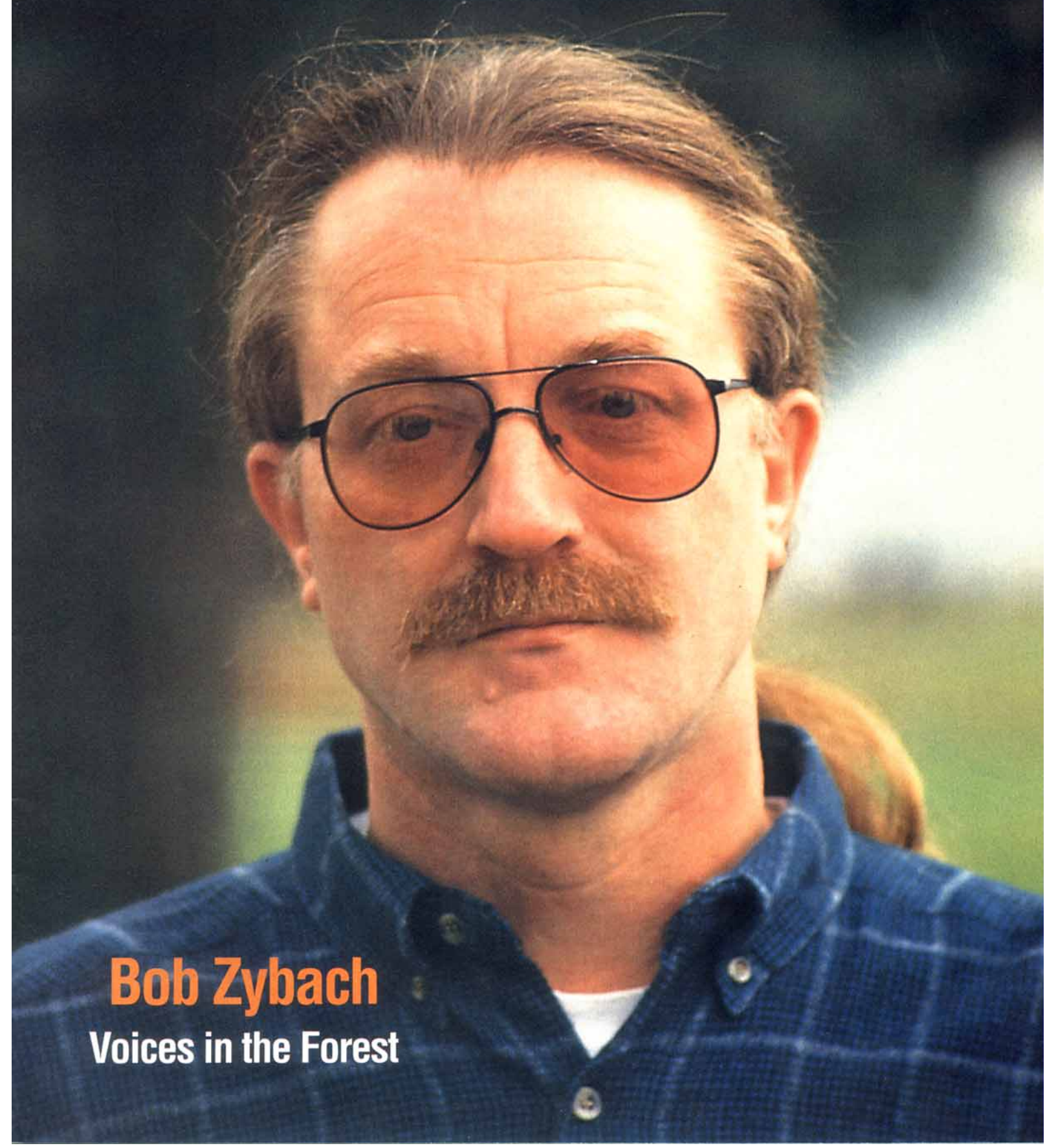


March · April · 1994

EVERGREEN

MAGAZINE



Bob Zybach

Voices in the Forest



On The Cover

Bob Zybach is a forest sciences graduate student at Oregon State University, and author of numerous critically acclaimed articles and reports, including "Forest

History and FEMAT Assumptions: A Critical Review of President Clinton's 1993 Northwest Forest Plan" and "Native Forests of the Northwest, 1788-1856: American Indians, Cultural Fire and Wildlife Habitat." Mr. Zybach was a reforestation contractor for 20 years before enrolling at OSU. Our interview with him begins on page seven.



The Enlightened Forest

Ken Brauner, who is perhaps forestry's finest contemporary painter, has done a painting for The Evergreen Foundation. "The Enlightened Forest" is a beautiful work, depicting the managed forest as we see it, and as we would describe it in words. Limited edition prints are signed and framed, ready for gift-giving, or to grace one of your own walls.



About The Evergreen Foundation

The Evergreen Foundation exists for two reasons: to help restore public confidence in forestry, and to help advance public understanding and support for scientifically-based forest policies and practices.

To these ends, we publish *Evergreen*, a bi-monthly journal designed to keep foundation members and others abreast of issues and events impacting forestry, forest communities and the forest products industry.

In our research and publishing activities, we work closely with forest scientists, wildlife biologists, economists, policy analysts, representatives of business and industry, elected officials and state and federal agencies responsible for protecting the nation's public and privately owned forest resources.

Support for the foundation comes from members, and other public and private non-profit organizations that support forestry education programs. The foundation is a non-profit, tax exempt educational organization, incorporated in Oregon under Internal Revenue Service 501(C)(3) regulations.

Foundation policy is established by a 10-member board of directors representing business, industry, academia and the public at large. Greg Miller, who directs activities of the State Timber Purchasers division, Oregon Forest Industries Council, is the president of the board of directors. Sharla Moffett, executive vice president, Southern Oregon Timber Industries Association, is our treasurer; and Mark McQueen is the foundation's vice president and director of development. *Evergreen* is produced by James D. Petersen.

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Past issues and this issue of *Evergreen* are available for \$5 each, or in bulk: 25 copies, \$50; 50 copies, \$75; 100 copies, \$125; 250

copies, \$300; 500 copies, \$500; more than 50 copies, \$1 each. Payment or purchase order must accompany all orders.

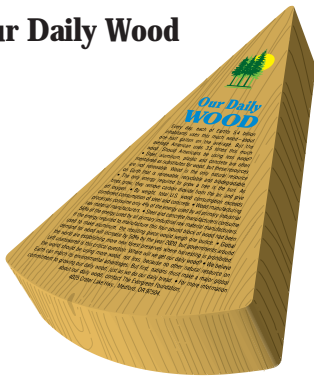
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Every day, each of the Earth's 5.4 billion inhabitants consume about four pounds of wood.

"Our Daily Wood" is a block of wood, cut to size, representing average per person daily global consumption. It is the only prop you will ever need to explain why wood should be the product of choice for consumers who are concerned about the environment.

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Posters and Q&A Forest Fact Sheets

The foundation has published a beautiful 20X26 full color poster featuring a graph from *The Truth*

About America's Forests. The graph depicts growth and harvest on the national forest system from 1952 through 1992. In national forests, net annual growth now exceeds harvest by 60 percent. The poster, which is available for purchase, also features important facts about forests in America.

Also available for purchase is a series of eight beautifully illustrated forest fact question and answer sheets suitable for counter top display, or as payroll or invoice envelop stuffers.

These quick reference information sheets answer the most commonly asked questions about forests and forestry in America.

How To Order

To order any of the items described above, simply call The Evergreen Foundation at (503) 770-4999. Ask for Mark McQueen, our director of development.

In This Issue

In this issue of *Evergreen*, we interview Bob Zybach.

Nothing more need be said to entice those who know him to read what we have written about him. Never one to shrink from controversy, Mr. Zybach has waded into the very deep and very murky waters that now swirl around President Clinton's proposal for managing this region's federal forest lands.

What Mr. Zybach has done is so simple we can't help but wonder why someone didn't think of it long ago. To find out if the President's forest plan is workable, he held it up to a mirror, to see if its image of this region's forests matches earlier images drawn by people and other natural forces that have roamed the Pacific Northwest for thousands of year.

The images don't match. They aren't even close. In this issue, we probe the differences in these old and new images; and in a wide ranging interview with Mr. Zybach, we learn a great deal about the human and natural forces that have shaped and re-shaped this region's forests for thousands of years.

Mr. Zybach's critique is titled, "Forest History and FEMAT Assumptions: A Critical Review of President Clinton's 1993 Northwest Forest Plan." "FEMAT" is short for "Forest Ecosystem Management Assessment Team," a group we refer to simply as "the government's scientists." It would be an understatement to say that Mr. Zybach's critique has stirred spirited debate between "the government's scientists" and other scientists who hold different points of view concerning workable management options for this region's federal forests.

Let us be very clear on this one point. Bob Zybach is not yet a forest scientist. He is a graduate student in the College of Forestry at Oregon State University. His critique, which was written for the American Forest and Paper Association, is actually part of his master's thesis. It is 101 pages long, and in places it reads more like a good murder mystery than a master's thesis in the making. To be sure, there is a good novel buried in these pages, and someday someone will write it. In the big court scene, the main characters will tell what went on behind closed doors, where science turned into politics and politics turned into special interest advocacy.

What makes Mr. Zybach's critique so compelling is the sheer weight of the evi-

dence he presents to support his conclusions. Here is some of the evidence.

- Photographs of the West that was here when the first wagons ho'ed out of Jefferson City, Missouri, and other prairie towns then on the edge of things to come.

- Passages from diaries written in the early 1800's by explorers and settlers anxious to record what they saw in letters written to the folks back home, wherever home was.

- Notations in journals written by scientists in search of new wonders in a new world.

- Log books from ships that sailed the region's coastline in the 1700's looking for an inland waterway that would take them back to where they started.

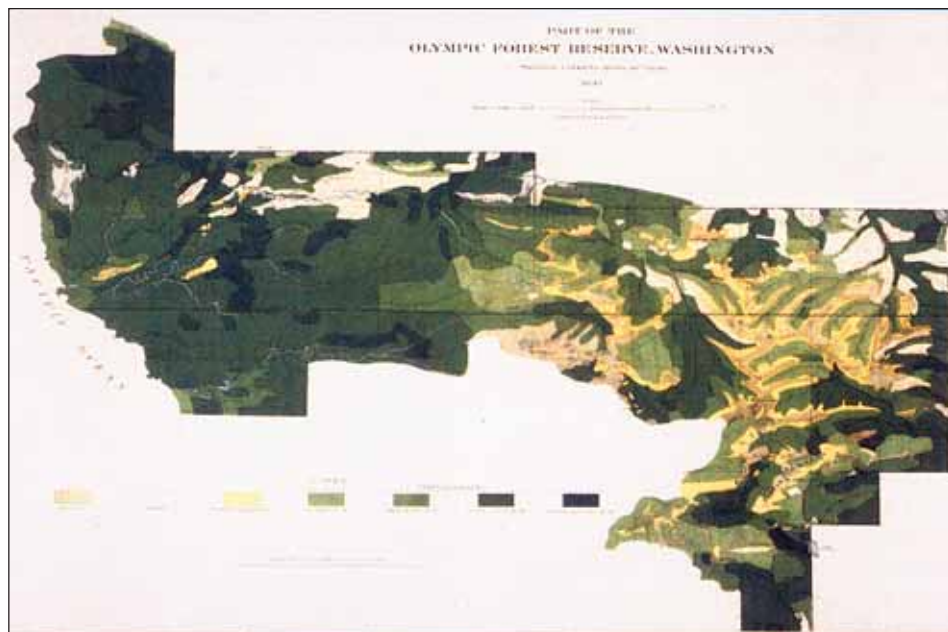
- Interviews with Indians whose ancestors walked here from Asia 11,000 years ago on land bridges left behind by receding ice fields.

assuming title: *Annual Reports of the Department of the Interior, for the Fiscal Year Ended June 30, 1900, Twenty-first Annual Report, U.S. Geological Service.*

The book includes hundreds of pages of detailed forest inventory data gathered on the ground in western Oregon and Washington, plus a large collection of color maps showing the distribution, size and age of tree species then present in southwest Oregon and western Washington.

What is most unsettling about this huge body of information is the fact that the government's scientists make no mention of its existence in the proposal they wrote for the President, and in fact they say in words that it does not exist. When asked how he was able to find what apparently eluded the government's scientists, Mr. Zybach said simply, "I have a library card."

There are voices from the past in what



PART OF THE OLYMPIC FOREST RESERVE 1899, from the 1900 U.S. Geological Survey report. The area shown is about 60 miles wide and about 54 miles deep. Crescent Lake is in the top center, and the large open area to the left of the lake includes forest land that was burned in the 1907 Soleduck fire. The Soleduck River can be seen passing through the burn area.

- Pollen fossils that show what grew in the region's forests 10,000 years ago.

- Bits of charcoal, unearthed evidence of raging infernos that sculpted this region's forests millions of acres at a time.

- Old Forest Service photographs pasted on the tissue pages of typewritten reports written in the early 1900's, when the outfit was more concerned about grazing than timber.

- A bombshell of a book bearing an

Bob Zybach has unearthed. Some of them are Human and some of them are Nature, but it does not matter much which voices you listen for, because in the end, the voices become one Voice, and the Voice says this region was never the vast sea of old growth some of the current voices say it was. The sea was actually a savanna, and the forests were more like islands of green surrounded by tall grass.

The voices from the past also say this



Mr. Bob Zybach

region's forests were sculpted by fire, and some of these fires were Nature and some of them were Human, and those that were Human were Indian, and the Indians used fire to sculpt the land in the image of their culture.

Then, as now, Nature spoke in many tongues. Fire was joined in the chorus by Wind and Flood and Ice. And then, as now, the Human voices try to commune with Nature.

In the 1700's, Nature's voices and the Indian voices were joined by white voices, and the white voices talked about, wrote about and later photographed the Indians and Nature.

The earliest white voices belonged to explorers and sea captains. Other voices came later: trappers, fur traders, land promoters, settlers, botanists, farmers, loggers, journalists, conservationists and early-day foresters.

What Mr. Zybach has done is give these voices long silent the chance to speak for themselves again, to say how it was before white settlement began, before Indians, before the last ice turned into water and ran out of the Willamette Valley, leaving a void that would later be filled by fire.

This is the part of Mr. Zybach's critique we find so compelling. By simply allowing the voices to speak again, he is able to challenge the government's scientists on both their assumptions and their conclusions. We do not know if he is right, but he presents more tangible evidence of what was in Pacific Northwest forests than can be found in the President's plan. Moreover, his work has been warmly received by several respected forest scientists, who believe his research presents a strong historic basis for challenging the assumption

the Pacific Northwest was once a vast sea of old growth timber.

We suppose Mr. Zybach's work will cause a lot of squirming amongst the government's scientists, and we think Congress ought to step in now and ask why these scientists could not find what is readily available in public libraries.

Mr. Zybach believes the several thousand pounds of information he has collected was ignored by the government's scientists because it contradicts their personal biases about forests and forestry. Tough talk for a college student, even in this day and age. But Mr. Zybach is not your typical college student. He owned one of the country's most successful tree planting businesses through the 1970's and on into the early 80's, when the nation's economy went belly up and Mr. Zybach went broke. Now 45 years old, he is on a roll again.

This issue of *Evergreen* did not start out to be a story about Bob Zybach. It started out to be a story about how quickly change can come to forests. We wanted to build on our interview with Dr. Chad Oliver, the University of Washington silviculturist we featured on the cover of our September-October issue.

"The idea that nature exists in perfect harmony, or that there is a delicate balance or equilibrium in nature, has been abandoned by a great many scientists, including me," Dr. Oliver said. "We are surrounded by evidence that nature is actually in a continuing state of

disturbance or fluctuation. Change and turmoil, more than constancy and balance, are the rule."

And later, "The balance of nature concept holds that an ecosystem maintains itself in constant equilibrium, and if disturbed later returns to its former status. This makes nice poetry, but not very good science. What science reveals is that natural disturbances, including weather patterns, wind, fire and disease, prevent ecosystems from ever settling into a steady state."

Dr. Oliver testified at last April's timber summit, where he became the first noted scientist to say out loud that the President's plan placed the region's forests at greater risk than the amount of harvesting needed to reduce the escalating risk of catastrophic wildfire. Then Dr. Oliver's brave voice became a voice in the wilderness and joined other voices from the past found wandering through the pages of Mr. Zybach's report.

