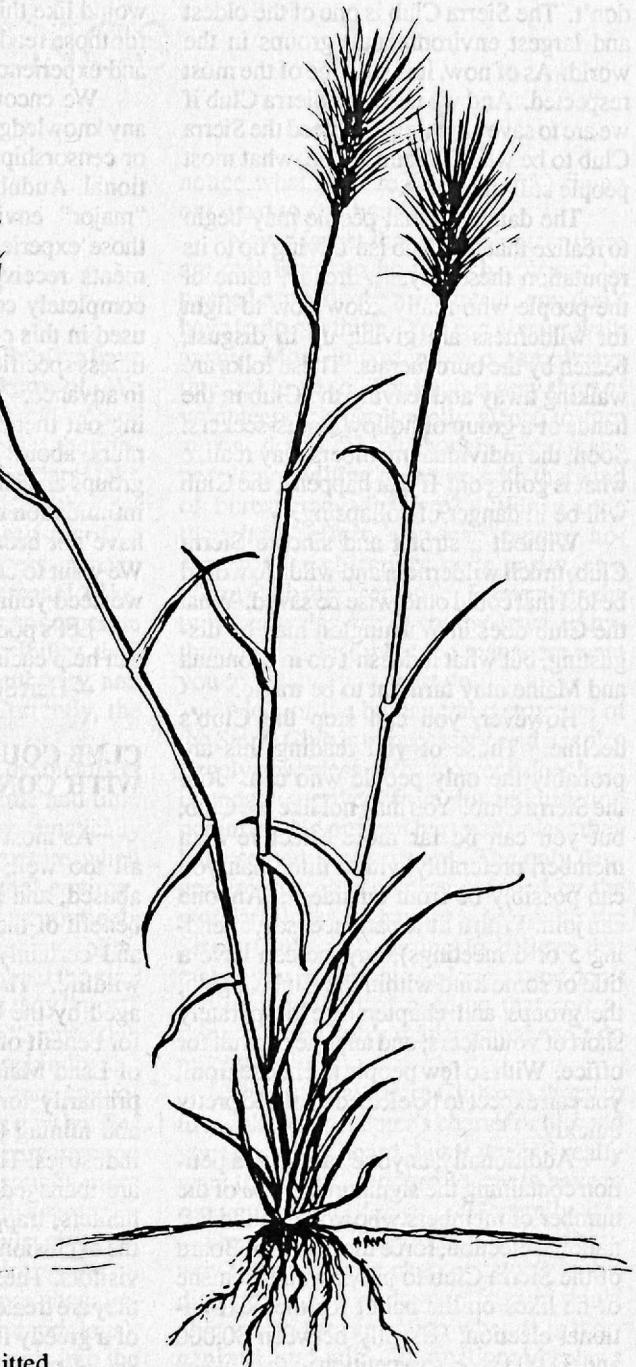
This procedure has two big problems. First, since the land in question is federal land, to give the chapter where that land is located the preemptive right to decide what its future should be is like giving their Senators the power to veto any bills to protect it. The procedure disenfranchises all other Sierra Club chapters in the same way Senatorial courtesy disenfranchises the voters in all other states. As United States citizens, we all have equal title to all our federal Land, wherever it may be. As Sierra Club members, apparently we do not.

Second, chapters where such land is located are unlikely to be objective about their local resource-based industries. Where federal land is being clearcut, for example, local members are more likely

than out-of-state members to have financial ties to the timber industry there. So a situation is created where only those most dependent on the continued commercial use of that land are permitted to be heard. The Sierra Club gives this "veto power" to the very chapters least likely to seek real protection for these lands.

Someone in similar circumstances once said, "No taxation without representation!" But the current policy of the national Sierra Club does just that. We all pay the same membership dues, and we all own the federal lands. The national managers seem to confuse the location of public land with ownership, just as our Senators do. Maybe it's time to throw the tea back into the harbor.

State land is state land, and each chapter should be responsible for its own pol-



Helen Wilson

icy. But federal land belongs to us all, and both the US Congress and the national Sierra Club need to acknowledge that, and act as if they believed it. The Club's national managers should address these questions openly, yet what we hear from them most often is what we cannot talk about, and what positions we may not take. Sierra Club's much-proclaimed "democratic structure" seems to be something less than that in practice.

Wild Human Wild Earth

by Dolores LaChapelle

Abstract: Indigenous wild human cultures throughout the world shared three aspects of life: rituals, population control, and respect for the non-human. These three factors mutually reinforced one another, and kept primitive tribes in balance with their wild environment. "Rituals" here refers not to the shallow rituals practiced today by some "woo-woo" and new age groups, but to the ongoing living of our connections with the non-human. This paper will show that humans are still very much products of their environment, and that these three aspects of life are essential to uncovering the wild human inside all of us and restoring the wild Earth.

It has always been part of basic human experience to live in a culture of wilderness. There has been no wilderness without some kind of human presence for several hundred thousand years.

—Gary Snyder

INTRODUCTION: HUMANS SHAPED BY NATURE

Since human beings evolved in wild nature, our essential human nature was formed in what we now call wilderness. Civilization did not begin until after the onset of agriculture 10,000 years ago. No one has explained the effects of this "civilization" on the human body as well as Dr. A.T.W. Simeons, who set up hospitals in India and founded the famous Salvatore Mundi hospital in Rome. He wrote *Man's Presumptuous Brain* to explain what he had learned from his life's work dealing with the roots of disease. He wrote: "Civilization is an artifact and not a biological phenomenon. The only physiological result it has had in man is the emergence of psychosomatic disorders. It has produced no new organs and no new functions ... Man's cultural evolution is brought about by the ever better training of the cortical ability to learn. He is the only living creature that has brought its natural evolution to an end; man has ceased to adjust his body to his environment; he now adjusts his environment to his body."

The central thesis of the Man the Hunter conference, held at the University of Chicago, concerned the fact that "for over 99 per cent of the time cultural man

has been on earth he has lived as a hunter-gatherer. Only in the last 10,000 years has man begun to domesticate plants and animals." Carleton Coon, who drew upon his life's work in anthropology and archaeology to write *The Hunting Peoples*, points out that: "The span of ten millennia encompasses about four hundred human generations, too few to allow for any notable genetic change."

It is generally admitted that human bodily structures and internal organs developed out of similar organs in animals. Yet the fact that human behavior has developed from the same roots creates consternation in groups ranging from Christians to New Agers.

It's obvious, though, when you realize that our fundamental needs are the same as those of all warm blooded animals—the need for food, sex, interaction within the group (bonding) and in the high latitudes, warmth from the sun. Pathology comes from being denied these basic needs by modern civilization. When our ancestors, the bush apes, began to move down out of the trees onto open country, they were exposed to the harsh glare of bright sunlight with no dappling of leaves. We feel best—just as the higher apes and the early humans felt best—on the edge of trees, where we can look out over a broad place

but are relatively protected. Paul Shepard, who teaches Human Ecology at Pitzer College, explains:

An affinity for shade, trees, the nebulous glimmering of the forest interior, the tracery of branches against homogeneous surfaces, climbing, the dizzy childlike joy of looking down from a height, looking through windows and into holes, hiding, the mystery of the obscure, are all part of the woodsy past. Restfulness to the eyes and temperament, remain part of the forest's contribution to the human personality."

To go into this at a deeper level, let's consider the sun. Until very recently modern civilized humans thought they could do quite well without sunlight. As winter approached, many felt increasing depression and lassitude, but ignored it, thinking it only a figment of their imagination. Research on this phenomenon began only fifteen years ago. By 1987 the American Psychiatric Association recognized the problem in its diagnostic manual. From the increased research came the amazing conclusion that 20 percent of Americans are seriously affected by what's now called Seasonal Affective Disorder (SAD).

The original research was done by Norman Rosenthal. His *Seasons of the Mind* describes many case studies. A typical example is an electronics technician who could only work at his trade in summer. In October he would begin to feel a "little gray...I lost confidence in the quality of my work and myself...It was somewhere between apathy and panic because I knew something was wrong, but had no idea at the time what the heck it was." The problems come from the effect of the growing darkness on melatonin, a pineal gland hormone. The purpose of this hormone is to prepare the body for sleep, and its presence in the blood usually increases considerably at dusk each day—especially in the shorter daylight times of

continued next page

late autumn, when it leads to the urge to hibernate, in humans as well as animals. Researchers Whybrow and Bahr explain SAD: "It's that conflict between the tendency to hibernate and the impossibility of doing so which makes autumn and winter a disastrous time for millions of us around the world."

We think we have nature safely tamed and under control and yet in reality we are controlled by the fluctuations of the envi-

effect on humans. This is why taking a shower feels so good when you've been under stress.

All of these atmospheric effects now come under a new field, called biometeorology. The more research done, the more we find that humans are a product of the environment and that we cannot separate ourselves out from it. The processes occurring inside us are shaped by subtle outside atmospheric conditions.

giving us a deeper knowledge of the rhythms of our Earth. Mickey Hart (co-author of *Drumming at the Edge of Magic: A Journey into the Spirit of Percussion*) explains the different levels of rhythm: "Rhythm piled atop rhythm, with even the simplest one-celled creature vibrating on distinct atomic, molecular, subcellular, and cellular levels. To say nothing of the on/off rhythm of neurons firing in the brain." Our planet completes its cycle around the sun every 365 days, and the moon cycles around us every 28 days, while the Earth rotates completely on its axis every 24 hours. Hart notes that most people have no understanding of "how deeply we are dancing to these rhythms." While the original wild humans knew of these cycles in their bodies, only recently has modern science verified them for us. Within the body, each of our organs has its own rhythm as well. If this sounds like chaos, it is.

Fortunately, in one of the latest trends in science, "chaos theory," science is finally admitting that we humans cannot know nor can we ever know all of this. The beginnings of chaos theory date back two decades and involve such men as Edward Lorenz, an MIT global weather modeler; Benoit Mandelbrot, a mathematician and author of *The Fractal Geometry of Nature*; and other mathematicians, physicists, biologists and astronomers. Although these scientists continued to do research within their distinct disciplines, they were all becoming aware of chaos. As James Gleick notes in his *Chaos: Making a New Science*, "A scientist studying chemical reactions in a laboratory or tracking insect populations in a three-year field experiment or modeling ocean temperature variations could not respond in the traditional way to the presence of unexpected fluctuations or oscillations—that is, by ignoring them ... More and more felt the compartmentalization of science as an impediment to their work. More and more felt the futility of studying parts in isolation from the whole. For them, chaos was the end of the reductionist program in science."