We were in search of old photographs that would help illustrate Dr. Oliver's descriptions of Nature at work when we met Mr. Zybach, who then became a story within our story, and later the main story.

There are still old photographs in the issue, and each tells a story of what once was. The most exquisite of these old photos were taken by the U.S. Forest Service in the 1930's, using what was called an Osborne camera. Osbornes could take 360-degree pictures, and were used to pinpoint the locations of forest fires.



Summit of the Siskiyou Mountains, near Sterling Peak, from the 1900 USGS report. In memoirs written to his niece in 1888, Oregon pioneer, James Neall, described, "...the entire absence of anything like brush or undergrowth in the forests of fir timber that had sprung up in the midst of large plains, looking at a distance like green islands here and there dotting the vast expanse of vision."

There are also new photographs in this issue, some taken from the same vantage points as the old Osbornes. When the old and new photographs are laid side by side, they become voices, and the voices tell stories about how resilient Nature is, and how Human and natural forces have shaped and re-shaped this region's forests. These new photographs were taken by Mike McMurray, who is one of the finest forest photographers working today.

Other voices are also playing small parts in this unfolding story about forests and the sea that never was. Some are Human, some are Nature, and some are human nature.

Reprinted nearby is a chart from *Random Lengths* newsletter which shows how human nature periodically causes the price of lumber to rocket into deep space. Lumber retailers and homebuilders are now adding their voices to those clamoring for Congressional action aimed at restoring a stable and adequate supply of federal timber. More than half the nation's supply of softwood sawtimber is standing in national forests, where many special interest lobbies believe no harvesting should be allowed, ever again.

In this issue, we present a series of what are called "sidebar" stories. These are shorter stories that help illuminate the points made by Mr. Zybach and others who are a part of our cover story. Of these sidebars, the most riveting is taken from *Young Men and Fire*, a soon to be best seller written by the late Norman Maclean, who also wrote *A River Runs Through It*, and was perhaps this century's finest American writer. We present excerpts from his new book to help illustrate the terror that wind and fire can bring to forests.

We Climbed The Highest Mountains is our centerfold story and appears in what printers call a "gatefold". Folded out flat, it is four pages across, and once you have done the unfolding, you will see why we have a gatefold in this issue.

Our story about climbing the highest mountains is taken from a booklet by the same name, written in 1985 by Albert Arnst, who with others pioneered the use of Osborne cameras, in their day the Forest Service's most advanced fire location tool.

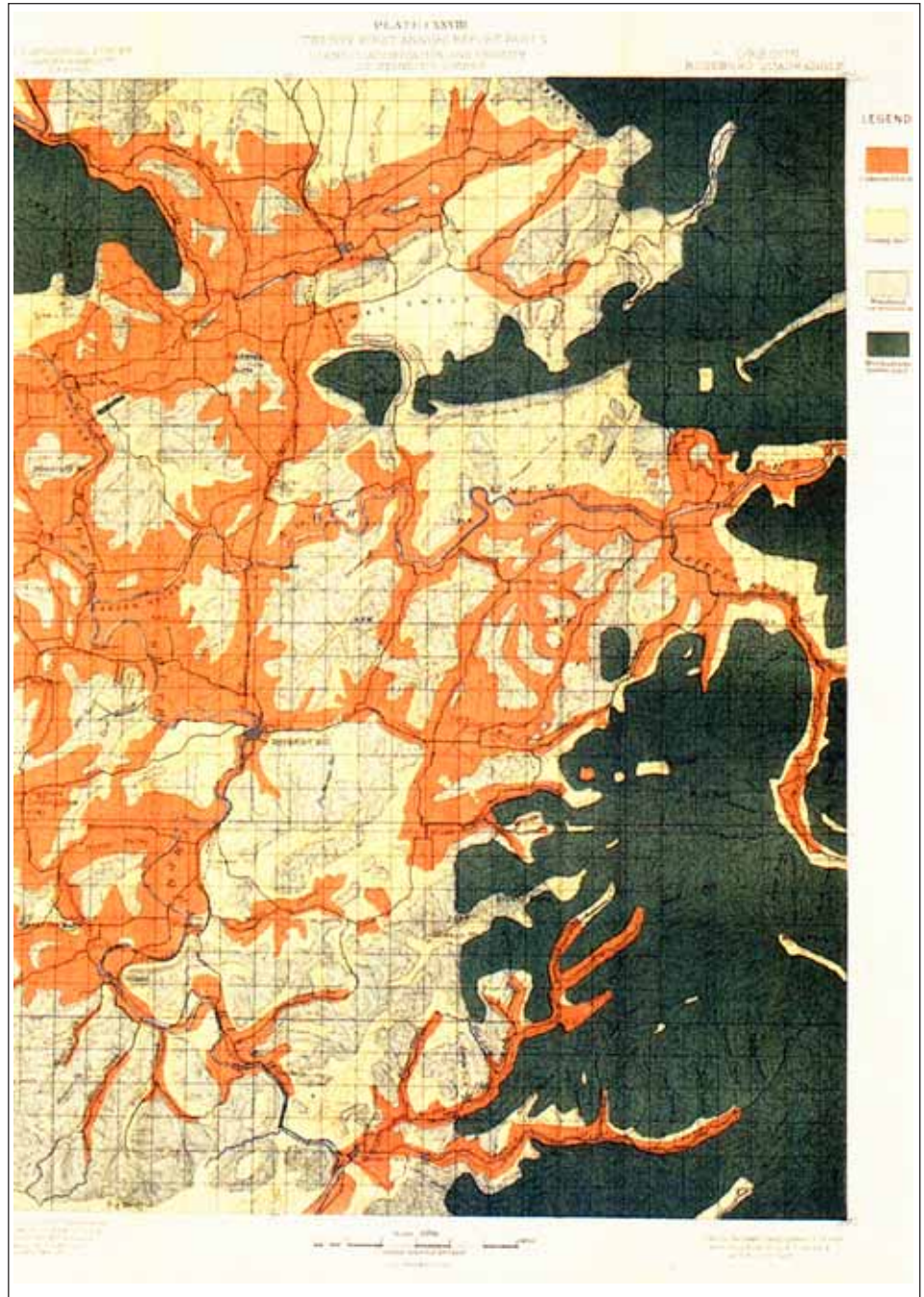
Osborne photographs were a godsend to firefighters in the 1930's; and now they are a godsend again because they show what this region's forests looked like back then. We can use them to help put out a different kind of fire that is raging in the hearts of so many who are laying claim to this region's forests.

Dr. Benjamin Stout, former dean of the University of Montana School of For-

estry, adds significantly to Mr. Zybach's research in *Testimony of Benjamin Stout*, which is, in fact, testimony he gave last September at a Clinton Administration forest hearing conducted in Salem, Oregon. In his testimony, Dr. Stout urged the government's scientists to "go back to the drawing board." To learn why, read what he wrote.

Also reprinted verbatim in this issue is an article from the October 19, 1993 edition of the *Bangor Daily News*, Bangor, Maine. The article, "Keeping the forest

undeveloped", was written by Pat Durkin, *National Geographic*, for Associated Press special features. It offers a perspective on the timber industry unlike anything we've heard or seen in the West. We suppose most of our readers will be quite surprised to learn that, in the Northeast, conservationists believe forest management is one of the best tools available for blocking other less desirable types of forest development. We are reprinting this article as food for thought for all who wonder about the underpinnings of the Clinton forest plan.



THE ROSEBURG QUADRANGLE, from the 1900 U.S. Geological Survey report. The area shown is about 26 miles wide and 76 miles long. Roseburg is to the left of center, just below the mid-point on the map. As the color-key indicates, a good deal of this quadrangle was cultivated land or grazing land. This is consistent with George Riddle's 1851 description of the Cow Creek Valley, which was reported in a 1920 story that appeared in *The Riddle Enterprise*.

Forest of Voices is a story of discovery, written by Chris Anderson, a Corvallis-area homeowner who joined Oregon State University's Sustainable Forestry New Paradigm Working Group, after learning that the College of Forestry planned to harvest timber from its own McDonald-Dunn Research Forest, located next to Mr. Anderson's property. Along the path to discovery, Mr. Anderson met Bob Zybach, and other voices that now fill this region's forests. This is fine writing, taken from the fall, 1993 edition of *The Georgia Review*, a University of Georgia publication.

No sidebar this. In a speech he gave in January in Boston, Stimson Lumber Company president, Dan Dutton, reminded members of the Northeastern Lumber Retailers Association that not one of the promises President Clinton made at last April's timber summit has been kept. "Things are much worse now than they were last April, and the situation will deteriorate even further as 1994 unfolds. Nothing will change without Congressional action."

U.S. District Court Judge, Thomas Jackson, Washington, D.C., may have provided Congress with an appropriate stimulus for action in a March 21 ruling that has wide implications for the future of the Clinton forest plan.

Ruling in response to a lawsuit filed by the Northwest Forest Resource Council, Judge Jackson wrote, "Scholars no less than business people have been known to have personal agendas. And the composition of FEMAT, as a whole - federal and otherwise - at least suggests, as plaintiff alleges, that the vast majority of them were

pro-"ecosystem management," having minimal sympathy for the forest products industry."

Judge Jackson also sided with an NFRC claim the Administration violated federal open meeting laws, and he chided the government for refusing to make FEMAT meeting records public.

Apart from this ruling, there are rumors the industry will challenge the Administration's interpretation of the Endangered Species Act 4-D rule. For a time, lawyers studying the rule hoped it offered clarification for private forest landowners anxious to get on with the business of growing and harvesting trees. Now what looked like the light at the end of the tunnel is looking more like the locomotive.

There are other locomotives heading our way: critical habitat for marbled murrelets and salmon. When the salmon locomotive gets to the mountains, and needs help getting over the top, a new locomotive will be added. It is called the Watershed Analysis Locomotive.

"We are starting from scratch," said regional forester, John Lowe, of his agency's struggle to re-invent itself.

Mr. Lowe, who spoke at last month's Associated Oregon Loggers annual meeting, pulled no punches in his assessment of the future.

"There will be more thinnings, more green trees will be left on harvest sites, more helicopter logging, less road construction and a de-roading process," he predicted.

"De-roading" is code for tearing up existing roads. It has been going on in grizzly bear habitat on Montana's Kootenai Na-

tional Forest for more than two years. There, the U.S. Fish & Wildlife Service has resorted to locked gates to keep hunters, fishermen, berry pickers and others out of the forest. Other locomotives have resorted to unlocking gates under cover of darkness. Dynamite is the weapon of choice.

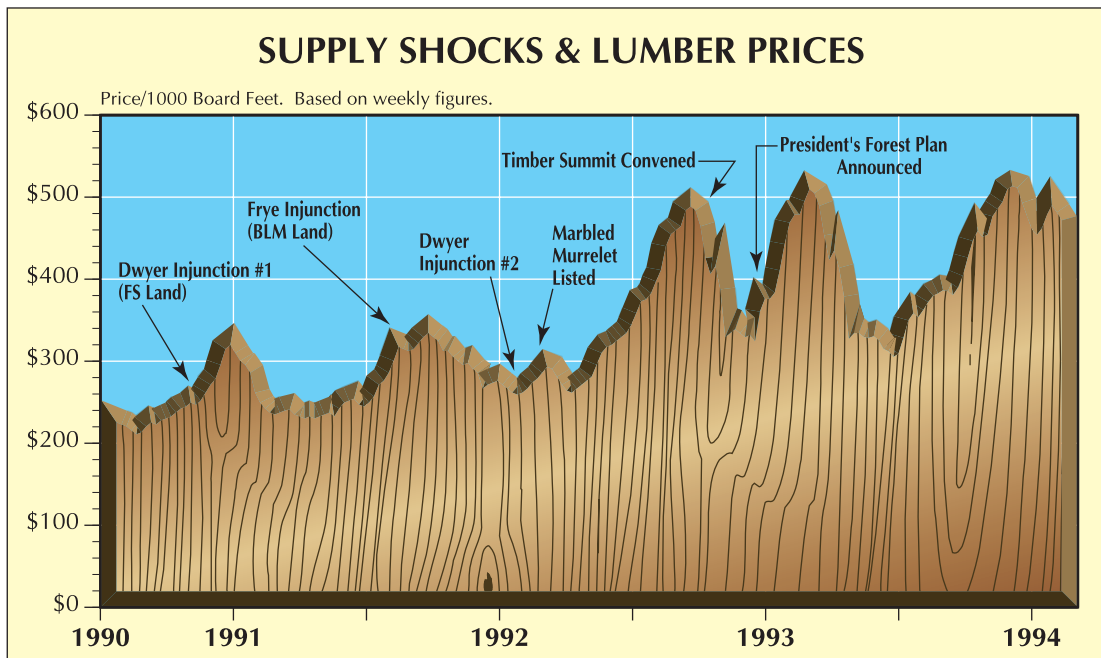
Meanwhile, many of the Forest Service's most experienced people are leaving in disgust, unable to cope with the politics of forestry. Some are even signing on with grass roots groups now battling disgust on several fronts.

No word yet on what, if anything, Congress will do, but the price of lumber remains the most reliable instrument for measuring the strength and direction of political winds. Will Congress act if lumber prices get in the way of economic recovery? No one knows.

How high lumber prices will go is anyone's guess. We don't expect any federal timber will be sold in 1994. What is harvested will come from private forest lands, just as it did last year. The voices we trust most don't know how long current private harvest levels can be sustained. "Not long," some say. Others say nothing.

One voice we have enjoyed over the past few years is silent now. With sadness, we note the passing of a long-time Evergreen Foundation member, Dr. Dixie Lee Ray. Dr. Ray headed the Atomic Energy Commission for several years, was a former Washington governor, and a skilled author and lecturer, as well as an accomplished wood carver. Hers was always a welcome voice in a sea of siren songs. ■

- Jim Petersen, Editor, *Evergreen*



Since 1991, lumber prices have moved through several up and down cycles, a response to economic and political factors, including federal court rulings indicated on this chart. Some economists believe fear of lumber shortages drove the market to record highs in 1993. No one can say for sure, but one thing is certain; lumber prices now sit on a higher price plateau than ever before. Moreover, the long term outlook is for even higher prices, a result of the continuing recovery of the home-building industry, and a lack of timber supplies sufficient to cool the increasing demand for lumber.

(Source for chart, *Random Lengths*, Eugene, Oregon)

Voices In The Forest: An interview with Bob Zybach

EVERGREEN: Mr. Zybach, your criticism of the President's proposal for managing federal forests in the Pacific Northwest has caused quite a stir. Where did you find fault with the plan?

ZYBACH: There is nothing in the plan that suggests an understanding of this region's natural and human history. Because many of the plan's goals are founded on erroneous historic assumptions, the plan itself is fundamentally flawed.

EVERGREEN: Are you saying the President's plan is doomed from the start?

ZYBACH: It is if its historical basis is not corrected. What is presented as history is both wrong and misleading. To make matters worse, there is a public perception this plan is based on the best available scientific information. Far from it.

EVERGREEN: What are the errors in history?

ZYBACH: There is a poor understanding of the role of fire in Douglas-fir forests. The extent of American Indian involvement in altering forest landscapes is downplayed, and the impacts of white settlement, particularly logging, are exaggerated.

EVERGREEN: And these historic errors adversely affect the President's plan?

ZYBACH: They certainly do. How can we expect to re-create pre-settlement forest conditions if we do not fully understand what conditions were present, or why those conditions were present?

EVERGREEN: What are "pre-settlement forest conditions"?

ZYBACH: Forest conditions thought to have existed before white settlement began in the early 1800's.

EVERGREEN: And the President's plan seeks to re-create pre-settlement conditions?

ZYBACH: That's correct.

EVERGREEN: Why?

ZYBACH: The plan strongly suggests that forests that were here before white settlement began were somehow more natural than are present-day forests. To accept this idea, you also have to believe pre-settle-

ment forests were "naturally functioning ecosystems," untouched by human hands. This is their first big error in history. The fact is, people have been altering the character of this region's forests for at least 11,000 years.

EVERGREEN: How do these historic errors adversely affect the President's plan?

ZYBACH: The errors form the basis for a set of predictive assumptions about how natural ecosystems function, how old growth forests can be preserved, and how to maintain or increase plant and animal diversity in the region's forests.

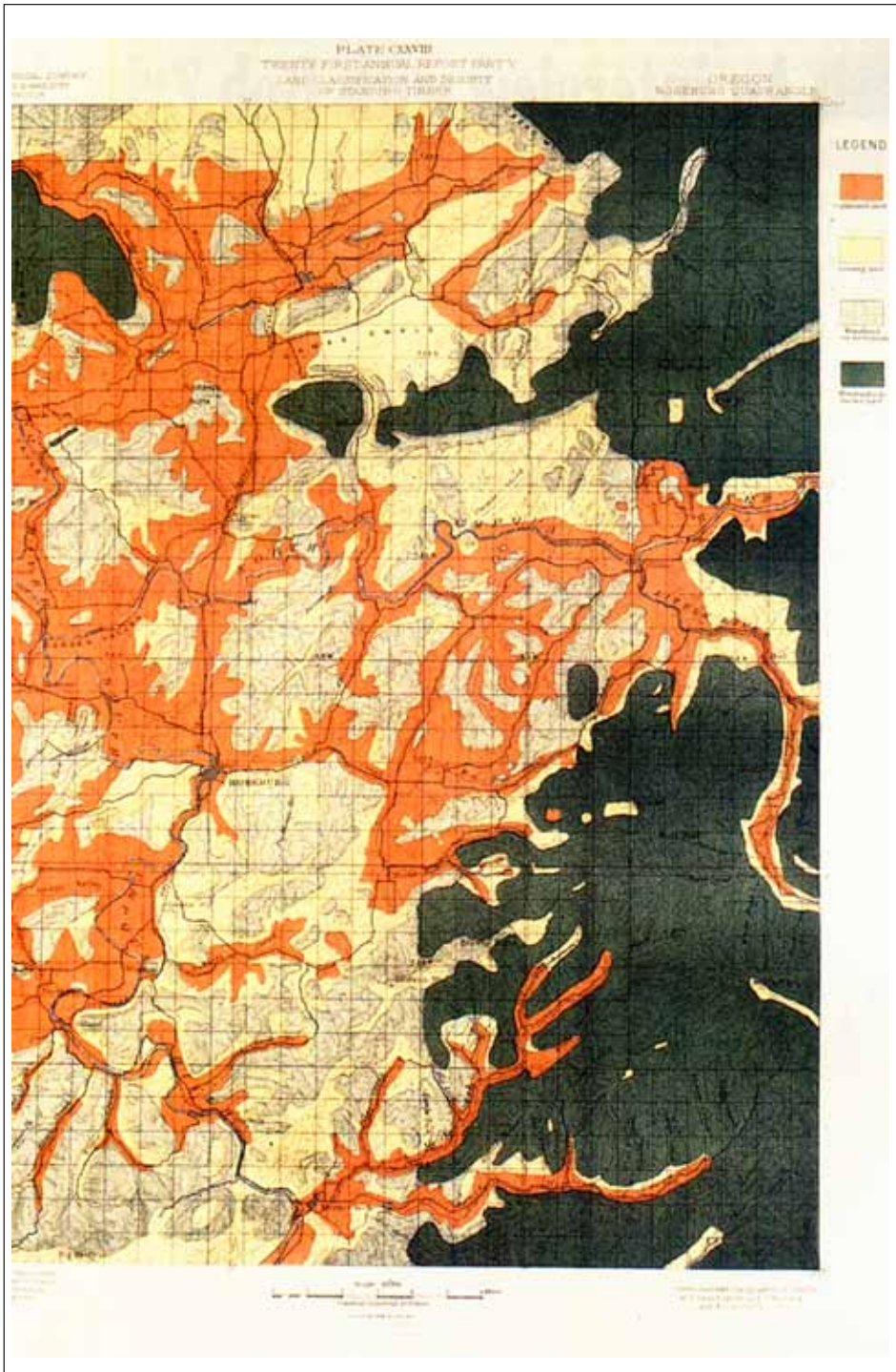
EVERGREEN: What are these predictive assumptions?

ZYBACH: My review focuses on four predictive assumptions in the plan, but the main one assumes that when white settlement began, the Douglas-fir region was 60-to-70 percent covered with stands of old growth trees 200 or more years old. This is the so-called "sea of old growth" frequently discussed by proponents of old growth preservation.

EVERGREEN: How do you define "old growth?"



The Quillayute Prairie, in the Olympic Forest Reserve, Washington, 1899, from the 1900 U.S.G.S. report



THE ROSEBURG QUADRANGLE, from the 1900 U.S. Geological Survey report. The area shown is about 26 miles wide and 76 miles long. Roseburg is to the left of center, just below the mid-point on the map. As the color-key indicates, a good deal of this quadrangle was cultivated land or grazing land. This is consistent with George Riddle's 1851 description of the Cow Creek Valley, which was reported in a 1920 story that appeared in *The Riddle Enterprise*. (See "Voices In The Forest") After studying this map and other historic references, Bob Zybach (See interview beginning on Page 7) said, "It is interesting to note that lowland stream corridors were not well shaded, yet salmon populations were thriving. This suggests that present-day opinions concerning the critical need for heavy tree cover in riparian zones may need rethinking. Sport and commercial fishing, and dam construction, have had far more to do with declining salmon populations than is generally acknowledged. Banning timber harvesting does not mean salmon will return. In 1900, salmon spawning streams passed through hundreds of miles of pasture land, where there were few trees, a result of Indian cultural fire, and cultivation by settlers."

ZYBACH: Old growth is a value judgement, not a scientific term. It means different things to different people. A hiker might see big old trees. A lumber grader probably sees high quality wood suitable for use as large timbers. A forest ecologist sees a range of timber stand characteristics. Others will see something else.

EVERGREEN: Where does age enter the old growth picture?

ZYBACH: That's a good question. The government's scientists started out seeing trees in the 180-to-220 year old range. Later they saw what they called "mature" structural characteristics they liked in much younger timber stands, even down to 80-year-old prime second growth.

EVERGREEN: Why the change?

ZYBACH: I don't know. It is never adequately explained in the plan. Whatever the reason, what started out as an attempt to protect old trees ends up appearing to be a colossal land grab.

EVERGREEN: How old are the trees in the old growth forest you picture in your mind?

ZYBACH: I am comfortable with trees in the 200-year-old range.

EVERGREEN: Earlier you said the President's plan includes four predictive assumptions that are wrong. What are the other three?

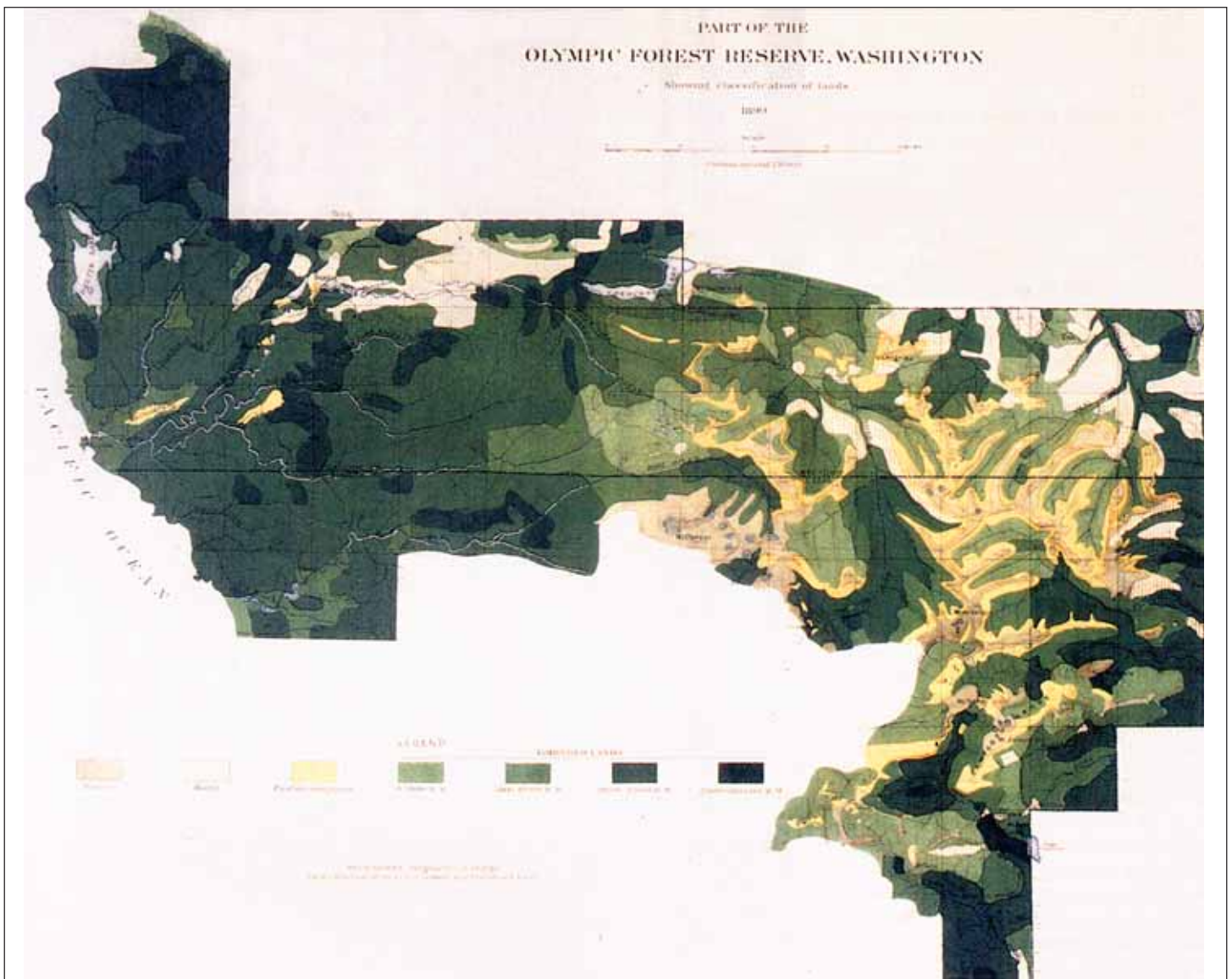
ZYBACH: The plan also assumes the American Indians living here lived in a "naturally functioning" environment. It is then assumed that logging is to blame for the presumed destruction of natural and cultural environments. Finally, it is assumed laws, forest ownerships and forest values in the Douglas-fir region are what they are today and will not change in the future.

EVERGREEN: What historic evidence can you cite that proves these assumptions are wrong?

ZYBACH: It can be shown that the so-called "sea of old growth" probably consisted of 200-plus-year-old trees growing in patches and stands that covered perhaps 5% to 38% percent of Douglas-fir region.

EVERGREEN: Based on the evidence you've uncovered, how would you describe the forests seen by early white settlers?

ZYBACH: Forests were more open than they are now. There were islands of even-aged conifers, bounded by prairies, savannas, groves of oak, meadows, ponds, thickets and berry patches. Many of these for-



PART OF THE OLYMPIC FOREST RESERVE 1899, from the 1900 U.S. Geological Survey report. The area shown is about 60 miles wide and about 54 miles deep. Crescent Lake is in the top center, and the large open area to the left of the lake includes forest land that was burned in the 1907 Soleduck fire. The Soleduck River can be seen passing through the burn area.

The green areas below the 1907 burn have an impressive fire history dating back to 1667, and more than half of the Soleduck Ranger District has burned at least once since 1870. Maps showing the locations and approximate dates of these fires suggest this area could not possibly have been 60-70% covered with trees 200 years old, as the Clinton Administration forest plan indicates.

The yellow area on the far left is the Quillayute Prairie, shown in the 1899 USGS photograph on the facing page. Most of the lowland pastures shown on the map probably looked like the Quillayute Prairie. Salmon spawning streams passed through virtually all of these prairie pastures.

The darkest green areas on this map are the most heavily timbered. Lighter greens depict areas less heavily timbered. The 1900 USGS report includes detailed township-by-township descriptions, including tree species, volumes per acre and tree ages to the nearest year. The President's forest plan reports no such information exists for this period.

ests were virtually free of underbrush and coarse woody debris that has been commonplace in forests for most of this century.

EVERGREEN: Your description is a far cry from what is contained in the President's plan.

ZYBACH: This is not my description. It is what is revealed in a rigorous review of this region's human and natural history, and yes, it is much different from what is described in the President's plan.

EVERGREEN: You mentioned Indians a few moments ago. The President's plan doesn't say much about Indians who lived here before white settlement began. What

does the historic record show?
ZYBACH: The plan is wrong in its contention this region's forests were largely untouched by human hands before white settlement began. Humans have lived here as families for at least 11,000 years. The use of fire by these families produced a forest environment dominated by fire-dependent and fire-tolerant plant species.

EVERGREEN: But didn't Indians live in harmony with nature?

ZYBACH: That's a very subjective question. It assumes some sort of delicate, undisturbed balance in nature. I don't buy it. This region's forests are not the product of some gentle and unseen hand moving gracefully across landscapes. These for-

ests are the product of vast and frequently violent natural disturbances, including human-caused fires of almost unimaginable scale.

EVERGREEN: Let's go back to the Indians. Didn't they live in harmony with nature?

ZYBACH: I guess that depends on how you define harmony. Indians were very aggressive resource managers, just like all civilizations and all peoples. There is widespread evidence of their impacts on this region's landscape. From the Puget lowlands south into northern California, they may have burned more than a million acres a year. Indians used fire to create habitat for wildlife, to clear away trees and

underbrush, and to shape forests in the image of their own culture.

EVERGREEN: What about the assumption that logging is responsible for the presumed destruction of forest ecosystems?

ZYBACH: The plan is quite specific in its assumption that logging is the primary culprit in the presumed destruction of forests, and again history proves the plan wrong. A more objective look at logging's impacts on forests suggests that logging, broadcast burning and tree planting can mimic prehistoric patterns of forest fires, landslides, windstorms and volcanic eruptions. This means we should be able to use these human interventions to help recreate natural conditions present when white settlement began.

EVERGREEN: Are you suggesting logging and broadcast burning and aggressive reforestation programs could be used to recreate forest conditions present when white settlement began?

ZYBACH: The historic record certainly indicates this is possible, but because the government's scientists missed most of this region's human and natural history, they end up describing forest conditions that never existed. They then use this grossly inaccurate description of pre-settlement forest conditions as a basis for offering the President a series of management options that are not more than minor variations on the same three-part theme.

EVERGREEN: And what is this three-part theme?

ZYBACH: The plan's authors would have you embrace their assumption that the best way to manage old growth is to preserve it in refuges. Related to this is the assumption that the best way to protect native wildlife diversity is to preserve old growth. Related to this assumption is the assumption the best way to delay or stop the extinction process is to delay or stop logging old growth.

EVERGREEN: And you disagree with these themes?

ZYBACH: Whether I agree or disagree with these themes is not the question. The fact is a rigorous review of this region's natural and human history will show the government's scientists are wrong. Their plan will do little to protect old growth forests, and may place forest ecosystems at greater risk than would a seemingly more aggressive strategy.

EVERGREEN: So you are in agreement with Dr. Chad Oliver's belief that a wider



A stand of fir and hemlock on the Soleduck River, three miles above Hot Springs, from the 1900 USGS report. The stand was leveled in the 1907 fire, and here it shows evidence of previous burns. Note the lack of vegetation on the forest floor.

range of harvesting and thinning strategies could actually speed the creation of structural diversity in forests?

ZYBACH: I am not academically qualified to evaluate Dr. Oliver's work, but I can tell you that the historic record is very clear, and the historic record agrees with what Dr. Oliver is suggesting.

EVERGREEN: Mr. Zybach, is there an abundance of historic evidence that supports your criticism of the President's plan?

ZYBACH: You can literally measure the evidence by the pound, and I have collected several thousand pounds that I am now using in my research. The evidence divides itself nicely into four periods: The prehistoric period, beginning 12,800 years ago, and continuing to 1774; the early historic period, running from 1778 to 1859, a more recent historic period, which ran from 1860 to 1945; and the modern era, which began after World War II.

EVERGREEN: Let's take these periods one at a time. What evidence can you cite?

ZYBACH: The prehistoric record is revealed in pollen fossils, archaeological findings, scientific evidence of early cultures present in the region, tree ring analysis, and analysis of plant populations now living in environments they did not inhabit in the past. Here I should note that many of the scientific techniques used for analyzing this sort of information have been in use for more than 50 years.