In the field of ecology, William Schaffer contributed to the growing appreciation of chaos. Schaffer had been the last student under Robert MacArthur, the dean of the field in the 1950s and 60s and a proponent of the "natural balance" of nature. Two decades later Schaffer "found himself realizing that ecology based on a sense of equilibrium seems doomed to fail. The traditional models are betrayed by their linear bias. Nature is more complicated. Instead he sees chaos, 'both exhilarating

Total attention to every aspect of life is what made the wild human — total attention but never "total control," as is our goal. The attention was to find out what nature needed from them in order for nature to continue its "give-away" to them.

ronment around us to the extent that differing combinations of ions in the molecules of the air we breathe can either lead to refreshing exuberance or near suicidal depression. Again, this was not recognized until quite recently. Most of the early research was done in Russia; Americans refusing to admit such phenomena.

Dr. Michel Gauquelin, a Sorbonne trained psychologist states: "Most of the physiological processes in the human body are constantly being modified by climate and weather as the body's regulatory systems are overcome by atmospheric disturbances."

When I lived in Switzerland one winter I was delighted to find that people recognized the effects of the "bad" positive ions. Their *foehn* wind blows up from the south, bringing with it warm air and positive ions which cause restlessness among animals and humans, as well as headaches, bad temper, depression and inability to work. In this country there are similar winds, such as Chinooks throughout the West and the Santa Ana in California; but our culture has not kept the folk wisdom that provides words for such effects on humans. Thus people continue to suffer the effects; but not knowing the cause, they blame themselves for the depression or bad temper. Positive ions are present not only in the so-called "ill winds" but in polluted city air which contributes to the already high stress in a city environment. Negative or good ions are preponderant in forests, by waterfalls and on ocean beaches. They have a healing, even exhilarating,

RITUALS

Original tribal cultures had no such scientific terminology, but they knew by generations of experience in place when to expect the troubles brought by such environmental factors as long nights and warm winds. They made ready for them by increased ritual activity—chanting, drumming, dancing—raising the group energy to effectively cope with the impending problems.

These environmental factors all had a part in the origin of seasonal festivals. Increasing darkness brings more anxiety and depression, thus all the Winter Solstice rituals. Increased light of sun brings on the growth of plants, hence the vegetation rituals of spring.

If our ancestors had not developed ways to counteract the stressful aspects of atmospheric conditions, humans would have gone extinct. Most rituals and festivals depend on the non-human for the timing. They wait until the time of the full moon or the new moon; they wait until the sun rises over a particular mountain; or until a certain constellation appears.

Such rituals acknowledge that nature knows more than we do. If we follow nature we can't go as wrong as if we follow strictly rational human planning, which is much too limited to comprehend the ongoing rhythms of the universe. Rhythm is created by repetition, whether on the seasonal level or on a lower level. Although the science of the last century had far different goals in mind, it has actually been

and a bit threatening'."

In the NOVA special "The Strange New Science of Chaos," scientists repeatedly talked about how drastically chaos changes things. Edward Lorenz says he found that "long-range forecasting would simply not be possible."

In all this chaos, though, patterns are involved. For instance in weather systems, a very tiny additional perturbation can throw the whole system into chaos; but out of this chaos a new form of order emerges. This is the way of the Universe which the ancient Chinese also called chaos, or Lord Hun-Tun.

The Law of Entrainment, first discovered in 1665 by a Dutch scientist, helps us out here. If two rhythms are nearly the same and close to one another they will entrain. Nature is efficient and it takes less energy to pulse together rather than in opposition. As Hart tells us, "The connection between those planetary rhythms and the personal rhythms of our own bodies is that we are entrained with these larger patterns, we are pulsing in synch with them because nature is efficient and we are a part of nature." For years the word 'entrainment' has been used only in connection with ritual, but now we can begin to see the deep levels of ritual helping humans get back into the big rhythms.

But how about the "bad" behavior and how about war? We'll go into behavior first. The famous ethologist Konrad Lorenz, in answer to this question, explains how "inane it is to attribute the adjectives good or bad to any mechanism of behavior, such as love, aggression... and so on. Like any endocrine gland, every one of these mechanisms is indispensable and, again, like a gland, every one, by its excess function, can lead to a destructive disequilibration. There is no human vice which is anything else than the excess of a function which in itself, is indispensable for the survival of the species."

Throughout the hundred thousand years or so of human time on earth, the "wild" human tribes developed rituals and festivals to take care of this "excess of function." During those "safe" times anyone could discharge any emotion to its full extent with no resultant put down from others. This allowed the tribe to operate at greater efficiency because no energy was wasted by holding in so-called bad emotions.

How did "wild" humans handle the matter of a would-be strong man taking over more of the resources than he needed? Anthropologist Ruth Benedict spent 20

years searching for the concept that all "good" cultures had in common. She made important findings decades ago, but due to unusual circumstances, these went unnoticed until fairly recently.

Abraham Maslow, who was a graduate student of Benedict, tells of how she listed the cultural characteristics of 8 primitive peoples on sheets of newsprint hung on her wall. From this she came up with the concept of synergy: "Drawn from medicine, it described a combined action of chemicals and cells that produces a benign result greater than the sum of the separate actions." In the 1920s she sent Maslow off to live among the Blackfeet, a high-synergy culture, to explore her idea. Because of her failing health Benedict gave the only copy of the ms. to Maslow, but then Maslow himself had a heart attack. He sent the ms. back to Benedict just before her final heart attack and the paper was lost. It was eventually found and in 1970 published.

Benedict wrote that a good society is one where "the individual by the same act and at the same time serves his own advantage and that of the group. Non-aggression occurs not because people are unselfish and put social obligations above personal desires, but when social arrangements make these two identical." Wealth is continually channeled away from any single point of concentration and spread through the group. If a man had many horses or blankets or whatever, "these gave him no standing except as they pass through his hands to the tribe at large." The Plains Indians' Sun Dance with its give-away is an example. The Northwest coast Indians had the potlatch. Ancient China also had a form of the potlatch. Always a festival accompanies the "give-away."

In wild nature one entity is always giving away to another entity - such as mycorrhizal fungus, growing on the roots of a tree, giving to it the nutrients the tree

can't get alone. Of course, the original wild humans did not know this scientific fact but they did know about the importance of "the powers below," and recognized them in all rituals.

These two aspects of ritual, entrainment and the give-away, are exemplified by African tribal drumming. When Europeans first heard African drumming they were horrified by the chaos because they were used to a simple linear rhythm. Even today, the "Western brain tries to entrain with this rhythmic chaos and pick out a dominant rhythm but, finding none gives up."

Western musical scholars could not figure out how African musicians maintained any sense of time within all these different rhythmical patterns. According to Hart, these African musicians knew "the best way to keep time in a polyrhythm is to create a rhythm of your own and merge it with the group's." And they learn this as small children. Here is the "good culture," wild human way of handling the problem of individuality as over against group cohesion.

Now, for the question about wars: Warfare between groups of wild humans, tribal peoples, was never the wholesale random destruction of human life—as well as of trees and even the "scorched" earth itself—that modern warfare is. Instead it was a highly ritualized engagement between two different groups. Elaborate preparations were made, including fasting, body painting, chanting and drumming, before the two groups came out onto the field to face one another.

Among the Tsembaga people of New Guinea, the men carry huge shields, five feet tall, and use only bows and arrows and an occasional throwing spear. The men prop up the shields, and occasionally dart out from behind them to take shots then leap back again. "Casualties are not numerous and deaths infrequent." In the "ax fight" they stood toe to toe behind their shields and exchanged blows. After any fatality the fighting was discontinued to allow time for mourning and funeral rites. It might then resume, but there might be a truce.

Far north in the Arctic, ethologists tell us, "ritualized forms of aggression among Eskimo, ranged from wrestling and fist fights to the celebrated song duals of the East and West Greenlanders." Here on the plains of North America we had an even more sophisticated ritual: counting coup.



continued next page

The warriors did not even have a weapon; only a feathered coup stick. The ritual was for the warrior to ride up to the opponent so skillfully that he could touch the enemy with the coup stick and get away unhurt. Counting coup was the important thing, not killing. Among our Celtic ancestors the ritual was the battle between the two champions. Again, ritual preparation took days before finally the two armies faced one another—usually across a stream. The

others look small. In addition to the wood, it would need many tons of iron for the braces and bolts and for the accompanying temple. He called in all the guns to be melted down. The Japanese managed to keep the gun banned until we Americans forcibly opened Japan in 1854.

Deep within us is the "original" human. All we have to do is uncover all the layers imposed by our Western, Christian culture to find that original human. Paul

1972: At the present time (1970) world population is growing at approximately 2% per year, with a doubling time of only 35 years. It is estimated that there were 125,000 (1/8 million) human beings on Earth a million years ago. "If the eighth of a million people then living had multiplied steadily at the *present* rate of 2.03 percent per year, how long would it have taken them to produce the present population of some three and a half billion? ... It would have taken just 512 years ... and the time would still have been nearly 1,000,000 B.C."

RESPECT FOR THE NON-HUMAN

More and more people agree that this disastrous time we live in is a "temporary anomaly," as Gary Snyder puts it. But how was it to live as "wild" human beings did for most of our time on earth? Malcolm Margolin gives us a clue.

"Before the coming of the Europeans, for hundreds—perhaps thousands—of years, the Ohlones rose before dawn, stood in front of their tule houses, and facing the east shouted words of greeting and encouragement to the rising sun. They shouted and talked to the sun because they believed that the sun was listening to them...The Ohlones were very different from us. They had different values, technologies, and ways of seeing the world...Yet there is something that lies beyond differences. For as we stretch and strain to look through the various windows into the past, we do not merely see a bygone people hunting, fishing, painting their bodies, and dancing their dances. If we look long enough, if we dwell on their joy, fear, and reverence, we may in the end catch glimpses of almost forgotten aspects of our own selves."

These aspects are the original "wild" human deep within us. How do we uncover that original wild human? Paul Shepard tells us, "The problem may be more difficult to understand than to solve." He continues:

"Beneath the veneer of civilization, to paraphrase the trite phrase of humanism, lies not the barbarian, but the human in us who knows the rightness of birth in gentle surroundings, the necessity of a rich nonhuman environment, play at being animals, the discipline of natural history, juvenile tasks with simple tools, the expressive arts of receiving food as a spiritual gift rather than as a product, the cultivation of meta-

Original tribal cultures had no such scientific terminology, but they knew by generations of experience in place when to expect the troubles brought by such environmental factors as long nights and warm winds. They made ready for them by increased ritual activity ...

"champion" of one side would hurl insults to the other champion, backed up by his men, and eventually the two champions would go at it. When one was killed, the battle ended. They all went off to perform the mourning rituals or the winning rituals.

Some say that we have war because we are really predators and have a "carnivore" mentality, but the most renowned ethologist of all, Konrad Lorenz, disagrees: "One can only deplore the fact that man has definitely not got a carnivorous mentality! All his trouble arises from his being a basically harmless, omnivorous creature, lacking in natural weapons with which to kill big prey, and, therefore, also devoid of the built-in safety devices which prevent real carnivores from abusing their killing power to destroy fellow members of their own species." In human evolution none of these true carnivore inhibitions were necessary because quick killing was impossible and the potential victim had plenty of opportunity to elicit the pity of the aggressor by submissive gestures. What changed all this was the development of increasingly long distance weapons—first guns, then bombers, missiles, etc. These weapons prevent any face-to-face contact. And face-to-face contact is not only necessary for true community, it is also necessary for ritualized war.