EVERGREEN: Can you give us a specific example of evidence from this prehistoric period?

ZYBACH: Yes, I can. Jan Henderson, who is a plant ecologist with the Forest Service, wrote a paper in 1990 titled *Trends In Amount Of Old Growth Forest For The Last 1000 Years In Western Oregon And Washington*. His analysis of fire history records for the Mt. Baker-Snoqualmie

and Olympic national forests reveals a relatively stable 1,000 year trend in the amount of old growth. And his estimate for the year 2,000 is 40% old growth, a number that exceeds the average of his projections for the same areas between 1300 and 1800 A.D. Moreover, his estimates for old growth cover for three western Washington and five western Oregon national forests show increases in post-settlement old growth over the last century.

EVERGREEN: What do you conclude from Mr. Henderson's research?

ZYBACH: Two conclusions are possible.

First, there is more old growth now in some parts of the region than there was before white settlement began. Second, some things happened around 1650 that precipitated a significant amount of natural regeneration, as well as the generation of forests where none had been present before.

EVERGREEN: What do you think happened?

ZYBACH: There is widespread evidence of catastrophic wildfire, both in western Washington and in western Oregon. Some of these could have been million-plus-acre fires, and the on-the-ground evidence uncovered thus far indicates these were very

hot fires, a far cry from the gentle under burns hypothesized in the President's plan. More field work is needed before we can fully grasp the role these fires played in shaping this region's forests. In the absence of this information, it is not possible to make accurate predictions about future forest conditions, or what management strategies are needed to protect old growth forests.

EVERGREEN: What sources are available that describe more recent forest conditions?

ZYBACH: Well, we go next to the period beginning in 1778 and ending in 1859. This is an important period because it includes the so called "white settlement" and "pre-logging" periods specifically used to model the ten preservation alternatives presented to President Clinton. Here we find the "native forests" and "naturally functioning ecosystems" that are evaluated for each alternative as a basis for what the government's scientists called "an expected likelihood of achieving long term past conditions."

EVERGREEN: And what source material have you found for this period?

ZYBACH: In addition to the same sources that exist for the prehistoric period, we have qualitative descriptions written by some of the region's earliest explorers, including Robert Haswell, Lewis and Clark, Alexander Henry, David Douglas and the Wilkes Expedition. Their first-hand accounts of forests and peoples living here then present a much different picture than is presented in the President's plan.

EVERGREEN: Most of these people were not forest scientists. They were explorers.

ZYBACH: That's true, but their descriptive accounts match up quite nicely with our earliest scientific surveys of the region. We also have maps and notes from General Land Office surveys that began in 1851. Tree species were identified, measured for diameter and mapped at half-mile intervals. There are also descriptions of what grew beneath the trees, human developments, crops and general landscape features.

Perhaps the most interesting of all the old scientific sources I found is a U.S. Geological Service book titled *Annual Reports of the Department of the Interior, for the Fiscal Year Ended June 30, 1900*. It includes detailed forest inventory data, plus a beautiful set of full-color maps showing the distribution of various types of vegetation then growing in the region. These old



The photo, from the 1900 USGS report, was labeled, "Severe burn on mountain side." The location was not given, but the fire-killed snags appear to be quite small, and the stand quite dense, suggesting repeated burning.

A portion of the 1914 Oregon State forest type map

In 1914, Oregon State Forester, F.A. Elliott, allocated almost \$7,000—an amount greater than his annual salary and travel budget—to the “compilation and printing” of a state map.

Thirty-five years later, in 1954, John McWade a night dispatcher with the state forestry department, rescued the map from a trash bin. It survives today, and provides a wealth of information about forest condition, statewide, at the turn of the century. Among the map’s many details: the location and extent of prehistoric and historic fires, logging boundaries, commercial timber stands, successfully reforested areas, early roads, trails, telephone lines, towns and legal survey boundaries.

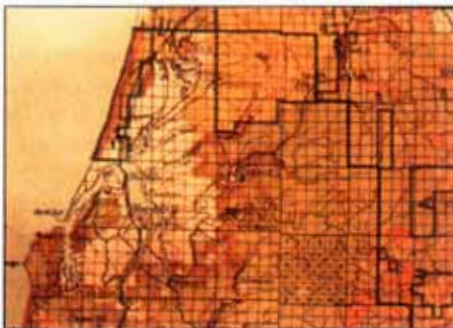
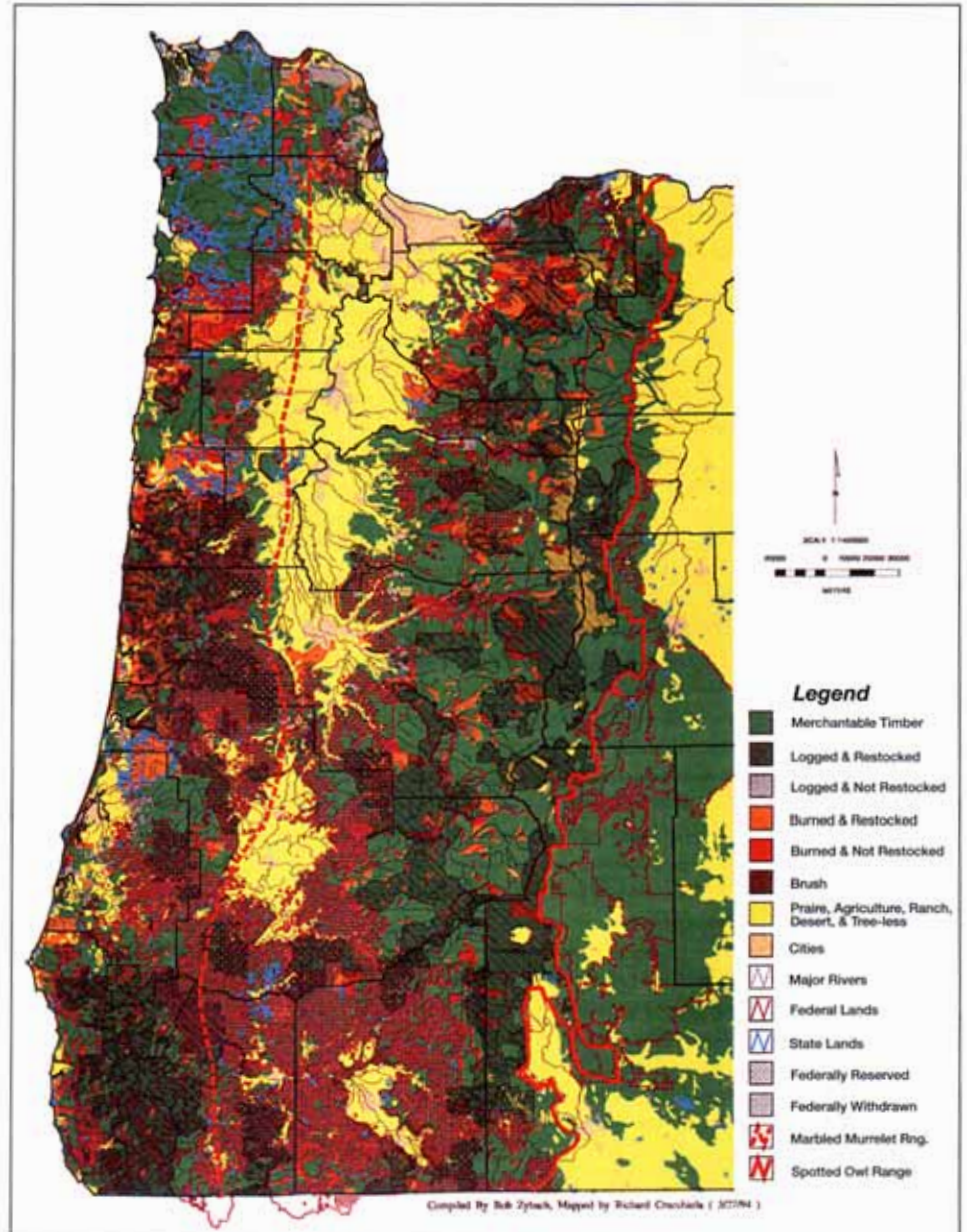
Like other historic records, the 1914 map depicts a much different forest than the sea of old growth timber repeatedly described in the Clinton forest plan.

Nearby, are color photographs of portions of the 1914 map, plus a digitized version of the map. The digitized map is somewhat confusing because too much information has been overlaid on a single display. For example, the green area designated “merchantable timber” includes all timber of varying age and species, including young second growth saplings and old growth timber. Areas that appear darker green are federally protected as habitat or wilderness.

Although this map is difficult to decipher, it does illustrate the power of computers—in this case geographic information system (GIS) technology—to integrate present-day scientific data, including high altitude satellite imagery—with earlier historic records, including photographs, maps and on-the-ground timber cruises done almost 100 years ago. Integration of past and current data could help land managers forecast a possible range of desired future conditions.

The area shown in the digitized map is bordered on the north by the Columbia River, on the south by the Oregon-California state line, on the east by State Highway 97 and on the west by the Pacific Ocean. The Clinton forest plan designates everything west of the solid red north-south line as spotted owl range, and everything west of the dotted red north-south line as primary marbled murrelet range.

The digitized map was prepared for illustration purposes by Richard Crucchiola, senior geographic information systems programmer for the Oregon State Service Center. Additional historic and technical data was supplied by Bob Zybach.



reports describe a much different forest than is described in the President's plan, and according to the plan, none of this data exists.

EVERGREEN: How could the government's scientists have missed this information, and how did you find it?

ZYBACH: I can't speak for the government's scientists. I have a library card.

EVERGREEN: Are there other recent sources that describe a different history than that described in the President's proposal?

ZYBACH: Yes, there are other sources, especially for the all-important 1860-1945 period. Here the evidence includes first-hand accounts written by the region's earliest professional foresters. These accounts were ignored or overlooked, as were literally thousands of historic photographs, early aerial photographs, tax records, land survey records and living memory accounts from diaries and newspaper stories written by people who helped settle this region.

EVERGREEN: Why do you say this period is all-important?

ZYBACH: Because it connects our earliest conifer plantations with an earlier time when forests reseeded themselves naturally. Also because historic records from this period could be used to document changes in wildlife habitat patterns and timber volume densities. Timber stands established during this period were all heavily modified by human actions, including a 1910 Congressional decision to start putting out forest fires, the demise of Indian cultures, farm clearings, fencing, grazing, excessive hunting, clearcutting and our earliest reforestation efforts.

These timber stands are our forests now, and many of them are being groomed to become the next generation of old growth, yet the government's scientists would have you believe these forests are the remnants of "naturally functioning, pre-settlement ecosystems." They aren't. They are creations of human actions and human interactions with nature.

EVERGREEN: So these aren't old growth forests?

ZYBACH: Again, it depends on how you define old growth. Some of these forests are truly old, and do meet the structural characteristics cited in one or more of the generally accepted definitions of old growth forests. But there are also prime second growth forests, and until the spotted owl came along, it had been assumed these forests would be managed forests,



Log jam in Montana's Blackfoot River, from the 1900 USGS report. This is the river the late Norman Maclean wrote about in *A River Runs Through It*. He learned to fly fish in the Blackfoot and considered it to be one of the finest trout rivers in Montana, a state noted for fine trout waters. He fished here frequently throughout his lifetime. The presence of these logs in a fine trout river - where they should not have been - bears witness to the resiliency of nature.

available for harvesting in perpetuity. Now we learn this is not the case.

EVERGREEN: What is the most important point you are trying to make here?

ZYBACH: That virtually all of the forests we see today in the Pacific Northwest are the product of human intervention or human interaction with nature.

EVERGREEN: But what about all of the one and two and three-log loads we've seen running up and down highways in the Pacific Northwest for the past 30 or 40 years? Surely these trees predate white settlement?

ZYBACH: Some of them probably do, but that does not prove the region was once a vast sea of old growth. An easier way to gain a perspective on the ages of forests is to simply count backwards.

EVERGREEN: For example?

ZYBACH: For example, forests that were 200 years old in 1950 were only 50 years old when white settlement began. It would be a real stretch to say a 50-year-old for-

ests growing at the time white settlement began was old growth. Therefore, its subsequent development into commercial old growth timber may well have been a function of settlement, rather than any other naturally occurring event. A region-wide inventory of tree rings on the stumps of trees cut during the past 50 years is needed to quantify the cumulative impacts of logging and fire suppression in old growth forests. School children could do this work. So could unemployed loggers.

EVERGREEN: Earlier you mentioned a set of full color maps that were part of a 1900 U.S. Geological Survey report. What do these maps reveal?

ZYBACH: The maps indicate that in the early 1800's, when white settlement began in the region, significant portions of what is now spotted owl habitat contained only small amounts of trees 200 years old or older, perhaps no more than five or ten percent. These maps also indicate southwest Oregon was much more open than it is presently. Pioneer diaries support this fact, and it is known that early settlers

VOICES

In The Forest

Instead of finding an uninterrupted forest carrying 100,000 feet or more per acre reaching from the Cascades to the Pacific, the first settlers 75 years ago (1840) found in the valleys great areas of “prairie” land covered with grass, brakes or brush which were burned and kept treeless by the Indians, and mountain sides upon which forest fires had destroyed the mature forest and which were then covered by “second growth” of Douglas-fir saplings or poles.

Thornton Munger, forester, 1916, from “The Productive Capacity of The Douglas Fir Lands of Western Oregon and Washington,” *The University Of California Journal of Agriculture*, Vol. 4, No. 3

The leading features of the Willamette Valley and the Tualatin plains were peculiar and strange to me as compared with any other country I had seen. Among the striking peculiarities was the entire absence of anything like brush or undergrowth in the forests of fir timber that had sprung up in the midst of the large plains, looking at a distance like green islands here and there dotting the vast expanse of vision. The plains covered with rich grasses and wild flowers looking like our vast cultivated fields, and where the rolling foothills approached the level valley these spurs would be sprinkled with low spreading oak trees, frequently with a seeming regularity that would seem unlike nature’s doing, and at a distance like orchards of old apple trees.

James Neall, 1888, *A Down-Easter in the Far West: The Reminiscence of James Neall in Oregon and California, 1845-50*, memoirs originally written to his niece, Abigail Rowell Tredick, printed in 1977 by the Oregon Book Society, Ashland

In larger burns, islands of timber along streams and in protected canyons often escape destruction. These supply seed to restock interior portions of the burns. Thus natural restocking following a single burn is the rule unless the fire be very large or severe. Each subsequent fire, however, greatly decreases the opportunity for natural reforestation. The interior islands of living trees, which escaped the first fire, are likely to be killed by the second, the existing seedlings are killed, and conditions made much less favorable for the establishment of seedlings from any seed that may reach the area.

Julius Kummell, Charles Rindt and Thornton Munger, 1944, *Forest Planting in the Douglas-Fir Region*, USDA, Forest Service

In the old days, there were vast areas where the Indian women burned in the morning of late summer and early fall. These areas were like gardens, kind of like the Garden of Eden that was described by the early pioneer people who came from Europe to the land...the landscape that people saw when they came from Europe was a landscape that was literally an expression of the culture of Indian people. When we talk about restoring the culture of the ten tribes I work with, we’re talking about restoring the land as part of restoring the culture. There is absolutely no separation between the way the landscape looked in pre-contact times, the species composition and the structure of that forest, or that prairie, and the cultural needs and expressions of the Indian people. The land was an expression of the culture, as much as the arts and crafts and ceremonies.

Dennis Martinez, 1993, “Land and Culture”, *Winds of Change: American Indian Education and Opportunity*, Vol. 8, No. 1

On the way, they met an old squaw, with a large firebrand in her hand, with which she had just set the grass and bushes on fire; when surprised, she stood motionless, and appeared to be heedless to any thing that was passing around here...there were no other Indians in sight.

Charles Wilkes, 1845, *Narrative of the United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842*, Vol V

What would the forests of southwestern Oregon and northwestern California have looked like if no timber harvesting had ever taken place? We need only look at places where old growth has been undisturbed. We could assume that these remaining old growth stands are “natural,” except that two significant historical factors are missing: indigenous people and periodic low-intensity fires. Both have been legally excluded from forests.