The Japanese recognized this hundreds of years ago and succeeded in banning the gun shortly after Europeans introduced it in 1543. In 1587 Lord Hideyoshi announced he would build an enormous statue of the Buddha—so huge as to make all

Shepard tells us that "there are certain activities that have been preferred by leisured people in all places and times: hunting, dancing, racing, and conversing. It is no accident that these are precisely the 'true vocations' of primitive hunters, who, like the aristocrats, make no distinction between leisure and life." Look at the bumper stickers on the highway and you'll see the original "wild" human still present: "I'd rather be fishing," or "I'd rather be skiing."

The wild human cannot tolerate boredom. As Paul Radin says, "the primitive lives in a blaze of reality." There is no boredom in a true culture, partly because no one thing is done for very long. Something else is always going on. While washing clothes in the river, they were looking for fish; while roaming the forest, they were foraging for edible nuts or fruits—the alertness needed in hunting operates in daily life.

POPULATION CONTROL

Hunting alertness means knowing the weather systems, knowing and ritualizing the balance between human food needs and what the environment can furnish. Population control, either ritually or herbally, was practiced everywhere in the world.

Because the words 'millions' and 'billions' are too abstract, merely giving the current world population statistics is useless. I've found that the clearest explanation of population control as the normal mode of human society was given by the scientific ecologist Garrett Hardin back in

phorical significance of natural phenomena of all kinds, clan membership and small group life, and the profound claims and liberation of ritual initiation and subsequent stages of adult mentorship. There is a secret person undamaged in every individual, aware of the validity of these, sensitive to their right moments in our lives."

Total attention to every aspect of life is what made the wild human total attention but never "total control," as is our goal. The attention was to find out what nature needed from them in order for nature to continue its "give-away" to them. The Taoist aspect of ancient China gives us the clearest written accounts of how it is to live in this way. The early Taoists were intellectuals who left the civilized life in the valleys and went up to the mountains where primitives still lived in order to learn from nature.

Here is a Taoist story from Lieh Tzu. (Confucius, in these Taoist stories, stands for the narrowness of civilized living.)

Confucius was taking a walk with his disciples along the bank below the Lu Chiang waterfall. In the raging torrent, where even a turtle would not have survived, they saw a man's head bobbing in the waves. The disciples dashed forward to help, but the man climbed out quite unconcerned. "Have you a tao," Confucius asked, "to tread in the water like this?" "No," the man replied: "I began in what is native to me, grew up in what is natural to me, matured by trusting destiny. I enter the vortex with the inflow and leave with the outflow; follow the Way of the Water instead of imposing a course of my own; this is how I tread it.

CONCLUSION

There's a saying that you can't dig a new hole by going deeper in the old hole. During the past 20 years there has been more beautiful writing, more research and more planning on matters of the environment than all the years before put together. The results: every aspect of the environment, including wildlife, is worse off than before. It's time to recognize we can't stop the destruction of the environment, the destruction of wild life, by these "rational" means. Gregory Bateson, one of the seminal thinkers of this century, said it well: "The rational part of the mind alone is necessarily pathogenic." That means deadly—not only to human life but to all

life. He continued: "Its virulence springs specifically from the circumstance that life depends upon interlocking circuits of contingency." The rational purposive brain "can see only such short arcs of such circuits as human purpose may direct."

The nature of the rational hemisphere [the "left brain"] is to take things apart to see how they work. But it cannot put anything together again. That's what the other hemisphere and the older brains do. The emotions we humans value most—altruism and empathy—do not come from the neo-cortex but from the deeper, the so-called animal or limbic, level of the brain. We inherited these emotions from our animal ancestors, and when we operate within this brain we share thinking with the animals. This is done by means of dreams, rituals, dancing, drumming—anything that prevents the rational hemisphere from running the show. So the way out of the present disaster is not by more research or planning but by using the methods our wild human ancestors used for millennia.

The three aspects of life shared by indigenous wild human culture—rituals, population control, and respect for the non-human—continually intertwined and influenced one another. Practicing ritual is living our connections with the non-human. Those of you who seriously fish, hunt, or climb, for instance, will automatically develop rituals. You'd better—your life and that of others, the non-human, is at

stake.

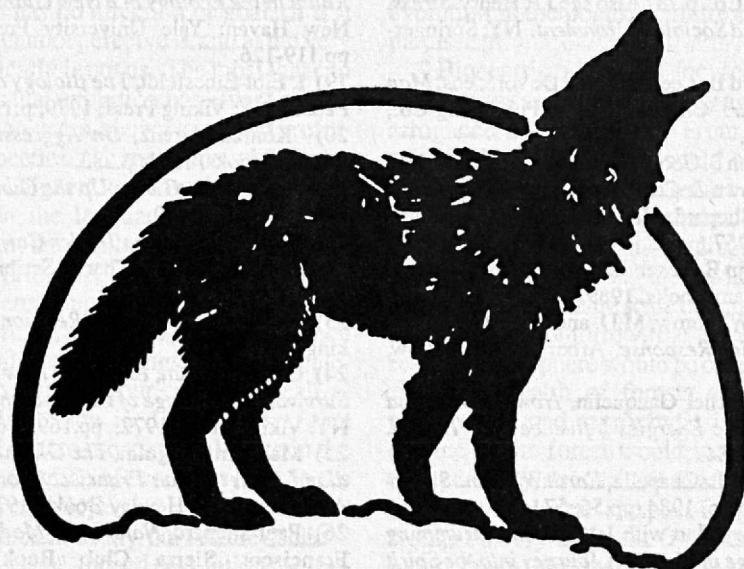
The most important ritual is what Gary Snyder calls "the sacramental energy-exchange, evolutionary mutual-sharing aspect of life...which takes place by that sharing of energies, passing it back and forth, which is done by literally eating each other." Here is an example of energy sharing on the personal level: our body, eaten by the worms, feeds the tree, which, in turn, feeds other generations of humans. But how do we begin to incorporate this at the governmental level?

Two decades ago the prestigious Center for the Study of Democratic Institutions in Santa Barbara invited Gary Snyder to talk to them. He told them:

"The reason I am here is because I wish to bring a voice from the wilderness, my constituency..."

What we must find a way to do, then, is to incorporate the other people—what the Sioux Indians called the creeping people, and the standing people, and the flying people, and the swimming people—into the councils of government...If we don't do it, they will revolt against us. They will submit non-negotiable demands about our stay on the earth. We are beginning to get non-negotiable demands right now from the air, the water, the soil ... This Center is of the order of a kiva of elders. Its function is to maintain and transmit the lore of the

continued next page



Brush Wolf

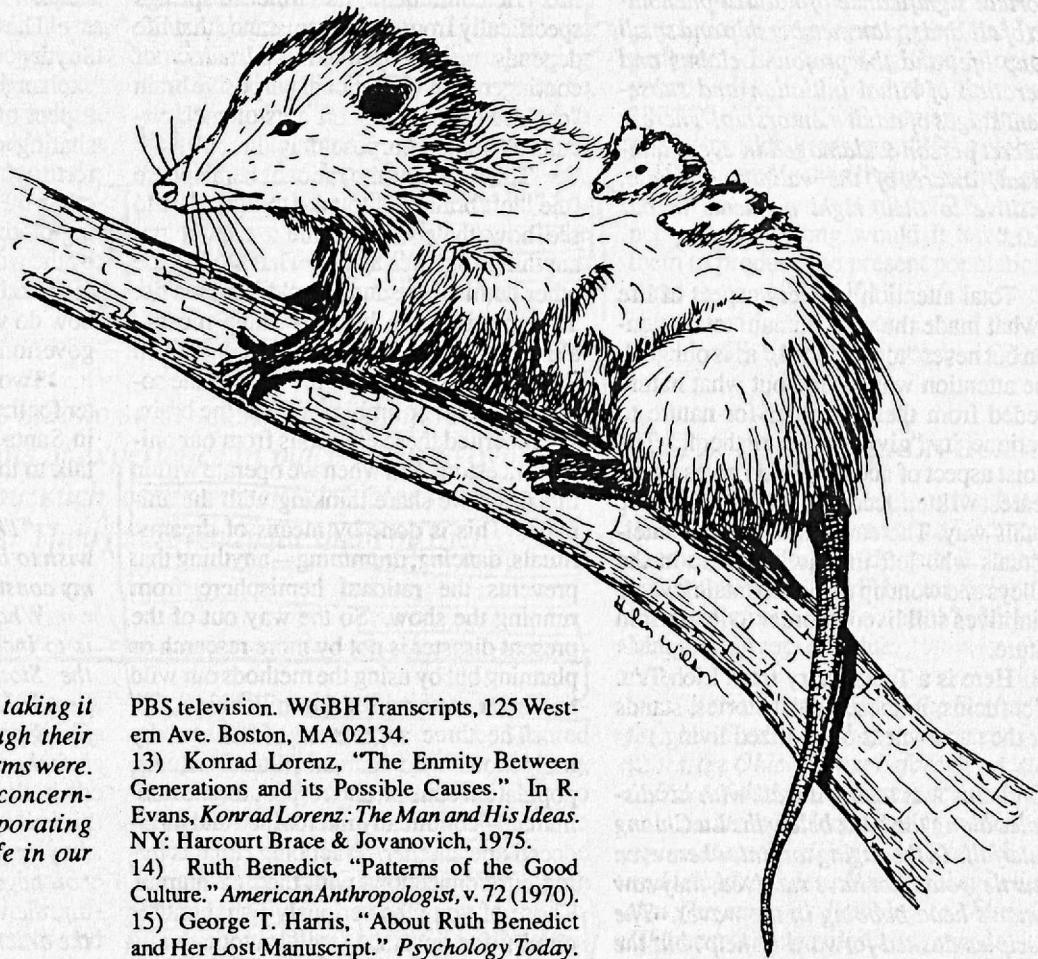
tribe on the highest levels. If it were doing its job completely, it would have a cycle of ceremonies geared to the seasons, geared perhaps to the migrations of the fish and to the phases of the moon ... It would be able to instruct in what rituals you follow ... A council of elders, the caretakers of the lore of the culture...would open themselves to representations from other life-forms...

And when, in the dances of the Pueblo Indians and other peoples, certain individuals became seized, as it were, by the spirit of the deer, and danced as a deer would dance, or danced the dance of the corn maidens, or impersonated the squash blossom, they were no longer speaking for humanity, they were taking it on themselves to interpret, through their humanity, what these other life-forms were. That is about all we know so far concerning the possibilities of incorporating spokespersonship for the rest of life in our democratic society."

BIBLIOGRAPHY

- 1) Gary Snyder, *The Practice of the Wild*. San Francisco, North Point Press, 1990, p.7.
- 2) A.T.W. Simeons, M.D., *Man's Presumptuous Brain: An Evolutionary Interpretation of Psychosomatic Disorders*. New York: E. P. Dutton & Co., p.78. Also see J.P. Henry, *Stress, Health and Social Environment*. NY: Springer-Verlag.
- 3) Richard B. Lee and Irven DeVore, eds. *Man the Hunter*. Chicago: Aldine Publishing Co., 1972, p.3.
- 4) Carleton S. Coon, *The Hunting Peoples*. NY: Little Brown & Co., p.xvii.
- 5) Paul Shepard, *Man in the Landscape*. NY: Knopf, 1967, p.19.
- 6) Norman E. Rosenthal, *Seasons of the Mind*. NY: Bantam Books, 1989, p.27.
- 7) Peter Whybrow, M.D. and Robert Bahr, *The Hibernation Response*. Arbor House, Morrow, 1988.
- 8) Dr. Michel Gauquelin, *How Cosmic and Atmospheric Energies Influence Your Health*. Aurora, 1984.
- 9) Dolores LaChapelle, *Earth Wisdom*. Silverton Colorado, 1984, pp.56, 57.
- 10) Mickey Hart with Jay Stevens, *Drumming at the Edge of Magic: A Journey into the Spirit of Percussion*. San Francisco, Harper, 1990.
- 11) James Gleick, *Chaos: Making a New Science*. Penguin Books, 1987, pp.304, 305, 307.
- 12) "The Strange Science of Chaos" Nova, PBS television. WGBH Transcripts, 125 Western Ave. Boston, MA 02134.
- 13) Konrad Lorenz, "The Enmity Between Generations and its Possible Causes." In R. Evans, *Konrad Lorenz: The Man and His Ideas*. NY: Harcourt Brace & Jovanovich, 1975.
- 14) Ruth Benedict, "Patterns of the Good Culture." *American Anthropologist*, v. 72 (1970).
- 15) George T. Harris, "About Ruth Benedict and Her Lost Manuscript." *Psychology Today*. June 1970, pp.51-52.
- 16) Eugene Cooper, "The Potlatch in Ancient China." *History of Religions*, v.22, #2.
- 17) J.L. Harley, *The Biology of Mycorrhiza*. London: Leonard Hill, 1969.
- 18) Roy A. Rappaport, *Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People*. New Haven: Yale University Press, 1968, pp.119-126.
- 19) I. Eibl-Eibesfeldt, *The Biology of War and Peace*. NY: Viking Press, 1979, p.131.
- 20) Konrad Lorenz, *On Aggression*. NY: Bantam Books, 1971, p.233.
- 21) Noel Perrin, *Giving Up the Gun*. Boston: David Godine, 1979.
- 22) Paul Shepard, *The Tender Carnivore and the Sacred Game*. NY: Charles Scribner's Sons, 1973.
- 23) Paul Radin, *Primitive Religion*. NY: Viking Press, 1937.
- 24) Garrett Hardin, *Exploring New Ethics for Survival: The Voyage of the Spaceship Beagle*. NY: Viking Press, 1972, pp.169,170.
- 25) Malcolm Margolin, *The Ohlone Way: Indian Life in the San Francisco-Monterey Bay Area*. Berkeley: Heyday Books, 1978.
- 26) Paul Shepard, *Nature and Madness*. San Francisco: Sierra Club Books, 1982, pp.128,129.
- 27) Gregory Bateson, "Style, Grace, and Information in Primitive Art." In *Primitive Art and Society*, edited by Anthony Forge. Oxford: Oxford University Press, 1974.
- 28) Gary Snyder, Interview by Colin Kowal, "Tracking Down the Natural Man." *Western Slopes Connection*, Nevada City, CA. Reprinted in Gary Snyder, *The Real Work: Interviews and Talks 1964-1979*. NY: New Directions Publishing Corp., 1980.
- 29) Gary Snyder, "The Wilderness and the Non-Verbal." Center for the Study of Democratic Institutions publication, July 1970. Santa Barbara, CA. Reprinted in Gary Snyder, *Turtle Island*. NY: New Directions, pp.106-110.

Dolores LaChapelle is the author of Earth Wisdom, Earth Festivals, and Sacred Land Sacred Sex: Concerning Deep Ecology and Celebrating Life. These widely acclaimed books are essential reading for deep ecologists; the last, in particular, goes into much detail on the subjects discussed above. (Sacred Land is available for \$22.95 from Way of the Mountain, Box 542, Silverton, CO 81433; as is a free newsletter. Dolores's books are also available from Ned Ludd Books.)



Ecology and the Language of Humanism

by Christopher Manes

In E.M. Forster's *A Passage to India*, there is a remarkable conversation between two believers in Hinduism about what kind of creatures have souls and thus can attain reunion with Brahma. Does a cow have a soul? asks one. Yes, of course, says the other. A dog? A rat? Yes, they could agree to that. How about a wasp? Does a wasp have a soul? No, no, was the answer. After all, we must draw the line somewhere.

Drawing the line between the human and the natural world has been the business of religion and philosophy since the Neolithic Revolution when that phantasmagoria we call civilization began. In the Western world, this demarcation has taken a form much less charitable than Forster's Hindu theologians were willing to concede, that flower of the Renaissance which dominates the ethics, institutions and language of our culture even today: humanism.

Originally a curriculum emphasizing classical learning, humanism has come to mean a faith in reason, progress and technology which constitutes the cornerstone of our culture. Humanism insists there is an abiding difference between *Homo sapiens* and the rest of the biosphere. "Man" is, to quote Hamlet, "the beauty of the world! the paragon of animals!" (though Shakespeare, as if aware of the absurdity, follows this statement with an obscene joke at Hamlet's expense). As the self-proclaimed apex of creation, this fictional character—"Lord Man" as John Muir called him—has used and abused the rest of the natural world to the point that the destruction of the biosphere has become a pressing social and intellectual issue.

Deep Ecology has called this fiction to account. By proclaiming the natural world has a right to exist for its own sake, it denies the humanist pretense that *Homo sapiens* has a special dispensation, due to

reason or consciousness or some other dubious quality, to endanger the rest of this buzzing, spore-producing, ululating planet.

In one sense, biocentrism can be understood as evolutionary theory taken

used to justify humanity's domination of nature. Many people envision evolution as a procession of life forms from amoebae to fish to amphibians and so on, up to "Man," the presumed zenith of evolution by virtue of his superior intellect. Humanist environmentalists insist, all agog, that humans have somehow become the consciousness of evolution. Never mind that every species extant today is as "developed" as *Homo sapiens*, each with its own

Biologists have been regrettably timid in broaching this aspect of natural selection, but it is unequivocal that evolution has no direction or goal, or if it does, we cannot perceive it, and at the very least, it clearly is not us.

seriously. Biologists have been regrettably timid in broaching this aspect of natural selection, but it is unequivocal that evolution has no direction or goal, or if it does, we cannot perceive it, and at the very least, it clearly is not us. The most that can be said is that evolution has, over the past 345 million years, shown a marked preference for beetles. We speak about life forms as being "higher" or "lower," trapped as we are in the language of Renaissance humanism, but this has no analogue in the natural world. Lions are no more advanced than lichens, slugs are no less developed than sparrows, and cabbages have as much ecological status as kings. Darwin's elegant theory invited our culture to realize, for the first time in 10,000 years, that humans have no more special place in the boisterous parade of evolution than do the lilies of the valley.

Characteristically, our culture declined the invitation. Indeed, evolutionary theory has taken on a cultural life that contradicts its egalitarian implications. Outside scientific circles, evolution is often mis-

unique mixture of traits; the genealogy of this one species, under the influence of humanism, has come to stand for all of evolution in the popular culture of human narcissism.

Biocentrism has also focused the insights of the science of ecology against the arrogance of humanism. From the language of humanism one could easily get the impression that humans are the only species that matter on this planet. Ecology paints quite a different—and sobering—picture. If fungi, among the lowliest of life forms on a humanistic scale of values, were to go extinct tomorrow, the effect on the rest of the biosphere would be catastrophic, since the health of forests depends on mycorrhizal and saprophytic fungi. The decline of the forest would in turn affect the hydrology, atmosphere and temperature of the entire planet. The post-fungal world would be very different from, and much bleaker than, our own.

In contrast, if *Homo sapiens* were to disappear, the rest of the biosphere would

continued next page

hardly notice, or would notice only because of subsequent benefits. As hominids, we are at the outermost fringes of important ecological processes. Indeed, the disappearance of Lord Man would undoubtedly revitalize the waning Cenozoic Era and bring about a reestablishment of the flora and fauna that flourished before the technological ape bumbled onto the scene. One can scarcely imagine the splendor of the giant descendants of those animals that outlived the reign of *Homo sapiens*. But neither they, nor the rest of evolution, would shed a tear for us.

The cogency of ecological and evolutionary discourse, as channeled through biocentrism, has called into question the language of humanism that pervades the institutions, ethics, and texts we have come to cherish since the Renaissance. This has underscored the necessity for finding new ways to talk about human freedom, worth, and purpose, without depreciating the rest of this blossoming world.

Professor Bill Devall [co-author of *Deep Ecology*] once wrote me a letter in which he suggested that Deep Ecology requires a new language to reestablish our sense of place in nature. We may luckily be able to learn that language of ecological humility by responding to the insights of ecology and evolutionary theory, which means metaphorically learning the language of the winds, the frogs, the waterfalls, the earthworms. But to do so first requires accomplishing the difficult task of overcoming the Renaissance rhetoric of humanism we speak today with its narcissism and preoccupation with intellect, with its giddy supposition that humankind is, Ptolemy-like, at the center of things.

For the past half millennium, humanity has been the center of conversation in the Western world. In our *fin-de-siecle* environmental ruins, with one-quarter to one-half of Earth's species predicted to go extinct in the next generation, surely, surely, the time has come to politely change the subject.

Christopher Manes is the author of the highly acclaimed book Green Rage: Radical Environmentalism and the Unmaking of Civilization. He will be writing frequently for Wild Earth, and serving as an editorial advisor.

Editor's Ramblings

continued from page 2

one overriding lesson being taught by conservation biologists, it is that maintaining biodiversity requires large intact wild areas. Small preserves will not retain all their (remaining) native species over the long run. They do not encompass complete disturbance regimes, and they will not provide ample habitat for the most sensitive species.

So, *Wild Earth's* role in the conservation movement will largely be to speak for real wilderness: to show why Big Wilderness is essential, and how we can regain it. The articles in this issue start us in that direction.

The theme of this premier issue is Ecological Foundations for Big Wilderness. The authors explain why we must restore and protect large tracts of wild habitat, and they present several proposals to do just that.