Dennis Martinez, 1993, “Land and Culture”

This Country must be thickly inhabited by the many fiers we saw in the night and collums of smoak we would see in the day time and a delightful country thickly inhabited and Cloathed with woods and verdure with maney charming streems of water gushing from the vallies”

Robert Haswell, 1788, “Captain Robert Gray’s First Visit To Oregon,” *Oregon Historical Quarterly*

The woods are on fire below and above us (in Oregon City) and we are enveloped in smoke. We have had no rain during the last six weeks. Probably there will yet be two months without rain. There is some danger from the fire, it is so dry. Much timber is destroyed. The heat and dust are very trying during the day, but the nights are always cool and refreshing.

Reverend George Atkinson, from his diary, July 30, 1848

The forests of the north Pacific coast offer an exception to the law otherwise general, for this continent at least, that a change of forest crops follows a forest fire. The fir forests of western Washington territory and Oregon when destroyed by fire are quickly replaced by a vigorous growth of the same species, and the fires which have consumed great bodies of the California redwood have not prevented the reproduction of these species by seeds and shoots.

Charles Sargent, 1880, *Report On The Forests Of North America, Exclusive of Mexico*, U.S. Department of Interior, Census Office, Washington, D.C.

In some cases, however, and especially in the largest burns, the work of reforestation has made little progress, owing probably to the difficulty of reseeding large burned areas. Since over many square miles all of the trees were killed, the seeds of a new crop have had to come from outside the region, and hence the seeding process has been slow. Areas are reported which were burned twenty-five and fifty years ago in where there is no vegetation larger than brush or ferns, trees of any species not yet having obtained a foothold.

Henry Gannett, 1902, *The Forests Of Oregon*, U.S. Geological Survey, Professional Paper No. 4, Series H, Forestry, 1; Washington, D.C.

Fires have widely ravaged the region examined. There is not a single forested township either on the west side or on the east side of the Cascade range in which the timber is not more or less fire marked. Without much doubt the present agricultural areas, once grass covered and carrying scattered stands of oak, were burned over quite as extensively as the timbered tracts; at least there are a few oaks that do not show fire marks. The only tracts that

have escaped are the swampy sedge and tule-covered areas bordering the Klamath lakes and marsh, and such spots at the higher elevations where bare lava or pumice fields made the spread of fire impossible. Of the forest area examined, comprising in round numbers 3,000,000 acres, a total of 2,975,000 acres or 99.992 per cent are fire marked.

John Leiberg, 1900, "Cascade Range Forest Reserve, Oregon, From Township 28 South To Township 37 South, Inclusive, Together With The Ashland Forest Reserve And Adjacent Forest Regions From Township 28, South To Township 41, South, Inclusive, And From Range 2 West To Range 14 East, Willamette Meridian, Inclusive," *Twenty-First Annual Report Of The United States Geological Survey, Part V, Forest Reserves*, U.S. Department of the Interior, Washington, D.C.

Prairie soils, enriched by billions of decomposing grass roots, over thousands of years and protected from tree invasion by fire, grew the wheat and corn that fed America and a good part of the rest of the world. These soils also fed the European livestock that sustained the invaders. To deny this considerable contribution to the economic welfare of European peoples of North America is also to deny Indian people their place in the history of this continent.

Dennis Martinez, 1993, "Land and Culture"

We also took on board a considerable quantity of fine spars, for the Chinese market, where they are very much wanted and of course proportionately dear. Indeed the woods of this part of America are capable of supplying with these valuable materials all the navies of Europe.

Captain Meares, 1788, quoted from *General History Of Oregon*, Charles Carey, 1922

Reforestation is indispensable as insurance. Let us see to it that the untillable hills shall ever bear these matchless forests, emerald settings for our snow peaks. On their future depends, in great degree, the future of the Northwest.

John Williams, 1912, *The Guardians Of The Columbia*

At the time Cow Creek valley looked like a great wheat field. The Indians, according to their custom, had burned the grass during the summer, and early rains had caused a luxuriant crop of grass on which our immigrant cattle were fat by Christmas time...Fortunately in our case the land was ready for the plow. There was no grubbing to do. In all the low valleys of the Umpqua there was very little undergrowth, the annual fires set by the Indians preventing young growth of timber.

George Riddle, 1851, "History Of Early Days In Oregon," a series of articles by *The Riddle Enterprise*, 1920

Pollen analysis of...west central Oregon shows that postglacial forest succession differed from that in the Puget Sound region. This may have been due to the existence of forests in the Coast Range of Oregon during the latter part of the Pleistocene, and the occurrence of many periodic holocaustic fires during postglacial times.

Henry Hansen, 1941, "Paleoecology Of A Peat Bog In West Central Oregon," *American Journal Of Botany*, Vol. 28

At that time, there was not a bush or a tree to be seen on all those hills, for the Indians kept it burned over every spring, but when the whites came, they stopped the fires for it destroyed the grass, and then the young spruces sprang up and grew as we now see them.

Warren Vaughn, 1890, *Early Settlement Of Tillamook County*, unpublished memoirs by a Tillamook County settler, 1851-1867, typed manuscript provided by a staff member, Hebo Ranger District, Siuslaw National Forest

I think the largest single need in American forest biology is the study of man's relation to forest land. Our foresters need to understand much more than most of them do about purely human motives and aspirations with respect to the land. They ought to become genuinely knowledgeable and respectful of people's economic, social and aesthetic institutions.

Hugh Raup, quoted from Benjamin Stout, 1981, *Forests In The Here And Now: A Collection Of Writings Of Hugh Miller Raup*, Bullard Professor Of Forestry, Emeritus, Harvard University

chose the valleys that parallel the Interstate 5 corridor because these valleys were open and could be tilled with a modest amount of clearing.

EVERGREEN: How do you explain all of the old postcard photographs showing entire logging crews standing on single stumps large enough to hold a dozen men?

ZYBACH: There are still trees this big in some areas, particularly along the coast where growing conditions are ideal. But these trees were exceptions, not the norm. It often took days to fall a single tree of the size you describe. Early day sawmill records indicate most trees sawn were from 75 to 200 years old, depending on the species. These trees were not the huge old trees you see in photographs. Also, it is important to remember size can be deceiving. I have a photograph of a felled tree that is five and one-half feet in diameter at its base. It was 112 years old. I know because I counted the rings.

EVERGREEN: How much old growth do you think there was in the Pacific Northwest at the time white settlement began?

ZYBACH: In my critique of the President's plan, I estimated that from 5% to 38% of the region contained trees 200 or more years old. Based on my own research, I would also estimate the region's forest "blanket" is 10% to 20% larger than it was 150 years ago, with most of the increase due to the growth of forests in areas once occupied by old burns, prairies, savannas and meadows.

EVERGREEN: Can we assume there is more old growth in the region's forests now than there was before white settlement began?

ZYBACH: Not really. Historic records can be used to support a view that there is less old growth or a view there is more old growth. It depends on which old growth definition is used and which tree species are considered. What is true is that there

will be more old growth in the future as more so-called mature timber stands begin to take on the definitional characteristics of old growth.

EVERGREEN: Let's go back to your earlier statement about forests invading areas that were once prairies and savannas. How did this happen?

ZYBACH: The prairies and savannas were largely a product of Indian cultural fires, which ended about the time white settlement began. Later, farm tractors replaced draft animals, and horses gave way to the automobile. Pasture land was abandoned and in the absence of fire, trees invaded the old pastures. The migration from rural towns to cities began, and we started putting out forest fires. The combination of these events allowed forests to spread over once open landscapes. These same events also allowed forests to grow more dense, with much larger accumulations of underbrush and dead woody debris. This



Washington log and loggers, circa 1925, a postcard sent from Kelso, Washington by Paul Petersen, a millwright, to his young son, Darrell. Back then, big logs like this were usually burned in steam donkeys because saw mills were not yet able to handle them. Smaller logs were preferred because they were more easily turned into cord wood, railroad ties and bridge timbers. (Jim Petersen collection)



The caption for this photograph from the 1900 USGS report reads, "Common method of hauling yellow-pine logs to sawmill." Compare the size of these logs with the log and loggers shown in the nearby 1922 postcard. Early sawmill records indicate logs of the size shown on the postcard were the exception rather than the rule. Most of the earliest logs were turned into railroad ties, mine timbers, firewood and bridge pilings, products best made from smaller trees. Besides, the equipment needed to transport the largest logs to mills did not yet exist, and they were frequently burned as fuel in "steam donkeys," steam powered machines used to drag logs from hillsides to railside.

is why the risk of catastrophic fire is becoming so great in the region's forests.

EVERGREEN: This question is unrelated to your critique of the President's plan, but what do you think of the idea of re-introducing fire in these forests to clear out the deadwood?

ZYBACH: I suppose it is possible in some places, and indeed this is talked about in the President's plan, but we have millions of acres where woody debris accumulations are simply too great to be burned safely. Tree thinning would be less risky. Also, my guess is the fires the government's scientists want to set will be judged violations of the Clean Air Act.

EVERGREEN: Let's go back to errors in history. How do we square your historic perspective with the oft-repeated claim

that harvesting has so fragmented the region's forests that wildlife has become isolated on islands of trees that are all that remains of what was once a sea of old growth?

ZYBACH: You can't square this claim with what history records because the sea of old growth never existed. Several early pioneers wrote vividly about the "green islands" of trees they saw that dotted vast savannas in the present day Tualatin and Willamette valleys. The still unanswered question is, "Can islands of trees created by logging provide the same type of wildlife habitat as islands of trees created by wildfire and Indian fire in the pre-settlement era?"

EVERGREEN: What does your research reveal about the impact of Indian fire on pre-settlement forests?

ZYBACH: I'll get right to the point. If the

government's scientists were to construct an accurate portrayal of Indian land management practices, their sea of old growth myth would vanish in a puff of smoke. The fact is Indians regularly burned the landscape to create garden-like settings, which were quite clearly described by early white settlers. Indians used fire to create and maintain vast wildlife habitats, yet these habitats are not even being considered in today's ecosystem management discussion. Indian fires also minimized the amount of dead woody debris present in pre-settlement times, reducing the risk of catastrophic fire.

Denying that this happened, on the scale that it happened, is denying the obvious. Until Indian impacts on this region's forests are fully discussed and understood, there is no way the government's scientists can mimic, restore or maintain past

forest conditions they write about in such glowing terms.

EVERGREEN: Is there much in the way of specific information about actual forest conditions that existed before white settlement began?

ZYBACH: Yes there is, and if you study the evidence as I have, the idea that we should be managing forests along more natural geographic lines, rather than property lines, begins to make sense.

EVERGREEN: What do you mean?

ZYBACH: I mean that natural forest conditions appear to define themselves, and their differences, on a landscape basis, and for purposes of definition, I define a landscape as a major river drainage.

EVERGREEN: So you are saying that differences in forest landscapes are most noticeable as you go from one major river drainage to the next?

ZYBACH: That is certainly the case in western Oregon and western Washington. One major reason these drainages defined differences in forests is that they frequently formed major barriers to human-caused fires. Even big fires burn best uphill, and when they get to the tops of mountains that border major drainages, they generally lose their momentum. This pattern helps explain why we usually find pockets of truly old trees in the bottoms of canyons where they were protected from high winds and big fires.

EVERGREEN: But what specific information have you found that gives us a glimpse of forests that were here years ago?

ZYBACH: In 1914, Oregon state forester, F. A. Elliott, commissioned development of a map of the state. The map still exists, and it provides a one-of-a-kind view of Oregon's forests at the dawn of the age of the automobile. The extent of prehistoric and historic forest fires is shown, as are logging boundaries, commercial timber stands, successfully reforested areas, early roads, trails, telephone lines, towns and legal surveys. It is a unique view of pre-World War I Oregon, as seen from the air.

EVERGREEN: What can we learn from this map?

ZYBACH: We can learn a great deal about the type and location of fire-dependent and fire-tolerant plant species, and we can learn a good deal about where harvesting had occurred, where forests have been replanted, where merchantable timber was located, which lands had not been replanted after harvest, and where brush was

dominant. In short, what we have is a detailed vegetation type map. Things get even more interesting when you compare this map to earlier historic accounts describing forests.

EVERGREEN: And you have done this?

ZYBACH: Yes, I have, and our earliest historic writings correlate nicely with what the 1914 map shows.

EVERGREEN: Tell us more about these early historic writings.

ZYBACH: We have tree measurements taken along the Columbia River in northwest Oregon by Lewis and Clark in 1805 and 1806, David Douglas in 1825 and 1826, and by the Wilkes expedition in 1841. We know Indians burned less frequently in this area, and the result was a towering forest of Douglas-fir, cedar and hemlock. Those who lived here were more dependent on fish. Today, corporate tree farmers own most of this forest land.

We know also that the Oregon Coast Range, extending south to the middle fork of the Coquille River, included vast stands of even-age, nearly pure Douglas-fir. This area was the scene of some of the largest and hottest fires in history and produced some of the fastest growing conifers ever measured. Indian cultural fires had a profound influence here. One of our earliest accounts describing Indian fires is from a daily journal written in 1788 by Robert Haswell, an officer on the *Washington*, Captain Robert Gray's fur trading sloop. Today, this landscape includes the Elliot and Tillamook state forests, BLM-managed O&C lands, and Siuslaw National Forest.

We also have accounts describing the interior valleys, including the Sacramento, Rogue, Umpqua, Willamette and Puget. Here Indians burned hundreds of thousands of acres annually, and the result was a nearly contiguous series of great prairies and oak savannas extending almost the entire length of the Cascade Mountains. Our earliest descriptions of these areas were written in about 1826. Today, ownership here is concentrated in agriculture, urban development, private second growth tree farms and O&C lands.

The same kind of information exists for all of Oregon and Washington, including the national forests now identified as critical habitat for the northern spotted owl.

EVERGREEN: Are there any references to the 1914 map in the President's plan?

ZYBACH: No, there aren't.

EVERGREEN: How about these other documents you've talked about, the old

forest inventory records, the diaries, the photographs, anything?

ZYBACH: None of this is mentioned in the President's plan. It is no wonder so-called pre-settlement forest conditions described by the government's scientists are much different than what is described in actual history. They didn't do their homework.

EVERGREEN: What kind of forest do these scientists describe?

ZYBACH: A sea of old growth, functioning naturally in perfect harmony, always moving toward a state of equilibrium. Scientists began to discard this notion 50 years ago, and to replace it with a belief that nature exists in a state of constant change, if not constant turmoil. This has certainly been the case here in the Pacific Northwest, where fire has been the dominant natural force in shaping forest landscapes.

EVERGREEN: Have there been other kinds of natural or non-human disturbance that have helped shape the region's forests?

ZYBACH: There certainly have been. Catastrophic floods, hurricane-force winds, widespread insect outbreaks, volcanic eruptions, massive landslides, beaver ponding and climate changes have all influenced the character of our forests, and thus the location and sizes of various wild-life populations.

EVERGREEN: Are the effects of these disturbances discussed in the President's plan?

ZYBACH: There is barely a mention.

EVERGREEN: Based on your research, what can you tell us about these disturbances?

ZYBACH: Geologic records show that the Willamette Valley filled with water perhaps 50 to 100 times between 15,000 and 12,800 years ago; and we know that about 12,800 years ago, one of the greatest floods in world history roared down the Columbia from melting ice fields in Montana. Soil deposits left by floods account for the flattened topography of today's Willamette Valley.

Pollen counts, taken from trees that died thousands of year ago, reveal a history of changing landscape patterns in western forests. Great winds also significantly altered the landscape, as did big fires. These winds include the 1962 Columbus Day storm, the "Big Blow" of 1921, and other major windstorms in 1788, 1880, 1895, 1923, 1961, 1979 and 1981.

Snow was also a big factor. The snows



Summit of the Siskiyou Mountains, near Sterling Peak, from the 1900 USGS report. In memoirs written to his niece in 1888, Oregon pioneer, James Neall, described, "...the entire absence of anything like brush or undergrowth in the forests of fir timber that had sprung up in the midst of large plains, looking at a distance like green islands here and there dotting the vast expanse of vision." What he was describing were scenes like this one - forests amid prairies and savannas, created by Indians who burned the land regularly to prevent forests from spreading into open areas frequented by deer and elk, which the Indians hunted.

of 1861, 1881, 1882, 1936 and 1937 wiped out huge livestock herds grazing in the Willamette Valley. With fewer animals to keep the prairies clear of underbrush, Douglas-fir spread into hillside pastures.

We also have evidence of long periods of drought, beginning in 1717. Sustained drought patterns correlate nicely with major forest fires that burned throughout western Oregon.

If you add these up - the winds, snows, droughts and floods - you have a substantial amount of natural disturbance within what is now the range of the northern spotted owl. But for reasons that are never explained, the President's plan ignores

these natural events, and their impact on forest habitats present in forests today.

EVERGREEN: How do you think fires occurred in pre-settlement times?

ZYBACH: I am not a proponent of the idea that fires came and went in cycles. Keep in mind that cultural fire was a daily occurrence in this region for thousands of years. Indians cooked on these fires, and they warmed themselves with fire. They also burned seasonally, in the spring and the fall, to clear away trees and underbrush and to stimulate the growth of wildlife forage. What this means is that there were constant sources of ignition. It is reason-

able to assume many of the catastrophic forest fires for which we find evidence were probably set by Indians intent on clearing land, controlling the spread of Douglas-fir, and creating habitat for wildlife.

EVERGREEN: What does this record of natural and human-caused catastrophe tell you about spotted owls?

ZYBACH: I'm no wildlife biologist, but common sense tells you owls are survivors, able to adapt to a wide range of constantly changing forest conditions. I recently read that some of the highest reproductive rates thus far recorded for owls were on private industrial tree farms.

EVERGREEN: Is there evidence humans have been affecting wildlife habitats for a long time?

ZYBACH: There certainly is, but with the exception of logging, the government's scientists virtually ignored the impacts of 11,000 years of human influence on wildlife. Yet these disturbances clearly contributed to the extirpation or extinction of many wildlife species, including grizzly bears, camass, lampreys, deer, elephants, camels, giant sloths, and giant beavers that were hunted by Paleoindian hunters during the last 11,000 years. Human disturbance also contributed to the introduction of other species now considered to be a part of the wildlife population, including bullfrogs, elk, bachelor buttons, orchard grass, opossums, many introduced tree species, and even rainbow trout.

Amazingly, the only human disturbance discussed in the plan is logging, and what is written reveals a deep-seated anti-logging bias and a poor understanding of natural history.

EVERGREEN: Explain what you mean.

ZYBACH: Well, you can start with the President and Vice President, and the prepared statements they read at the timber

summit. Both men talked about "precious old growth forests" that "once destroyed can never be replaced" and are "gone forever." Whose information are these views based upon and why have they been so completely accepted? There is little evidence in human or natural history to support these viewpoints. This rhetoric is based on very selective use of information that supports a romantic vision about what pre-settlement forests looked like.

EVERGREEN: Are you suggesting logging has had no impact on this region's forests?

ZYBACH: No. Flat out, no. Logging has had a profound influence on the structure and extent of the region's forests.

EVERGREEN: Give us some examples.

ZYBACH: Commercial logging began in the Douglas-fir region at least two generations before white settlement began, probably in 1788 on Vancouver Island. Then, in 1810, a fur trading company cleared trees in the Astoria area; and in 1827, the Hudsons Bay Company built the first commercial sawmill west of the Mississippi near Fort Vancouver. None of this history is mentioned by the government's

scientists. Instead, we are told white settlers burned forests or hacked them down to clear land for farming. This is simply not true. Early white settlers regularly avoided forests in favor of prairies because the prairies were ready for plowing. These prairies were, of course, a product of the Indian cultural fires the plan minimizes.

EVERGREEN: So what is your point?

ZYBACH: My point is simply this. Without a clear idea about why logging took place, where it took place and when it occurred, it is impossible to understand or measure its long term effects. By completely ignoring the beneficial aspects, and by misrepresenting the role of logging in northwest history and culture, the government's scientists set the stage for a plan that is biased against logging.

EVERGREEN: What benefits do you believe logging has produced in the region's forests?

ZYBACH: Again, you need to understand the great difference between forests described in the President's plan and forests described by people who actually saw or lived in these forests.



Fire-killed alpine hemlock, noble fir and lodgepole pine, near the headwaters of the North Fork of the Rogue River, from the 1900 USGS report. Not much in this picture hints of giant trees or a vast sea of old growth timber. There were, and still are, some very large trees in this area. They got big by surviving repeated fires, caused by lightning or set by Indians.



Yellow pine stand along the east side of the Williamson River in the upper Klamath River Basin, central Oregon, from the 1900 USGS report. Note the lack of brush beneath the trees. Fire kept the ground clean and the grass growing.

The plan strongly suggests clearcutting creates even-aged stands of young trees that represent an alien and impoverished environment for wildlife populations. In a report he helped write in 1988, Dr. Jerry Franklin, who led the government's scientific team, wrote, "In the early part of this century, most of the forested area west of the crest of the Cascade Range was covered by old-growth forests consisting of Douglas-fir, western hemlock...and several other large, long-lived conifer species. Most of these forests were probably more than 300 years old and many exceeded 750 years."

Dr. Franklin's repeated use of the word "most" suggests to me that he believes more than half the region's forest land base was covered by old growth at the turn of this century, and that most of this turn-of-the-century forest was about 400 years old. He is not even close. There is not a chance in the world the forest he describes has existed here in the past 10,000 years.

EVERGREEN: That's pretty tough talk for a graduate student.

ZYBACH: Again, the historic record

speaks for itself. Thornton Munger, who was the first renowned forest scientist to live and work in this region, described a much different forest in a report he wrote in 1940. Listen to what he said. "The paths of the great forest fires of the last century or two are plainly marked by even-aged stands, consisting to the extent of at least 90 per cent of Douglas-fir, regardless of the proportion of Douglas-fir within the original fire-killed stand."

EVERGREEN: What does this mean?

ZYBACH: It means that, as far back as 1740, well before the beginning of white settlement, there is an obvious and measurable history of catastrophic forest fires that have had an impact on wildlife habitat, and it means much of the habitat that was present was in even-age Douglas fir forests the government's scientists apparently believe to be harmful to wildlife.

EVERGREEN: And what does Mr. Munger's writing have to do with the impacts of logging?

ZYBACH: The forests Munger described covered a significant portion of the Dou-

glas-fir region, including most of the habitat that is being designated for spotted owls and marbled murrelets. The nearest modern approximation of prehistoric patterns of fire and reforestation have been large-scale industrial clearcuts that were followed by broadcast burns and successful replantings of Douglas-fir.

These practices produce an almost immediate increase in foliage and protein at the earth's surface, providing important sunlight, habitat and food for many mammals, birds, fish, wildflowers, butterflies and other native flora and fauna. In other words, these forest practices - clearcutting, burning and replanting - result in an immediate increase in plant diversity, which as I understand it, is a major goal of the President's plan.

EVERGREEN: Are you suggesting large-scale clearcuts can be used to approximate forest conditions created by large-scale wildfires and other catastrophic events?

ZYBACH: Clearcutting, broadcast burning and reforestation can be used to closely approximate natural processes by which most old growth stands were first created. Yet there is not a single option in the President's plan that suggests using these tools to rejuvenate diseased or fragmented forests. In fact, these tools are rejected, again revealing a bias against these practices and the people who use them.

EVERGREEN: But wouldn't this sort of logging harm wildlife species that depend on old growth forest habitats?

ZYBACH: This assumes such a cause and effect relationship existed in the past, and there is no evidence in history to support the idea that destruction of old forests, by any means, has caused the extinction of so-called old growth dependent species. Also, it must be remembered that old growth environments present today are much different from old growth environments present when white settlement began. Unfortunately, there is little scientific research that quantifies these differences, and they are almost totally ignored in the President's plan.

EVERGREEN: Are there other important oversights in the President's plan?

ZYBACH: It is apparent the plan's authors don't know much about the history of logging in the northwest, and it shows in what they wrote. There is, for example, a belief that reforestation only became an accepted practice in the northwest 30 or 40 years ago, and a similar belief that concern for overcutting developed in the 1970's with an influx of people fleeing cities.

EVERGREEN: And this isn't true?

ZYBACH: No, it isn't. There was widespread concern for forests extending as far back as 1880 when railroads moving west were consuming about 60 million ties per year. What is interesting about written reports from this time is that the concern was not for old trees, but for millions of acres of young trees that had escaped fire, only to be turned into railroad ties. Repeated references to young trees suggests to me there was a large amount of second growth logging going on before 1900. Survey maps and old photographs support this idea.

EVERGREEN: But were these forests replanted, or were cutover lands simply abandoned?

ZYBACH: Some lands were left in pretty bad shape, but reforestation work began in the northwest long before any of the government's scientists were born. Local planting of Douglas-fir and cottonwood began in the 1850's, and the first commercial planting was done in 1901 by the Willamette Pulp and Paper Company. The U.S. Forest Service started its artificial seeding program in 1908, and the first federal conifer nursery was established in 1910, and tree planting began the same year on the Siuslaw National Forest. By the 1940's, reforestation and forest research work were both firmly established in the northwest. Again, none of this is

discussed by the government's scientists, who would have us believe concern for forests is new to the northwest culture. It isn't. Investments in forests and forestry date back to the 1800's.

EVERGREEN: What would you say is the most glaring inadequacy in the President's plan?

ZYBACH: Well, there are many, but I think the greatest inadequacy is revealed in a total lack of understanding of the historic relationship between this region's forests and the people who have lived here for the past 11,000 years.

Several years ago, a man named Hugh Raup, who was a forester and biologist, and taught at Harvard University for many years, wrote something about forest biologists that I believe now explains perfectly why the government's scientists have failed the President and the public. I'd like to read it to you.

EVERGREEN: Please do.

ZYBACH: Mr. Raup wrote, and I quote, "I think the largest single need in American forest biology is the study of man's relation to forest land. Our foresters need to understand much more than most of them do about purely human motives and aspirations with respect to the land. They ought to become genuinely knowledgeable and respectful of people's economic, social and aesthetic institutions."

EVERGREEN: What does Mr. Raup's writing mean to you?

ZYBACH: It means it is impossible to separate land from people. They exist together, as one culture. The government's scientists are trying to separate people from land they and their ancestors have occupied and worked for generations. This is not science. It is cultural engineering, and it is morally and ethically wrong. Moreover, it is environmentally dishonest.

EVERGREEN: What do you think will happen in the region's forests if the President's plan is implemented as proposed?

ZYBACH: I share the concerns of Dr. Oliver and other forest scientists who fear catastrophic wildfire. There is a tremendous amount of dead and dying material in our forests today, a partial result of the long ago made decision to put out wildfires. If these forests are not thinned, you will see wildfires reminiscent of the Tillamook burn, the 1910 fires and the Yellowstone fire. I don't think the public is willing to accept the loss of life and the loss of forests associated with fires this big, and it will not matter to most people that the government's scientists think these fires are "good" because they are "natural."

EVERGREEN: What do you think about the idea that we should return the region's forests to pre-settlement conditions?

ZYBACH: That's a policy question best answered by the general public. But I can tell you this. The pre-settlement conditions the government's scientists have described are not the pre-settlement conditions seen by people who lived here 150 to 200 years ago. Thus, the management plans these scientists want to implement will not produce conditions that existed here when white settlement began. Apart from this failing, I don't find anything wrong with the idea that we should be managing forests in ways that mimic natural processes. Forestry provides the tools we need to do this, but the plan presents a clear bias against these tools, and to mask their bias, they have made up a story about what forests looked like before white men came here. The story isn't true. It is based on a romantic notion that leads people to believe they have few options for protecting forests. That's not true either. We have many, many more options for managing this region's forests than the few that are presented in the President's plan. ■



A section of old growth on Grayback Creek, Siskiyou National Forest, 1993



Forest Of Voices

Irrigation water has turned much of the central Oregon desert into productive farmland. Those who traveled here by covered wagon never saw anything like this. (BPA photo)

“Forest Of Voices,” takes its name from an essay by Chris Anderson, an Oregon State University English professor. It is from *Edge Effects: Notes from an Oregon Forest*, a book of Mr. Anderson’s essays, published last November by the University of Iowa Press.

This particular essay was originally published in the Fall, 1993 issue of *The Georgia Review*, a University of Georgia literary quarterly. It is a most thoughtful piece of writing on a most controversial subject: forestry.

Perhaps more than anything else, “Forest of Voices” is a story of discovery. In it, Mr. Anderson comes face to face with what forests are and forestry is. And as the title implies, there are voices in this story, as there are in every other story in this issue of *Evergreen*. Here, the voices belong to foresters and forest scientists, and we learn early on that the chief difference between them is that foresters are practical people, and scientists live in more theoretical realms.

Mr. Anderson’s journey of discovery begins after he learns the Oregon State University College of Forestry plans to

harvest trees from its McDonald-Dunn Research Forest, which lies next door to his house. Out of concern for the outcome, he joins the Sustainable Forestry New Paradigm Working Group at OSU, and the journey begins. Along the way, he meets Bob Zybach, who is the main character in his story, as well as our own story of similar name.

This is fine writing, done by a gifted and perceptive writer. “What I was to learn over the course of one summer - interviewing forestry faculty, tromping through the poison oak, and driving the logging roads - the forest I live near is a forest of voices, of language and ideas.”

Mr. Anderson learned the same things from Bob Zybach that we learned: there used to be prairies where many of this region’s forests now grow. These forests are a product of settlement that began in the early 1800’s, when most of today’s big trees were no more than saplings.

“Yet as I was to learn, the forest is very much a latecomer; the prairie is much older, and in some sense, more original,” Mr. Anderson wrote after seeing the Applegate Trail for the first time.

“If I had looked up from my wagon a hundred forty years ago, I would have seen nothing but waving grass and an occasional isolated oak or fir. The forest I see now is the product of human intervention, existing in this form only because of the ecological impact of the settlers who flowed up the trail and into the valley.”

True to his craft, Mr. Anderson keeps an open mind about what he hears from the voices of his forest and manages to put his finger directly on a pulse that others have touched and doubted: the language spoken by foresters and forest scientists.

“Much of this language infuriates me,” he wrote. “Calling a stream “an open-water system,” as I heard a hydrologist do the other day, is not only silly but potentially dangerous. Concrete particulars tend to get lost in abstractions.”

And later, “treatments” and “prescriptions,” after all, are just euphemisms for cutting, for killing. We can’t finally trust any of this.”

In time, though, Mr. Anderson does come to trust the voices he hears, because they begin to sound rational, and he writes, “Deeper than that, hearing the

words and models and paradigms over and over again moved me beyond my initial naivete. The language kept showing me that the forest is a complex place - in part a human place - not just something to look at or find refuge within."

Along the way to discovery, the voices collide, as do wind and fire in *Young Men and Fire*. It happens when Mr. Anderson meets Jeff Garver, the manager of the McDonald Forest, whose job it is to accommodate OSU forest scientists listening for Nature's faintest voices.

The scientists who are doing the listening are Bill McComb and John Tappenieer. Mr. McComb, a wildlife biologist, and Mr. Tappenieer, a silviculturist, are both involved in research and teaching at OSU. The McDonald-Dunn Forest is their laboratory, and new forestry is their world.

"Talking with McComb over coffee one day on campus, with the murmur and clatter of the commons all around us, I was struck by how academic our conversation was, how abstract and literary," Mr. Anderson wrote. "The forest is like a poem to him, a complex text whose levels he reads. But the interpretive metaphors used by McComb and Tappenieer translate into the falling of real trees, the opening of real gaps."

When Mr. Anderson meets Mr. Garver, he discovers a man who is not entirely comfortable with the kinds of patchcuts that are replacing more traditional clearcuts. Even so, Mr. Anderson believes he is doing the best he can to accommodate the scientists, though he believes New Forestry is just "weird science," a product of minds that lack "real experience working in the woods."

"He thinks we need to be more practical," Mr. Anderson writes. "The brush left by the patchcut is a fire hazard; there's too much merchantable timber left on the sites; and the trees won't grow back anyway. The goal of the forest should not be research alone but the utilization of the available resources, as in any good commercial operation."

Mr. Anderson is to hear the same message from Bob Zybach, who uses history, rather than science, to drive home his points. And so we meet another voice, that of David Douglas, the Scottish botanist for whom Douglas-fir is named. Mr. Anderson quotes from Mr. Douglas' 1826 journal describing, "Country undulating; soil rich, light with beautiful solitary oaks and pines interspersed through it and most have a fine effect, but being burned and not a single blade of grass except on the margins of the rivulets to be seen."

Of the forest next door to his house, Mr. Anderson writes, "Probably the single most surprising fact about this forest is that one hundred fifty years ago McDonald-Dunn wasn't a forest at all. It was an oak savanna - a prairie extending as far as the eye could see with just a scattering of two or three oak or fir per acre."