It should be stressed that these are modest proposals. They do not represent ultimate goals. They outline stepping stones on the long path toward boundless tracts of untrammeled wildness. As Dave Foreman and Howie Wolke explain in this issue of *Wild Earth*, and as Reed Noss points out in his powerful plea for Big Wilderness in the latest issue of *Conservation Biology*, land apportionment in this country, and throughout the world, is woefully out of balance: Presently *Homo sapiens* dominates 95% of the landscape in the United States, with only 5% allotted to other creatures (and even much of that is mismanaged for human ends—such as livestock grazing and tourism). Given that we are but one among countless thousands of species on this continent, human domination of anything more than a small percent of the landscape is arrogant—the arrogance of humanism, to use David Ehrenfeld's apt phrase.

Wild Earth has modest aims. We want to restore the balance. We will measure our success in acres.

Another role of *Wild Earth* will be to serve the uncompromising grassroots conservation groups springing up all over this continent. Faced with the destruction of over a million acres a year of roadless habitat in the contiguous 48 states alone, and with the weak compromise wilderness legislation generally advocated by the big mainstream environmental groups,

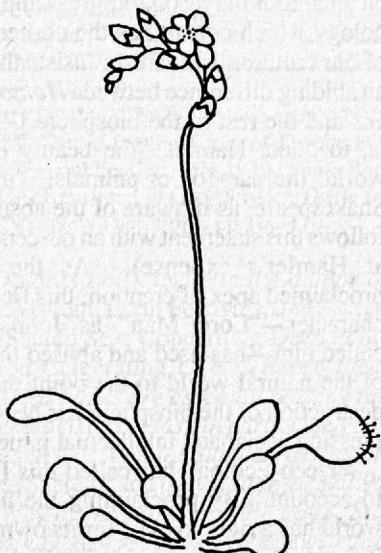
wildland defenders throughout the land are forming regional and ad hoc wildlife and wilderness groups. These are fast proving the most effective defenders of biodiversity. To fully realize their potential, they will need to communicate with each other and coordinate efforts to a greater degree than they have in the past. *Wild Earth* will help them do so.

Indeed, to this end, most of the second issue (and significant portions of subsequent issues) of *Wild Earth* will be devoted to covering the campaigns and issues of some of the groups most effective in defense of the natural world. If your group would like to be included, please send us an article, by May 20, highlighting your most important efforts and telling others how they might help you save your portion of the once and future wild Earth.

Still another role of *Wild Earth* will be to assist activists who are trying to prod those big mainstream groups into taking stronger stands on behalf of biodiversity. The articles in this issue addressing the Sierra Club begin our effort to help revitalize that century-old institution.

By filling these roles and others, *Wild Earth* will strengthen the global conservation movement. We will help activists, conservation biologists, and other concerned persons prevent the premature demise of the Cenozoic Era.

—John Davis



NOTEWORTHY ARTICLES

As a regular service to Wild Earth readers, we will list in this section articles of particular value to conservationists. Emphasis will be on articles from periodicals that most of you probably do not receive but can read at libraries. We invite suggestions on articles to include. (Send copies of the articles you suggest, if possible.)

Some of these articles are written from anthropocentric perspectives, but all offer information or insights that could benefit wildland defenders. In general, the periodicals containing these articles offer especially high quality conservation coverage. —JD

"Empty Skies," by David Wilcove; *The Nature Conservancy Magazine*, 1/2-90. "Populations of many songbirds are declining rapidly, and deforestation ranks highest on the list of reasons." Wilcove shows that habitat destruction of both the songbirds' tropical wintering grounds and their temperate breeding grounds is causing their populations to plummet.

"The Virtue of Conservation Education," by David Orr; *Conservation Biology*, 9-90. David Orr writes an excellent education column for *CB* and this is a good example thereof.

"The Onslaught of Alien Species, and Other Challenges in the Coming Decades," by Michael Soulé; *ibid*. Soulé is a former president of the Society for Conservation Biology and a leader in that growing field. This sobering article describes the seemingly irreversible anthropogenic cosmopolitanization of the world's biota: Humans are favoring weedy species almost everywhere.

"Can We Maintain Biological and Ecological Integrity?" by Reed Noss; *ibid*. Landscape ecologist and *Wild Earth* science editor Reed Noss compares two contrasting trends in conservation biology: one focusing on saving individual species, the other focusing on saving ecological communities. Rejecting this dichotomy, Reed sensibly argues that we must strive to save biodiversity at *all* levels.

"The Rain Forest of Selborne," by David Ehrenfeld; *Orion Nature Quarterly*, fall 90. Here, in his excellent column "Raritan Letter," Ehrenfeld, author of *The Arrogance of Humanism* and editor of *Conservation Biology*, warns against excessive preoccupation with exotic places. It is, he reminds us, as important, though less glamorous, to save plain old temperate ecosystems as to save the incredibly rich tropical rainforests.

"Why Are There So Many of Us? Description and Diagnosis of a Planetary Ecopathological Process," by Warren Hern; *Population and Environment: A Journal of Interdisciplinary Studies*, fall 90. Modern man has been described as a virus and as a plague by a few opponents of overpopulation. Hern does not accept these grim analogies. Instead, he shows, we are a cancer!

"Considerations in the Reintroduction of Native Mammalian Species to Restore Natural Ecosystems," by Peter Gogan; *Natural Areas Journal*, 10-90. This overview shows that conservationists need to be careful not to prematurely propose reintroductions where the ecological or social context would doom the released individuals.

"Effects of Climatic Warming on Lakes of the Central Boreal Forest," by DW Schindler et. al.; *Science*, 11-16-90. This is the article Bill McKibben discusses in "Three Dimensional Wilderness Defense."

"Is Captive Breeding an Appropriate Strategy for Endangered Species Conservation?" by Tony Povilitis; *Endangered Species Update*, 11-90. A wildlife biologist and founder of Life Net warns here that captive breeding cannot take the place of habitat protection.

"Propagation and Reintroduction of Imperiled Plants, and the Role of Botanical Gardens and Arboreta," by Linda McMahan; *ibid*. The author laments the lack of attention given to imperiled plants, but concludes that preservation efforts devoted to floral species are likely to be comparatively successful. (Plants' requirements for space tend to be less than those of animals.)

"What's Happening to the Amphibians?" by Richard Wyman, *Conservation Biology*, 12-90. They're keeling over in

droves, inexplicably. The author suggests multiple interacting factors, possibly including climate change, certainly including habitat destruction and fragmentation.

"Restoring the Prairie," by Christine Mlot; *Bioscience*, 12-90. "Big Bluestem and native tallgrass plants make a comeback," the subheading optimistically proclaims. It's true, but only on small plots so far.

"Can Salmon Make a Comeback?" by Ricki Lewis; *Bioscience*, 1-91. "Researchers are looking for ways to make it possible." Their efforts are being hampered by continued artificial stocking of streams and rivers.

"A Federal Killing Machine Rolls On," by Michael Milstein; *High Country News*, 1-28-91. This is a gruesome description of Animal Damage Control: the federal sub-agency in charge of massacring predators and other animals that ranchers don't like.

"Japanese Aid and the Environment," by Richard Forrest; *The Ecologist*; 1/2-91. This is a detailed look at the complex Japanese bureaucracies that give money to Third World countries to exploit Nature on behalf of Japanese corporations.

"Pack Rat Historians," by Jared Diamond; *Natural History*, 2-91. "Fossil animal middens help us understand the collapses of ancient civilizations." Apparently, as Diamond suggests here in his superb column "Nature's Infinite Book," they will also help corroborate the Overkill Hypothesis—showing that humans were largely responsible for the mass extinction of Pleistocene megafauna 10,000 plus years ago.

"Bringing Back the Land," by Anna Maria Gillis; *Bioscience*, 2-91. "Ecologists evaluate reclamation success on western coal lands." Though this article describes restoration efforts involving land-pillaging companies, it offers valuable information for all arid land proponents.

"Forest Without Trees," by John Flynn; *The Amicus Journal*, winter 91. All the mainstream environmentalists who proclaimed a victory last year after passage of new clean air legislation need to read this article. It tells how the Reagan/Bush administration duped Congress into pass-

continued next page

ing legislation that will merely postpone forest death in the Appalachians. Research ignored by the Republicans in power shows that nitrogen emissions are killing the Eastern forests.

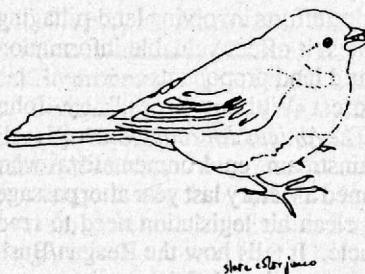
"Survival of the Rarest," by Edward Wolf; *World Watch*, 3/4-91. "Charting biodiversity hotspots" is the subject here. Unfortunately, an acceptance of the triage concept for biodiversity seems to be an underlying assumption of this article (we can't save every species, so we must set priorities ...). More unfortunately, that assumption seems nigh on irrefutable, given that perhaps 100 species a day are now going extinct.

"How the West was Eaten," by George Wuerthner; *Wilderness*, spring 91. George shows here how inane is the grazing of domestic livestock on the West's 265 million acres of public land open to cows and sheep.

"Six Steps to Saving a Wetland," *Audubon Activist*, 3-91. You'll probably not find AA in your library, as it is mailed specifically to the Audubon Activist Network. To join, write National Audubon Society, 950 Third Ave, NY, NY 10022.

"Beyond the Field Guide," by Rick Bonney; *The Living Bird Quarterly*, winter 91. TLBQ's senior editor shows how amateur birders have used their hobby to advance the cause of bird conservation, as well as the field of ornithology.

"Biological Consequences of Ecosystem Fragmentation: A Review," by Denise Saunders et. al.; *Conservation Biology*, 3-91. The latest issue of CB is filled with excellent and alarming articles, of which this litany of adverse effects is an outstanding example. Note also "Inbreeding Depression in a Captive Wolf Population," which refutes the hypothesis that small populations of wolves are not prone to inbreeding depression.



BOOK REVIEWS

STATE OF THE WORLD 1991: A Worldwatch Institute Report on Progress Toward a Sustainable Society, by Lester Brown et. al.; Worldwatch Institute, 1776 Massachusetts Ave NW, DC 20036; published by WW Norton, NY; 250pp. \$19.95/hard, 10.95 paper.

Notwithstanding the optimistic subtitle of this important book, the state of the world in 1991 is even worse than in 1990. The annual State of the World reports, however, provide reason for optimism. These well-written and thoroughly researched reports forthrightly describe various of the current global crises and offer achievable, albeit partial, solutions to the problems.

The Worldwatch Institute is unexcelled, among reform environmental groups, as a purveyor of ideas; and all their publications—these annual reports, their magazine *World Watch*, and their scores of Worldwatch papers—are excellent sources of information for all advocates of a healthy planet. If there is reason to hope that society will become sane and sustainable, that hope hinges partly on this influential group. Already State of the World reports are translated into all the world's "major" languages, and they are used by many government officials.

The chapters in this year's volume likely to interest proponents of biodiversity the most are On the Edge of a New World Order by Lester Brown, Reforming Forestry by Sandra Postel and John Ryan, Restoring the East European and Soviet Environment by Hilary French, Coming to Grips With Abortion by Jodi Jacobson, Assessing the Military's War on the Environment by Michael Renner, and Asking How Much Is Enough by Alan Durning. In the first, Lester Brown neatly summarizes the progress environmentalists have made since the first Earth Day:

During the 20 years since the first Earth Day, in 1970, the world lost nearly 200 million hectares of tree cover, an area roughly the size of the United States east of the Mississippi River. Deserts expanded

by some 120 million hectares, claiming more land than is currently planted to crops in China. Thousands of plant and animal species with which we shared the planet in 1970 no longer exist. Over two decades, some 1.6 billion people were added to the world's population—more than inhabited the planet in 1900. And the world's farmers lost an estimated 480 billion tons of topsoil, roughly equivalent to the amount on India's cropland. (p.3)

All literate proponents of life should read Jodi Jacobson's intelligent discussion of abortion. She lucidly shows that legal restrictions on abortion increase the number of illegal and unsafe abortions, resulting in untold suffering and death for poor women throughout the world, as well as countless unwanted births. She also shows that abortion, at least until contraceptives are more widely available, is an essential component of family planning programs.

The assessment of the military's impact on the environment is enough to make a person retch. Military forces throughout the world have waged a relentless war on the environment for decades, and the results are sickening:

The military is quite likely the largest generator of hazardous wastes in the United States and, rivaled only by the Soviet armed forces, the world. In recent years, the Pentagon generated between 400,000 and 500,000 tons of toxics annually, more than the top five US chemical companies combined. Its contractors produced tens if not hundreds of thousands of tons more. And these figures do not even include the large amounts of toxics spewing from the Department of Energy's nuclear weapons complex. (p.143)

Altogether at least 200,000 square kilometers—2 percent of total US territory—is devoted to military purposes. In addition, the Pentagon controls about 8100 square kilometers of land outside the United States. (pp.134-35)

That means even if you disregard air and water space (which most people do, unfortunately), as much of the US is de-

voted to the military as is devoted to Wilderness. (Far more of this continent's air space is controlled by the US armed forces and NATO.) To arm yourself with more such unsettling facts, march right down to your local library and check out the *State of the World*. Then march right down to your local Forest Service office and show them that even the moderate and respected Worldwatch Institute has proposed a moratorium on cutting of primary forests worldwide.

Reviewed by John Davis.

HYPERION and THE FALL OF HYPERION

by Dan Simmons; published respectively by Bantam and Doubleday Books.

Ask an Earth lover's opinion of science fiction and you might get a scathing answer. Images of noble (male) scientists rescuing helpless nubiles from bug-eyed monsters still come to many minds at the mention of science fiction. Until the last decade or so, science fiction had a hoary tradition of worshipping technology and advocating the subjugation of Nature, on Earth and on any other hapless planet man stumbled upon.

Most science fiction movies, a la *Star Wars* and *Alien*, have championed popular myths of loathsome extraterrestrials, virtuous humanity and omniscient science. With occasional exceptions like ET, the public still likes its aliens scaly and its scientists sane. It's up to novel readers to discover speculative fiction's enlightened side.

One especially clear harbinger of science-worship's decline has come from the pen of newcomer Dan Simmons. *Hyperion* and *The Fall of Hyperion* are actually one book, but at over 900 pages, the story is too long for one volume. If you think 900 pages are a bit much, consider the scope of Simmons's vision.

Earth has been destroyed by runaway technology, only to be recreated centuries later by a culture composed entirely of artificial intelligence. Ignorant of this and other schemes hatched by their servant-turned-Frankenstein-monster, humanity goes about its business of terraforming planets and snuffing out sentient beings. All is cozy for the 500 billion people of the Hegemony of Man, except on one outlying world—Hyperion.

Hyperion's anomalies include the Time Tombs, which travel backward in time, and the Shrike, a walking meat cleaver with a nasty habit of appearing out of nowhere to carve people into ribbons. The origin of the Shrike and Hyperion's

other mysteries is the key to Simmons's saga of human redemption.

The first book, *Hyperion*, is told in *Canterbury Tale* style, with six pilgrims relating the events that led them to seek the Shrike. The tales, each a powerful story in itself, describe such wonders as homes with rooms on different worlds, a planetary culture based on the philosophy of John Muir, and a disease that reverses the aging process. They also examine the downside of galactic empire with a candor not often seen in science fiction.

Writing in a genre that once rationalized the destruction of worldwide ecosystems, Simmons compels the reader to understand the tragedy of bending Nature to our will. The author also explores the concept of godhood, and its power to inspire human beings to both infamy and greatness.

In *The Fall of Hyperion*, humanity suffers a long-overdue retribution for its enslavement to technology. The Hegemony's war with the Ousters, human exiles who supposedly live only in space, reveals the folly of making planets adapt to us, instead of vice versa. The Shrike's true nature upends notions of bug-eyed aliens, and firmly lays to rest the adage "he who dies with the most toys wins."

Both novels feature characters worthy of their universe-shaking roles, reverent planetary description, and thoughtful philosophy set off by breathtaking action. If I have one cavil, it is the chaotic jumps among scenes in the second volume, a perhaps unavoidable device of a plot that both destroys and saves the world.

Science fiction has served many purposes, including those of entertaining readers, giving us a new perspective on our times, and most important of all, warning what could happen if we stay our present course. Other science fiction writers have predicted an ecological day of reckoning, but few have achieved the power and vision of Dan Simmons's *Hyperion*.

Reviewed by Leslie Lyon.

A CONSERVATION STRATEGY FOR LARGE CARNIVORES IN CANADA

by Monte Hummel, President, WWF Canada, 60 St. Clair Ave E, Suite 201, Toronto, Ontario M4T 1N5; 1990; 100pp.

This is a model document, the type of work government agencies should be producing, rather than leaving to the much less well funded conservation groups. It is not as visionary as some of us might like—those of us who think Canada north of the 50th parallel ought to be declared a tech-

nology-free zone—but it clearly states the need for the large preserves that Canada's increasingly beleaguered predators must have if they are not to go the way of predators in almost all other industrialized nations.

Monte Hummel lucidly describes the status of Canada's large carnivores: Gray Wolf, Cougar, Wolverine, Black Bear, Grizzly Bear, and Polar Bear. The Gray Wolf survives in reduced numbers throughout much of its original range in western and northern Canada, but has been extirpated from most of its eastern range. The Cougar survives in viable numbers only in Alberta and British Columbia; the Eastern Cougar is nearly extinct. (Since WWF's report was published, a confirmed Mountain Lion sighting was made in New Brunswick for the first time in many years.) The Wolverine is vulnerable west of Hudson Bay; the Eastern Wolverine is classified as endangered. Black Bear are still thriving throughout Canada, but the growing international trade in bear parts leaves their future in doubt. The Grizzly Bear has lost most of its original range and numbers, but retains viable populations in parts of western and northern Canada. The Polar Bear is the most protected of these species, with only native peoples allowed a large harvest, but pollutants (PCBs, in particular), possible oil and gas development, and potential climate shift present a troubled outlook for the white bears.

World Wildlife Fund Canada, of which the author is the president, stresses the importance of preserving all of the remaining subspecies and eco-types of these species. This means preserving numerous large areas in all of Canada's biomes, for biologists recognize several distinct subspecies and many eco-types for most of the carnivores. Initially, WWF is proposing 5 Carnivore Conservation Areas of sufficient size—based on the findings of conservation biology—to protect viable populations of each of the large carnivores. Roughly translated, studies suggest that a viable Grizzly Bear population needs an area of at least 12 million acres; the Gray Wolf, 5 million; and the Wolverine, 10 million. (These estimates refer to minimum viable populations for short-term persistence, not for long-term evolutionary potential.) The 5 CCAs would encompass comparable acreages centered around the Stikine River in northern British Columbia, the Peel River in northern Yukon Territories, the southern Mackenzie Mountains in Yukon

continued next page

and Northwest Territories, the Rocky Mountains in BC and Alberta, and the Thelon River in eastern Northwest Territories.

In sum, WWF's carnivore report offers lessons important for activists throughout North America. Similar reports for the United States and for Mexico could go a long way toward realizing the preservation of habitat sufficient to allow thriving populations of what are now the continent's most imperiled species. (*Wild Earth* folk plan to write a large carnivore report for the US.) As Monte Hummel points out, large carnivores tend to be the first animals eradicated from an area; an intact wilderness area can be defined as one of sufficient size to retain healthy populations of its large carnivores. If we save the charismatic megafauna, it's likely that we will thereby save the enigmatic microfauna and phlegmatic macroflora too.

Reviewed by John Davis.

RUNAWAY FORCES

by Alan Wittbecker

In his recent book, *G-Forces: Reinventing the World: The 35 Global Forces Restructuring Our Future* (Summerhill Press, Toronto, 1990), Frank Feather presents an ambitious outline of steps necessary to achieve global order. Amidst the free-floating assertions are grams of common sense, sometimes contradictory, but welcome nevertheless. For example, he proposes a decentralized United Nations, a global Equalization Tax system, and a global bank (which we already have in the World Bank—what we actually need is a global trust account). A decentralized UN would result in the superpowers, such as the USA and USSR, being closer to the periphery of world affairs, having surrendered much of their sovereignty to the UN.

Despite these few good ideas, which previous authors have suggested, Feather's book is unsatisfying. Feather covers severe social and environmental problems with several thick coats of ignorance. Perhaps these problems seem small because of his remoteness (why do optimistic books like this never come from Calcutta or Manila, just Los Angeles or Toronto?).

So what are these 35 global forces? Sex and population; hunger and food; energy and environment; power and government; lifestyle, values, spirituality, health, wealth, employment, and shelter.... Except that many of these are not forces at all. Some are needs or biological drives

(which may have the effect of forces); others are patterns or social structures. The environment, in fact, is our complete surroundings, which contains forces, such as winds and tides or gravity and electromagnetic lines. Most are not global; Feather tends to globalize everything inappropriately.

Feather combines a custom hierarchy of needs (based loosely on the theory of motivation of Abraham Maslow, whom Feather incorrectly identifies as a "psychiatrist") with Alvin Toffler's concept of cultural waves (described in Toffler's book, *The Third Wave*). Feather expands the waves to 6 and plots them against 10 levels of needs, by adding some of his forces and subtracting some of Maslow's, such as esteem and self-actualization (in fact, he concentrates almost exclusively on physiological needs, ignoring Maslow's growth needs, such as wholeness and self-sufficiency). This chart is bizarre. The 6th wave, called "Outer Space" boasts global freedom as a lifestyle, cosmic sexuality as a sex drive (does he mean a lust for asteroids or for every other human being?—whatever, he seems to repeat the Freudian mistake of deriving love from sex), a commonwealth for wealth (does this mean that the entire Earth is for human use?), and global freelance for employment (does everyone move to where the info-work is?). The needs and aspirations for the world in a 4th wave society of information (1990–2045) for shelter are "Big House/Condo, Stylish Clothes." Oh, my.