The realization helps him to get comfortable with Mr. Zybach's well-known bluntness. He writes that Mr. Zybach would clearcut and burn a big part of the McDonald forest. It does not matter to him that this is a far cry from what Messrs McComb and Tappenieer have in mind for their research plots.

"It was great fun bombing around the forest with Bob, in my old Buick, debating for hours about what's natural and why

that matters, what's really true and what's the product of "academic self-interest, or the money of the funding agencies," Mr. Anderson wrote of his time with Mr. Zybach; and it is clear the two of them did a good deal of "bombing around."

Elsewhere this recalling. "It was there, Bob claimed, in the mid-seventies, just down the hill that Eric Forsman conducted his first spotted owl experiments as an Oregon State graduate student, coaxing the birds from the trees with mice. Consider that, Bob repeated: catching spotted owls - the symbol of old growth - near the site of a homestead where such trees have never been recorded, in a young forest rising from the last of a prairie long ago settled by pioneers."

And of Mr. Zybach Mr. Anderson

Keeping the forest underdeveloped

By Pat Durkin, *National Geographic*, For AP Special Features

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JAY, Vt. The "leaf peepers" as people up here call them are back for their annual revel of fall color. They poke along Route 242, snapping pictures of forest vistas and looking for places to eat.

It's the season New England restaurateurs and innkeepers wait for.

"One way or another, we all make our living from the forest," says Dennis Naughton, a tour company owner. "Like everybody else's, my business depends on it staying the way it is."

But will it?

The northern forest, a 26 million-acre tree belt across Maine, New Hampshire, Vermont and New York, could be in jeopardy. The forest-based economy, which has maintained the region's verdant wildness while much of the country has urbanized, is in decline.

Conservationists fear that the woodland, one of the largest underdeveloped stands of trees left in the contiguous United States, could give way to vacation-home development within a few decades.

Characteristically, environmentalists and business would feud over such an issue, as they have in the Pacific Northwest. But here all sides tend to agree: to save the forest, save the timber industry.

"If there's anything we've learned in hours and hours of testimony, it's that a healthy forest-based economy is good for the land," says Charles Levesque, executive director of the Northern Forest Lands Council, whose 17 members are charged with finding ways to preserve the woodlands.

If there is disagreement, it's about whether a crisis really exists.

"The nature Nazis have trumped up this issue to keep themselves in business," says Robert H. Whitney of Landvest, a Boston company that brokers big Northeastern land transfers.

"With few exceptions, I advise my clients to plan on managing their forest for timber," Whitney says. "People have lost their shirts trying to get these large developments off the ground."

For decades, timber and tourism have supported the million plus people who live between Maine's woods and New York's Adirondacks. More than 85 percent of the land has been privately owned for 300 years. It was owned first by farmers who left a century ago for less rocky soil to the West, and then by timber interests that have logged the land since it reverted to forests.

These same forests provided wooded



writes, "For him the forest is not a mosaic but a "time machine" with the past lives of its people recorded in vegetation patterns and old orchards merging now into fir, in hidden wells and pieces of tin, in arrowheads and fragments of flint - lives of ordinary people more admirable than the conspicuously consuming yuppies who now live on the forest's edge. Bob imagines the people of the past living in harmony with the land, quiet and slow, wiser than any computer-generated model."

In the end, Mr. Anderson keeps his own counsel, correctly concluding that the public can do whatever it wants with public forests, even if it means paying more for lumber, and paying to use campgrounds where camping has always been

free. As for the protagonists in the forest debate, there is enough arrogance to go around.

"We can decide, as a community, that our first goal for the forest should be education and research, not the generation of revenue—or we can choose to clearcut and burn 12,000 acres. Science imposes limits of fact; trees grow at certain rates in certain soils in certain climates; ecosystems function according to complex interchanges of energy. But these are facts to be interpreted, the basis of policies we need to construct. The history of the forest shows that it has always been cultured, shaped. It has been *made*. No policy can be justified on the grounds that it is pure." ■

playgrounds for the 70 million people who live within a day's drive.

The first indication of trouble came 10 years ago with the collapse of Diamond International. The giant timber company, with land holdings of 1.7 million acres in Maine, New Hampshire and New York, was acquired by James Goldsmith, a British financier.

Goldsmith dissolved Diamond and put the land up for sale. The property changed owners several times, winding up in the hands of two development companies five years ago. They subdivided the tracts, offering them as housing lots.

"It was a wake-up call," says Steve Blackmer, chairman of the Northern Forest Alliance, a Boston-based coalition of several dozen environmental organizations. "Everyone realized the beautiful forest they once took for granted could fragment into roads and second homes."

Environmentalists mobilized, persuading Congress to create the lands council in 1990. Those involved assumed that the council's job would boil down to mediating an argument among factions.

The council's consensus - that the timber industry keeps the land wild - surprised many. The idea has caught on, unifying land owners, environmentalists, government officials and scientists.

"Timber harvesting produces jobs for the people who live up here and ensures that the forest is kept from development,"

says Rainier Brocke, a wildlife ecologist at the State University of New York in Syracuse. "All of the new studies show that forests managed for timber produce excellent levels of biodiversity."

Even the controversial practice of clearcutting can benefit a forest," says Brocke. "It mimics nature's disturbance regime and gives you far greater diversity after a number of years," he tells *National Geographic*.

Far more threatening to northern woodlands, Brocke says, are cars that kill thousands of animals each year, tree diseases that threaten to eradicate major food sources for wildlife, and fire-suppression practices that prevent nature from periodically revitalizing the soil.

The biggest problem facing the forest lands council is how to rejuvenate the northeastern timber industry, which is gradually abandoning the area for the Southeast, where timber grows faster and production costs are lower. The northern woodlands have lost 17,000 forest and paper jobs in the past 20 years, according to a Wilderness Society study.

Timber interests still own most of 26 million acres that make up the northern forest, but pressure to sell intensifies. The vacation home market pushes land values up, causing higher real estate taxes. People who inherit land often must sell to pay their taxes, which can run as high as 50 percent of the land's value.

But for the time being, recession has slowed the sell-off.

"My business is 25 percent of what it was in the mid-80's," says Roger Morin, one of many real estate agents in Jay whose livelihood depends on the second-home market.

The lands council will hold public hearings in January on draft recommendations and will submit its final report to Congress next summer.

Recommendations are expected to include tax incentives that encourage ownership of large tracts, purchases of land by the government, and regulations to limit development around lakes and rivers, the most ecologically sensitive areas.

The question is whether the proposals will go anywhere. Governments don't have enough money to buy large tracts. Landowners already say they will resist regulation.

"When you get into a rural land area, the land is all people have," says David Guernsey, who owns 100 acres in Maine. "Throw a heavy net of control over it, and you impact people in ways you really don't see from afar."

How much sacrifice will it take to save the northern forest?

"If enough people around the country see what a magnificent area this is, we can muster the support to save it," says Steve Blackmer, "even if it takes 20 or 30 years."

At ten minutes past four in the afternoon on the fifth of August, 1949, 15 young men stepped into the sky above Mann Gulch Montana. Less than two hours later, 13 were dead, gone up in smoke and flame in the greatest disaster ever to befall the United States Forest Service.

Young Men and Fire is the story of their drop into eternity. It is the finest story ever written about Forest Service smokejumpers, and it is told to us now by Norman Maclean, one of the finest American writers of this century.

Mr. Maclean grew up in western Montana, and in his youth fought forest fires and logged in the Bitterroot Mountains. He then went on to become a professor of English at the University of Chicago, where he taught for many years. He died in 1990, two years before *Young Men and Fire* was published.

The only other book he ever wrote was *A River Runs Through It*, a 1976 classic about life at the junction of great trout rivers. In *Young Men and Fire*, life ends in death at the junction of great winds and fire.

There are voices in this story, just as there are in all of the other stories in this issue of *Evergreen*.

The voices in Mann Gulch are cement crosses now, hidden away in waist high grass high above the Missouri River. Mr. Maclean began listening for them the same year they went silent, and he spent the rest of his life trying to understand what they were saying. In *Young Men and Fire*, the voices speak for the first time.

What they say is something we should all listen to very carefully before our infatuation with “naturalness” has us believing that all forest fires are good, because they are natural, and all timber harvesting is bad, because it is unnatural.

The belief that all fire is “good” because it is “natural” is being promoted by new voices among us, who are talking about “re-introducing fire” to promote “forest health” and restore “naturally functioning ecosystems” in the Pacific Northwest.

The idea here is to allow lightning-caused fires to burn unchecked because “natural fire” is “good.” A related idea is to actually set some fires, to “clean out” diseased forests, so they will be “healthy” again. Both of these ideas are the twistings and turnings of one big truth: nature carved this region’s forests on the sides of big mountains using even bigger fires.

Fire can be very beneficial in forests. For years, foresters have been using what is called “prescribed fire” to retard the growth of grasses and shrubs that invade harvest sites as quickly as logging operations are completed.

Prescribed fire slows the growth of these plants, giving newly planted seedlings time to “top the brush” before the brush tops



Firefighters take a break on Fall Creek east of Roseburg, OR, August, 1987 (Inset, forest ablaze in eastern Oregon)

them. If all goes according to plan, the trees win the race.

Fire is prescribed or recommended in the fall or spring, when forests are damp. The resulting fire burns “slow and cool” along the ground. These are not forest fires like the forest fires you see on television, though they do occasionally get away from even the most skillful handlers.

Re-introducing fire in the name of naturalness is different.

It is a throwback to an earlier time, before 1910, when a nation fed up with watching forests, towns and people burn up demanded that Con-

gress to do something about fire, and Congress put the Forest Service in the business of putting out fires.

Now, 82 years later, the Voices Of Naturalness want the Clinton Administration to replace the old Forest Service with a new one willing to play with fire on a grand scale. But some voices of science say the risks associated with these “controlled burns” are simply too great, because too much dead wood has accumulated to be burned safely. Entire ecosystems and millions of acres of wildlife habitat could be lost. Harvesting dead timber while it still has commercial value would be a safer bet.

Now come the voices from Mann Gulch, to remind us that big forest fires are also indiscriminate killers. They behave in bizarre and unpredictable ways. Just when you think you have them figured out, they do the unthinkable. In Mann Gulch, a fire became a fire storm and a parachute drop became a race against the Inferno. Along the way to high mass by flashlight, only two of 15 smokejumpers made it past all the stations of the cross.

Not all of the voices from Mann Gulch died there.

Mr. Maclean’s own voice draws on its memory of an earlier race against fire and death. That day, a black ghost with a voice led the way to daylight.

Robert Jansson is the first man to ever walk through a blowup and live to tell about it. Beside each body discovered in Mann Gulch, he left hastily scrawled notes on scraps of paper tucked under rocks, describing what he saw. The stench of their burned flesh would drift through his dreams for the rest of his life.

Harry Gisborne invented fire science and died of a theory on the trail to Mann Gulch years later.

Laird Robinson, foreman of a smokejumper crew, reminded Mr. Maclean of himself in his youth. The two men walked the stations of the cross together, listening for voices.

Wag Dodge, the Mann Gulch fire boss, when visiting Hell, had the presence of mind to light a separate fire, and lie down in it to save his own life.

Robert Sallee and the late Walter Rumsey, the only two who jumped and survived, proved that in a race against death, all men are not created equal.

Young Men and Fire

Here then are voices from *Young Men and Fire*:

Then came 1910, the most disastrous fire year on record. In western Montana and Idaho, three million acres were left behind as charred trees and ashes that rose when you walked by, then blew away when you passed. This transformation occurred largely in two days, August 20 and 21, when thousands of people thought the world was coming to an end, and for 87 people it did.

It is easy for us to assume that as the result of modern science, “we have conquered nature”...but we should be prepared for the possibility, even if we are going to accompany modern firefighters into Mann Gulch, that the terror of the universe has not yet fossilized and the universe has not run out of blowups.

Behind, where I did not dare to look, the main fire was sound and heat, a ground noise like a freight train. Where there were weak spots in the grass, it sounded like the freight train had slowed down to cross a bridge or perhaps to enter a tunnel. It could have been doing either, because in a moment it roared again and started to catch up.

The deer was hairless and purple. Where the skin had broken, the flesh was in patches. For a time, the deer did not look up. It must have been especially like Joe Sylvia, who was burned so deeply that he was euphoric. However, when a tree exploded and was thrown as a victim to the foot of a nearby cliff, the deer finally raised its head and slowly saw us. Its eyes were red bulbs that illuminated long hairs around its eyelids...

Then, instead of jumping, it ran straight into the first fallen log ahead...

The deer lay there and looked back looking for us, but, shocked by its collision with the log, it probably did not see us. It probably did not see anything...

Suddenly, its eyes were like electric bulbs, burning out -with a flash, too much light burned out the filaments in the bulbs, and then the red faded slowly to black. In the fading, there came a point where the long hairs on the eyelids were no longer illuminated. Then the deer puts its head down on the log it had not seen and could not jump.

Returning two days later, he found the perfectly balanced body of a young grouse, neck and head “still alertly erect in fear and wonder,” the beak, feathers and feet seared away. Within a few yards was a squirrel, stretched out at full length. “The burned-off stubs of his little hands were reaching out as far ahead as possible, the back legs were extended to the full in one final, hopeless push, trying, like any human, to crawl just one painful inch further to escape this unnecessary death.”

The crew started up the side of the gulch toward the fire. It was about five o'clock. The next day a wristwatch of one of the boys was found near his body. Its hands were permanently melted at about four minutes to six.

...it could burn with the speed of one of those catastrophic fires in the dry gulches of suburban Los Angeles but carry with it the heat of the 1910 timber fires of Montana and Idaho. It could run so fast you couldn't escape it, and it could be so hot it could burn out your lungs before it caught you.



The Silver fire, Siskiyou National Forest, September, 1987

It is really not possible to see the center of a blowup because the smoke only occasionally lifts, and when it does all that can be seen are pieces, pieces of death flying around looking for you - burning cones, branches circling on wings, a log in flight without a propeller.

Fire whirls both intensify existing fire and cause new fires. Their rotating action is that of a great vortex, and, as giants, they can reach two thousand degrees in temperature.

When he came to, "the black creep of the fire" was only a few feet behind him. He had fallen victim for a few seconds to the two major enemies that threaten fighters of big fires - toxic gases, especially carbon monoxide, and lack of oxygen from overexertion due to hot air burning out the oxygen.

It was Bill Hellman. His shoes and pants were burned off, and his flesh hung in patches. When asked at the Review, "Did Hellman at that time seem to be suffering tremendously?" Sallee answered, "Yes."

In ten or fifteen minutes the two doctors arrived. They gave Hellman a hypo and one quart of plasma, applied salve, transferred him to a litter, and then covered him with the one blanket. According to Jansson, "Bill's burned flesh had a terrific odor. He was in severe pain but took his experience magnificently. Bill's courage made men weep."

At the Review, he made it very clear that he believed there was not enough time left for them to make it to the top of the hill, and events came close to supporting his belief...

...The present question then, in its purest form is, "How many brains, how much guts, did it take in those fiery seconds to conceive of starting another fire and lying down in it?..."

...Whether he knew it or not, there is usually some oxygen within 15 inches of the ground, but even if he knew it, he needed a lot of luck besides oxygen to have lived, although Rumsey and Sallee were to say later that the whole crew would probably have survived if they had understood and followed Dodge's instructions.



Loggers fighting the Silver fire on Taylor Creek, August 1987

He was badly burned and euphorically happy. Dodge removed him to the shelter of a big rock and cut the shoes off his swollen feet, but there was no use in Dodge leaving his worldly gift with him, his can of Irish white potatoes, since Sylvia could not feed himself with the charred and useless remains of his hands. In the hours to come, he would be without water because he could not lift his canteen.

"Since his hands were burned to charred clubs, I peeled an orange and fed it to him section by section."

It would not be exact to say that the three in descending at night in the remnants of Mann Gulch were descending into the valley of the shadow of death, because there was practically nothing left standing to cast a shadow. Since dead trees occasionally exploded and then subdued weakly into dying flames, perhaps it would be more exact to say they were descending into the valley of the candles of death.

Hunched over and wobbling to keep his balance, he couldn't stop talking. "Please don't come around and look at my face; it's awful."...He tried to make this a joke, although it is hard to make jokes at night on a hillside that smells of burned flesh.