The 5th wave need for sex is to be satisfied by "Recreational Super-Sex"; the 6th wave need for shelter is to be satisfied by Super Cities and "Space Wear" (perhaps because we will have no atmosphere left); the 5th wave need for lifestyle is to be satisfied by the "Leisure Ethic." He is confident that the world has a remarkable potential to achieve a leisure society (perhaps like hunter/gatherer societies have, though we're exterminating them or converting them into consumers of "Super Sex" and "Space Wear").

Feather states, without qualification, calculation, or reflection, that the Earth's carrying capacity is "at least 30-billion." He also states that the world does not lack resources, and that meeting the needs of a large population would generate vast economic activity; indeed, he states that the unprecedented population increase presents the "greatest economic opportunity ever afforded to humanity." Really? Even when the poor are too poor to buy the "Full wardrobe" and "Well-Nourished Clean

Air" needs for Feather's 3rd wave society? Our present population of 5.4 billion has decimated rainforests, depleted aquifers, polluted oceans, driven species to extinction, and interfered in biogeochemical cycles—what will be left for 11 billion to mismanage? He does not understand the direct relation of population size to poverty and hunger: population is a critical factor in any total impact equation.

Feather praises the "Successful" Green Revolution (it failed, ruining soils and farmers) and states that "agri-food technology" is keeping pace with food requirements. Alas, despite Feather's word, food is not a global problem; it is a local problem exacerbated by global market pressures. Furthermore, Feather ignores the ecological costs of the green revolution and agri-industry methods: soil erosion alone is reducing crop potential below what is needed by current populations. India, for example, is not self-sufficient in food, as Feather implies; it is chronically troubled and dependent on aid. China seems self-sufficient, but it is unlikely that hunger has been eradicated there, as Feather crows.

Feather recognizes some of the *immediate* crises facing humanity, but population is a slow-changing, long-term crisis, easily dismissed. After all, poor people usually succumb to disease before starving to death. Feather does not understand that, in the absence of personal or cultural controls, population increase will wipe out any economic gains and diminish the natural wealth we need to survive.

Feather says the chaos in the "conduct of our husbandry of the planet is simply due to our lack of long-term vision, long-term planning and adequate geo-strategic management processes." Obviously, Feather does not consider how often the management processes are, in fact, the problem itself. Our management of wildlife populations for maximum sustained yield, for instance, has destroyed many local populations and species. Nevertheless, Feather is confident that our problems, "including those of the planet," will continue to be solved as knowledge develops. Frank, we have the knowledge now, but not the wisdom; we have the tools now, but not the understanding.

Feather recognizes that deforestation is a serious threat, but he is again confident that the ecological deficits are being corrected. He states that the timber industry is replanting adequately and that the US Forest Service is the "best in the world at forest management." What world is that? The same one where old-growth stands are

given away complete with new, expensive roads? Feather is ignorant. Planned forests are not sustainable, as Weyerhaeuser and other timber miners have found. So the Forest Service and private companies are mining at greater speeds than ever.

Feather admits that CFCs "will continue destroying ozone for a few decades" but the process will slow down and stop and ozone will be reestablished by the planet's activities. Meanwhile, we should use sun screen 60,000 and be safe? Will the trees and crops be safe?

Feather's solution for planetary wellness is to provide appropriate levels "of diet and nutrition (that is, money and technology)" to both the overwhelmed and the undernourished parts of the system. Truly, this is a recipe for disaster. The response to gout is not more sweet cream pastries; the response to starvation is not more electric woks. It is the richness of toxics that is poisoning the planetary systems; it is the circulation accelerated that is destroying ecological systems.

Feather believes in complete globalization. He judges that a mature civilization will only be achieved when we evolve a "true system of global governance for the single global tribe." Humanity will then govern "itself—and its world—in a geo-strategic and opportunistic way." Feather recognizes that the nation state system stifles creativity, but does not recognize that a global state would stifle it far more. Local systems with local spheres of excellence (with many people who are good and best at things) would foster far more creativity than one large system with one small pool of excellence.

Feather claims that antipathies among peoples are slowly fading, mentioning occasional friction with Sikhs, Tamils, and Shiites. Without equalization schemes and smaller arenas of politics, the antipathies will keep growing, not fading. Feather also claims that, in a global government as

a global actor and full participant in governing the planet, the nation state will gain "more" authority. This is not been the historical pattern.

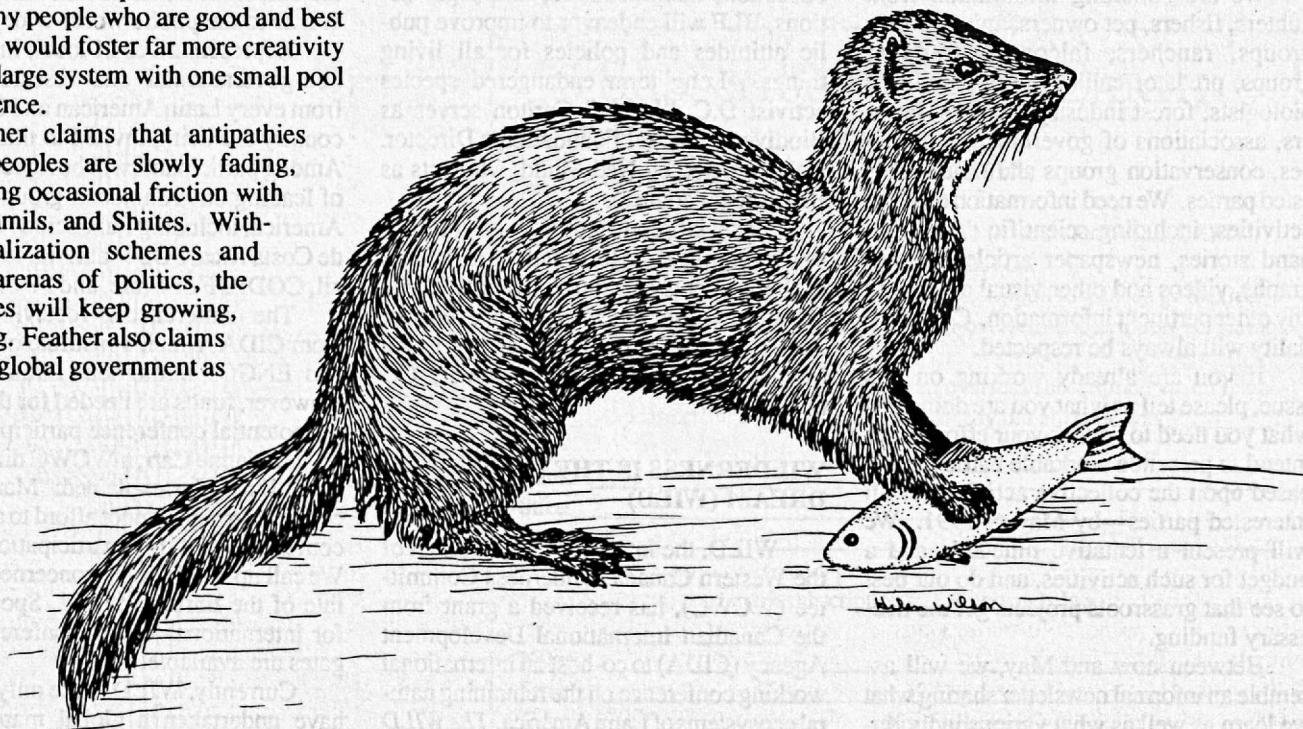
Feather claims that it takes an enormous leap of faith to believe that progress is possible from a bowl of rice at home to a sprig of parsley on a plate in a nice restaurant for all of Earth's 4 billion underdeveloped people by the year 2050—but by then the population will be over 10 billion and the poor will probably number 9 billion—unless we make an enormous leap of denial. Indeed, Feather's book depends on tautologies and misdirections. Feather solves many problems by redefining problems as opportunities. Thus, the population problem is an economic opportunity. Waste is simply unused energy, Feather states, without understanding waste or energy. For example, he cites the 20-fold increase in incinerator capacity in Japan as an example of recycling, without addressing the sudden increase in acid rain downwind.

The book is full of neologisms and clichés. What is geo-strategic planning? Is it really different from strategic planning (which itself has severe and unrecognized limitations)? What is info-globalization? Does this just mean the spread of information? We are told that we are "party to the biggest revolution in history" (and that revolutions only go forward—an interest-

ing, and unhistorical, concept). "All we need to do is marshal our collective resources," "take the necessary steps," and "be headstrong," yet "humbly confident" that together we can "re-invent the world."

Feather concludes that people must think globally, and learn to "think community," cultivating values of "humility, self-sufficiency, self-discipline, benevolence, innovation [sic] and responsibility to the planet." Unfortunately, most of his suggestions work against his own conclusion. Feather misses the important lesson of "think globally, act locally" so aptly said and demonstrated by René Dubos, Hazel Henderson, Garrett Hardin, and others. Essentially Feather recognizes that the planet is ungovernable, and suggests that global politics is the answer, that nation states must find a way to stop the anarchy of disjointed, conflicting national policies. In fact, we need local sovereignty with even more anarchy of policies, each appropriate to its location and culture. And, we need a revitalized, decentralized UN for the truly global problems, but this book never gets past the unsupported claims and slogans.

Alan Wittbecker is a research associate with the GP Marsh Institute, and writes regularly for the Institute's newsletter Pan Ecology: An Irregular Journal of Nature and Human Nature (POB 566, Cambridge, MA 02238).



GROUP ANNOUNCEMENTS

WILDLIFE DAMAGE REVIEW

The Animal Damage Control Act, enacted by Congress in 1931, states that the government is "authorized and directed to promulgate the best methods of eradication, suppression or control" of the nation's predatory and other wild animals, and to "conduct campaigns for the destruction or control of such animals."

In February 1991, in Tucson Arizona, a new group, Wildlife Damage Review, was founded for the purpose of bringing widespread public scrutiny and critical review to the ADC program, now a \$30 million a year taxpayer-funded industry actively and sometimes clandestinely engaged in destroying native American wildlife. The WDR office will serve as a clearinghouse to store and share information about ADC activities and to offer coordination and support to a broad range of groups and individuals.

We are soliciting information from hunters, fishers, pet owners, animal rights groups, ranchers, falconers, trapping groups, predator calling groups, wildlife biologists, forest industry workers, farmers, associations of government employees, conservation groups and other interested parties. We need information on ADC activities, including scientific data, first-hand stories, newspaper articles, photographs, videos and other visual aides, and any other pertinent information. Confidentiality will always be respected.

If you are already working on this issue, please tell us what you are doing and what you need to further your efforts. We intend to present a workable battle plan—based upon the collective activities of all interested parties—by May of 1991. We will present a tentative timetable and a budget for such activities, and do our best to see that grassroots projects get the necessary funding.

Between now and May, we will assemble an informal newsletter sharing what we learn as well as what various individuals and groups are doing regarding the ADC

program. If you know of individuals, groups, or institutions who would be interested, please send us their names and addresses and we will put them on a mailing list. Again, confidentiality will apply.

Send to Wildlife Damage Review, POB 2541, Tucson, AZ 85702-2541; 602-882-4218.

—Clarke Abbey, Marian Baker-Gierlach, Lisa Peacock, Nancy Zierenberg

BIODIVERSITY LEGAL FOUNDATION

Biodiversity Legal Foundation (BLF) is a non-profit organization dedicated to the preservation of all native wild plants and animals, communities of species, and naturally functioning ecosystems. The Foundation seeks to preserve all native species in their ecological roles within the natural environment.

Through biocentric and responsive education, administrative, and legal actions, BLF will endeavor to improve public attitudes and policies for all living things. Long term endangered species activist D.C. "Jasper" Carlton serves as Biodiversity Legal Foundation's Director. He is assisted by Ned Mudd, who acts as BLF's legal counsel.

Financial contributions go (100%) toward cutting edge legal actions in defense of the elements of natural diversity. Send all contributions, correspondence, etc. to: Jasper Carlton, c/o Biodiversity Legal Foundation, POB 18327, Boulder, CO 80308-8327.

WILDERNESS IS THE LAST DREAM (WILD)

WILD, the international campaign of the Western Canada Wilderness Committee (WCWC), has received a grant from the Canadian International Development Agency (CIDA) to co-host an international working conference on the remaining natural ecosystems of Latin America. *The WILD Regional Conference for Latin America*

and the Caribbean, a collaborative project coordinated by WILD, SOS Mata Atlantica of Brazil, and Fundacion Neotropica of Costa Rica, will map and plan sustainable management strategies for the remaining natural areas in Latin America.

The conference, to be held 17-26 May 1991 near Paraty, Brazil, is a follow-up to *Mapping the Vision*, WILD's first international conference, attended last year in Hawai'i by more than 150 wilderness experts from over 26 nations. The precept of the WILD mapping project is that endangered natural ecosystems must be identified so that they can be protected. At this time no complete inventory exists of our world's remaining wilderness.

At the WILD conference in Brazil, delegates will bring information about their respective countries' natural ecosystems to create a comprehensive picture of endangered Latin American wilderness. The maps and written documents produced after the conference will be made available by WILD to the public world-wide.

Representatives of local, indigenous, non-governmental and research groups from every Latin American and Caribbean country are being invited to this meeting. Among participants will be representatives of leading environmental groups in Latin America, including Fundacion Neotropica de Costa Rica, SOS Mata Atlantica of Brazil, CODEFF of Chile, and FPCN of Peru.

The conference is receiving support from CIDA, Brazil's Institute of Forestry, and NGOs throughout Latin America. However, funds are needed for the air fare for potential conference participants.

Adrianne Carr, a WCWC director and a WILD founder, explained: "Many knowledgeable groups cannot afford to attend this conference, yet their participation is vital. We call upon all people concerned with the fate of the Earth to help." Sponsorships for international WILD conference delegates are available.

Currently, WILD is the only group to have undertaken a global mapping and *continued next page*

managing project, as called for by the United Nations Environment Program at the Stockholm Conference on the Environment in 1972. WILD aspires to be one of the few NGOs that will address the UN Conference on the Environment and Development in Brazil in 1992.

For more information, contact Sue Fox or Guadalupe Jolicoeur: WCWC, WILD Campaign, 20 Water St, Vancouver, BC Canada V6B 1A4 (1-604-669-9453)

HEARTWOOD COALITION

Heartwood, a new regional citizens' coalition calling for an end to logging in the small National Forests of the Central Hardwoods region—mostly in Illinois, Indiana, Kentucky, Ohio, and Missouri—is hosting the Heartwood Forest Council, May 3-5 near Carbondale, IL. For information, call Mindy Harmon at 618-684-6897.

PROJECT LIGHTHAWK

Lighthawk will host the 5th annual National Forest Reform Pow-Wow, May 24-27 in Angel Fire, New Mexico. Grassroots forest defenders will gather from around the country for strategy sessions, entertainment, and tours in the Carson National Forest. This annual conference is sponsored by the Forest Reform Network of Texas. Lighthawk has also invited all US Congress members to see the devasta-

tion of the Northwest Ancient Forests from the air in their new 14 seat Twin Otter. For information on the Pow-Wow or congressional flights call Kathryn at 505-982-9656; or write Lighthawk, POB 8613, Santa Fe, NM 87504-8613.

SOCIETY FOR CONSERVATION BIOLOGY MEETING & MEMBERSHIP

The 1991 annual meeting of the Society for Conservation Biology will be held June 18-22 in Madison, Wisconsin. Registration forms are due May 1 (full registration fee is \$60; student registration \$30). For information, write Conservation Biology Meeting, Wildlife Ecology Dept, Russell Labs, U of WI, Madison, WI 53706.

The Society hopes to double its membership this year. Membership costs \$39.50 US, \$42.50 Canada & Mexico, \$54.50 overseas; and members receive the indispensable quarterly *Conservation Biology*. To join, send checks (US funds) to Blackwell Scientific Publications, 3 Cambridge Center, Cambridge, MA 02142.

GREEN HOPE

Green Hope, an organization formed last year in France to facilitate exchanges of letters among young environmentalists from different countries, has been overwhelmed by requests from Eastern Europe, especially Czechoslovakia and to a lesser

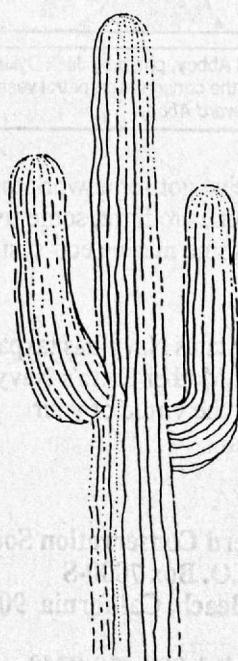
extent Poland. "The requests are made by teenagers, young volunteers, scout leaders, teachers . . . in need of help, documentation, ideas, etc. They usually write excellent English." Green Hope is looking for groups and individuals whom the organization can match with letter writers in Eastern Europe.

If you are interested, send your name, address, age (if a young person), special environmental interests, the country to which you would like to write, and the language(s) you write, to Green Hope, Chemin de Clodolio, 06790 Aspremont, France. Enclose an International Reply Coupon from a US post office to pay for return postage.

ENVIRONMENTAL ADVOCACY AND THE ARTS

The latest issue of *Alternatives* (Vol 7, no. 4), *Finding a New Voice: Environmental Advocacy and the Arts*, explores the way artistic expression can fire our enthusiasm for Nature. Author Rebecca Raglon investigates the relationship between environmental thought and traditional literary criticism. Environmentalist Jenny Carter looks at environmentalism in the art and life of the poet Wordsworth. Copies are available for \$5.50 (plus 7% GST) from *Alternatives*, Faculty of Environmental Studies, University of Waterloo, Waterloo, Ontario N2L 3G1 (519-885-1211 ext 6783).

carnegiea gigantea



Subscribe to WILD EARTH

PO Box 492,
Canton, NY 13617

Here's \$20 for a one-year subscription (4 issues) to WILD EARTH.

Here's an additional \$_____ as a donation.

Here's \$25 (US funds only) for a subscription to Canada or Mexico.

Here's \$30 (US funds only) for an overseas subscription via surface mail.

Here's \$35 (US funds only) for an overseas subscription via air mail.

Please change my name & address. My old zip code was _____.

Name _____

Street _____

City _____ State _____ Zip _____

Please send a gift subscription to the person below.

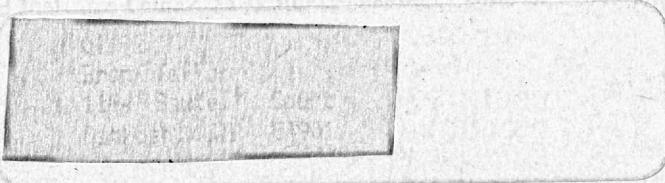
Name _____

Street _____

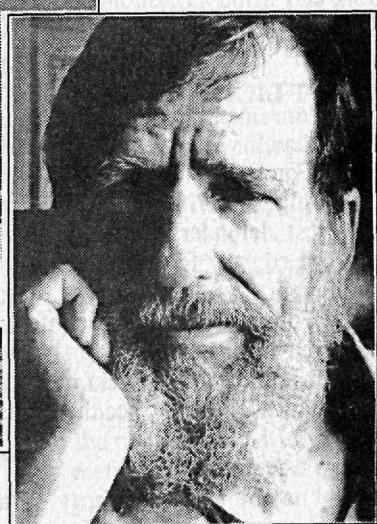
City _____ State _____ Zip _____

Wild Earth

P.O. Box 492
Canton, NY 13617



The Spirit of Edward Abbey Lives On



Enlist in the Sea Shepherd Navy

The latest addition to the Eco-Navy is the Marine Ecological Patrol Vessel the *Edward Abbey*.

The Sea Shepherd Conservation Society will operate the new ship on campaigns in both the Atlantic and Pacific Oceans.

The *Edward Abbey* is a recently retired U.S. Coast Guard coastal patrol boat and drug interception vessel. The ship is a ninety-five foot, one hundred and six ton vessel built in 1955. Her twin Detroit engines were installed new in 1978 and overhauled by the U.S. Government in 1988. Each engine is rated at 1325 horsepower which gives the ship a top speed in excess of twenty-five knots.

Sea Shepherd will utilize the ship in on-going battles against whalers, sealers, dolphin slayers, drift netters, sea turtle killers, polluters, tropical hardwood cargo vessels and other enemies of the planet and her oceans.

The Sea Shepherd Conservation Society needs your involvement and support. The *Edward Abbey* needs volunteer crew. We need equipment, materials and funds for fuel and operating costs.

If you are with us in building an effective marine ecological navy, we want to hear from you.

Can we count on you as a supporter of Neptune's Navy? If so, then write to

Edward Abbey, photo by Jack Dykinga.
Above, the conservation patrol vessel,
C/N Edward Abbey.

us today, we've got some work to do and some battles to fight, some lives to protect and some marine eco-systems to save.

The United States Navy has taxpayers to support it. Mother Earth's Navy sails only by the virtue of your contributions.

Sea Shepherd Conservation Society
P.O. Box 7000-S
Redondo Beach, California 90277

or call 1-900-420-8240