Since most of the men were not wearing jackets, "some of them stripped off their shirts and undershirts to wrap around Joe to keep him warm."

Since only two could cuddle close to Sylvia at a time, others of the rescue crew spread out across the hillside looking for 11 missing men by flashlight and candlelight. It was like high mass until dawn - lights walked about all night in darkness.

I have had to learn a good many things to tell this story - one is how it might feel to die in the heat of the Inferno. Since the Inferno is also a pit, I have had to learn how to die in the Inferno always falling down, and always falling down I now know it is a terrible way to die - it destroys the confidence before it destroys the body, and it must be terrible to die with nothing left but the body.

Dead standing trees, especially Ponderosa pine full of resin, became giant candles burning for the dead. Then one would explode, disappearing from the air where it stood, detonated by its own heat.

Dr. Hawkins, the physician who went in with the rescue crew the night the men were burned, told me later that, after the bodies had fallen, most of them had risen again, taken a few steps, and fallen again, this final time like pilgrims in prayer, facing the top of the hill...

...By this final act, they had come about as close as body and spirit can to establishing a unity of themselves with earth, fire and perhaps the sky.

This is as far as we are able to accompany them. When the fire struck their bodies, it blew their watches away. The two hands of a recovered watch had melted together at about four minutes to six. For them, that may be taken as the end of time.

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Testimony of Benjamin Stout

Editor's note

Last September, Dr. Benjamin Stout offered his thoughts on the Clinton Administration's forest plan at a public hearing the administration conducted in Salem, Oregon. His testimony is reprinted below. Someday, we think what he said will be required reading in every forestry school in the country. Read what he said, and see if you agree.

Dr. Stout is one of the most respected forest scientists in the nation. He began his distinguished career as supervisor of the Harvard University research forest. Then, in 1959, he joined the faculty of forestry at Rutgers University, where he taught until 1978, when he was named Dean of the school of forestry at the University of Montana, a position he held until 1985, when he was named national program manager for air quality and forest health for the National Council For Air and Stream Improvement.

Now retired, Dr. Stout is working with Bob Zybach (see *Voices in the Forest: An Interview with Bob Zybach*) and noted biologist, Dr. Daniel Botkin, on a detailed study of Oregon's Siletz River basin. Dr. Botkin was one of Dr. Stout's students at Rutgers.

Man's use of forest resources and his perception of forests has a long history. In the United States, certain events that occurred in the East are now being repeated in the West.

William Bray published a treatise on the forests of New York in 1910. In that report, he asserted that the Hudson Highlands in southern New York, near the Hudson River, had been clothed with magnificent forests of pine when European man arrived. Due to the impact of European man, the forests had been degraded and rendered the poorer. A forester, a student of Bray's, was hired to manage a research forest in the Hudson Highlands. He developed a research plan to find ways to return the forest to pristine conditions.

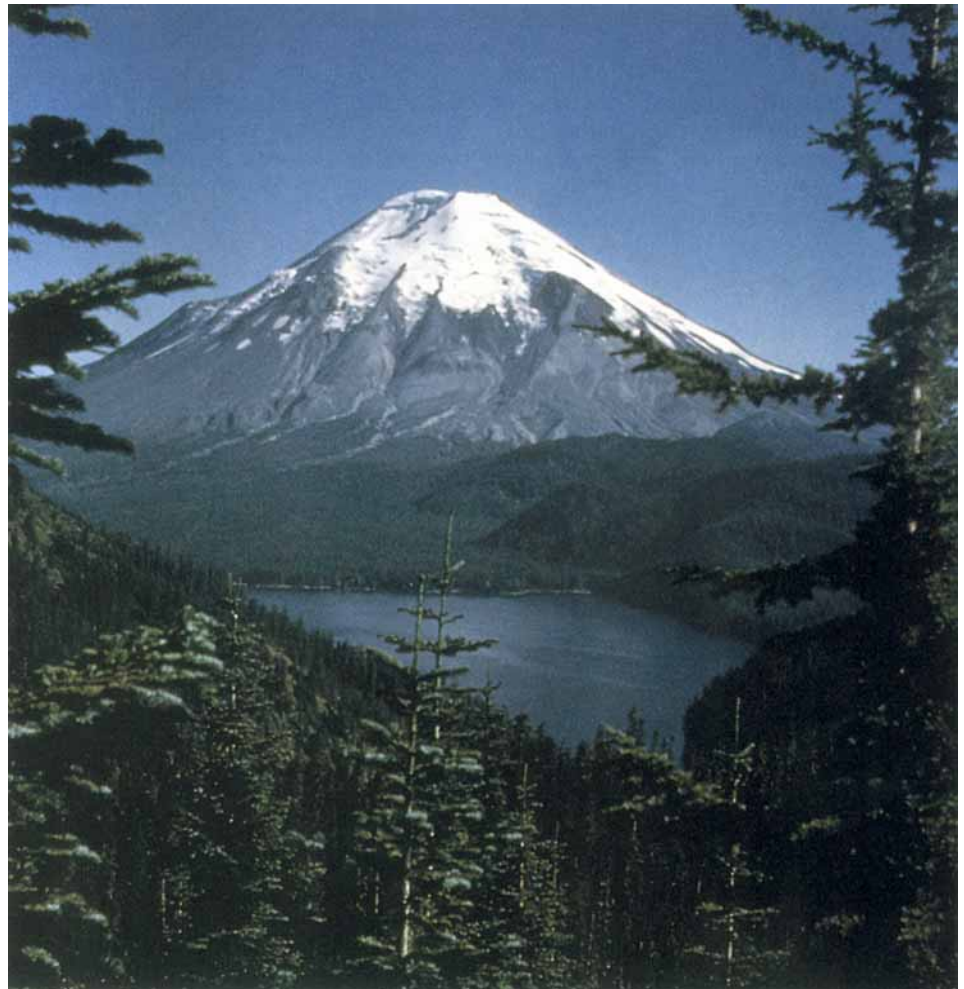
Hugh M. Raup, a plant geographer, who would now be called an ecologist, undertook the study of the vegetation in the research forest in the 1930s. Among other things, he examined the log of the first mate on Henry Hudson's ship that sailed up the Hudson River in the early

1600s. The first mate's description of the research forest visible from the ship and the vegetation patterns Raup found led him to conclude the pristine forest was nothing like what Mr. Bray had described. As a matter of fact, Raup developed unequivocal evidence that the forests of the 1930s were little changed from the 1600s. Subsequently, the American chestnut fell victim to an imported blight, but other than that the forest has withstood man's use, abuse, and the ravages of fire, windstorm, disease and insect depredations.

It is, I guess, a sign of the times. Where half a century or so ago we had two or three people struggling with ideas, we now have major committees. Nevertheless, the patterns are the same. President Clinton's Forest Ecosystem Management

Assessment Team has asserted that the forests of the Oregon Coast Range were primarily old growth when European Man arrived. They have developed a plan, No. 9, to restore the forests to pristine conditions. The team members are predominantly ecologists of one stripe or another.

Along comes a forester, raised in the Coast Range, who has looked at the evidence concerning the nature of the forests when European Man arrived. Bob Zybach has collected descriptions of the coast scene written by ship's personnel sailing along the coast. They describe the extensive expanses of forests devastated by fire. Zybach has examined the records of all fires and windstorms. He concludes that man, Native American and European, has had a major impact on the forests that



Mt. St. Helens sometime before May 18, 1980, the day the mountain blew its top (Weyerhaeuser photo)



A logger surveys the damage and the job ahead (Jim Petersen photo)

began long before the turn of the 20th Century. Simply put, the overwhelming evidence is that the forest that the President's team seeks to recreate just has not existed since Europeans came to Oregon. For me, the sense of *deja vu* is overwhelming.

Given this background, let me share with you some experiences of a retired forester in beautiful Oregon in September. Mrs. Stout and I had house guests from New Jersey. The guests had heard of things like the northern spotted owl.

On a Sunday, we enjoyed a round of golf on the Sandpines golf course at Florence, Oregon. The fairways, rough and greens are on stabilized sand dunes. Beyond the boundaries of the course one sees sand dunes that are not stabilized. The dunes there are moving inexorably inland. I believe that the hand of man can make the natural system better.

On Monday, I drove from Albany to Sisters, through parts of the Willamette and Deschutes National Forests, and from Sisters I drove over McKenzie Pass and down the west side of the Cascades on the road between the Sisters and Washington Wilderness areas of the Willamette National Forest. On that trip, we saw vigorous young forests, old growth in forever

reserved wilderness, and, sad to relate, some cutover forest that has yet to be regenerated. We saw forest devastated by insects, where valuable wood fiber is rotting away, and the forest gets more and more ripe for a Yellowstone-like conflagration.

The next day, we visited Mt. St. Helens. There we saw devastation that dwarfs anything that man can do short of nuclear explosions. We saw forests growing vigorously on managed land, and on land where nothing is being done, vegetation is moving in inexorably on what was a waste land in late May, 1980. We were told of fish returning to the rivers that had been "destroyed." We saw an elk herd that is using the land formerly covered with old growth that is now essentially treeless. The capacity of the land, plants and animals to recover from catastrophe is tremendous. One wonders about the assertions we hear repeatedly about fragile environments.

My purpose in recounting a piece of eastern forest history and a travelogue is to put the planned management of federal forests in that context.

1. From the dunes on the coast to the lava flows at McKenzie Pass to the volcanic rubble at Mt. St. Helens, it is obvious that the forces of nature are more devas-

tating than anything man can do.

2. While traveling from place to place, I reflected on the forest fire history as we know it, particularly as I drove through the insect infested forests in the upper elevations of the Cascade Mountains. In other areas, where new forest has developed following catastrophic fire, the ability of forests to recover from devastation is seen on every hand.

3. At Mt. St. Helens, I could not help contrasting the difference between the appearance of the landscape where man has intervened and where he has not. The new forest on private land is unequivocal evidence that man can work hand in hand with the environment to good effect.

4. As I drove between the wilderness areas, I noted that the magnificent old forests are essentially even-aged. Those forests are maybe 600 years old at the most. But how could that be? It is 10,000 or so years since the Ice Age. Why aren't the trees much older? Because the forests are even-aged and much younger than the time to the last major disturbance, I realized that these old forests, too, are products of catastrophe.

5. As I drove along Route 20 toward Santiam Pass, I saw young forests that are growing vigorously. They are capturing

solar energy at a great rate, and at the same time using carbon dioxide to build cellulose and release oxygen to the atmosphere. That made this old forester happy because I know that with each breath, I use oxygen to burn carbohydrates and release carbon dioxide into the atmosphere. I thanked those green trees. The tremendous capacity of these forests for energy capture - growth - is evident all around.

6. By coincidence, I have been reading about the transport of logs in the Coos and Coquille Rivers via the streams. The impact on those rivers of the logs going downstream carried by water captured behind splash dams had to be horrendous.

7. In summary, the evidence is overwhelming that our forest ecosystems are the products of disturbance. On every hand, there is evidence of the capacity of the systems to recover, especially when man makes positive contributions.

Now let us reflect. The management plan being proposed sets aside the land in these very productive forests to protect them and the denizens therein. Sure, some timber harvest is tolerated, but in the long run the timber harvest only speeds up the transformation of the forest to old growth status, at which time that land, too, will be off limits. Is this wise in a region where half or more of the forest land is subject to this locking up? I think not. Why not?

A. Spotted owls, marbled murrelets and salmon have persisted through catastrophes unimaginable to you and me. Have you ever tried to picture in your mind's eye what it was like when the first and second Cascades were being formed? The persistence of these animals attests to their ability to survive through all sorts of insults. Think how murrelets must have felt when the area that is now the Tillamook State Forest and the Siuslaw National Forest was being burned again and again.

B. According to counts of salmon in the Coos and Coquille Rivers reported by the Oregon Department of Fish and Wildlife, we know that the salmon have come back to those rivers.

C. The elk at Mt. St. Helens have done well on the treeless moonscape of volcanic debris. Only the regrowth of forest will discomfort them. They show how animals adjust to catastrophe and changing conditions.

D. When we use substitutes for wood - concrete, steel, aluminum - in construction, we dissipate our earth's fossil fuel capital by an order of magnitude or more with the accompanying infusion of carbon dioxide into the atmosphere.

E. When I question the proponents of the kinder, gentler silviculture about its affect

on the amount and quality of wood produced, I am told, albeit reluctantly, that yes, productivity will go down and the quality of the wood grown will be poorer.

F. We have now reserved more than half our forest land in parks and wildernesses. I am thankful for that. And I am thankful that the road across McKenzie Pass and down between the two wilderness areas was built before we started setting aside such places. And I will join with all in the watching of the existing parks and designated wilderness as nature wreaks its havoc. We have plenty set aside anyway.

G. Carrying coal to Newcastle was a saying I learned as a youth. Can you imagine the feeling I had when I read recently the account of logs from Chile being shipped to Oregon?

So, the reasons that I think the proposed plan is flawed is that it is based on invalid assumptions that ignore documented, valid historical evidence. It denies the resiliency of forests and the inhabitants. It denies to society the raw material it needs that is environmentally benign. It denies to the people of the region the means of earning a livelihood. It depletes non-renewable resources unnecessarily. In short, it is a misguided plan.

I am reminded of a conversation between a national park ranger and member of a group the ranger had guided to see old growth yellow poplar in the Smoky

Mountain National Park. When we arrived at the site, the ranger was surprised to see that one of the old yellow poplars had toppled over since his last visit. He began to explain how the wood would be recycled and the forest ecosystem maintained. One of the group, a middle-aged man who appeared to be no stranger to hard work, asked if he understood correctly, that the tree would not be hauled out and used. When told that he did understand and that the tree would definitely not be used, the man said, "You government fellers sure think differently than people."

Gifford Pinchot urged wise use. The plan proposed is not wise. It panders to ideas that are suspect, to say the least, and denies our society untold benefits that could come from the forests. As a practitioner and professor of forestry for more than a generation, I urge President Clinton and his team to go back to the drawing board. Put to use the hard facts known about the forests, its soils, its plants, and devise a plan that produces the greatest good for the greatest number in the long run. The present plan does not do that. And if the plan requires some changes in existing legislation, go to the Congress and ask for those changes. That would be leadership of the kind that is part of the proud tradition of the United States Forest Service derived from Mr. Pinchot. Thank you.



Rebirth: Elk grazing on recovering Weyerhaeuser land near Mt. St. Helens, 1988 (Weyerhaeuser photo)

In Our Opinion: Judge Jackson and the Clinton Forest Plan

On March 21, District of Columbia District Court Judge, Thomas Jackson, sent the Clinton Administration's forest plan back to square one, at least for now.

In a ruling as momentous as any issued since the spotted owl became an issue, Judge Jackson said the Administration violated the Federal Advisory committee Act (FACA) which protects the integrity and objectivity of federally constituted advisory committees.

In its court complaint, the Northwest Forest Resource Council alleged the Administration violated FACA statutes by denying NFRC members and the general public the opportunity to participate in forest planning meetings conducted behind closed doors by the Forest Ecosystem management Assessment Team (FEMAT).

Government lawyers argued that the President's scientists, among them Dr. Jerry Franklin and Dr. Norman Johnson, were not advisory committee members, and thus were not subject to FACA statute. Judge Jackson disagreed, and in his ruling noted that "Scholars no less than business people have been known to have personal agendas. And the composition of FEMAT, as a whole-federal and otherwise-at least suggests, as plaintiff alleges, that the vast majority of them were pro-"ecosystem management," having minimal sympathy for the forest products industry."

Judge Jackson's ruling underscores our long-held belief the Administration's forest plan is fatally flawed because it represents a particular set of biases that have little to do with science. As evidence, we cite the following:

▲ There is still no proof spotted owls are threatened. The more we search for owls, the more we find. Moreover, the highest reproductive rates for breeding pairs have been recorded on industrial tree farms, 30 to 50 years old. Spotted owls do not "need" old growth forests to survive.

▲ We believe Dr. Chad Oliver (*Evergreen*, September/October, 1993) is correct in his belief the plan puts this region's forests at greater risk of destruction by catastrophic wildfire than the modest amount of harvesting needed to reduce this risk, while

speeding the natural creation of old-growth-like forest structures.

▲ This region's forests were not 60 to 70 per cent covered with trees 200 or more years old when white settlement began, as is estimated in the Clinton plan. The forests that were here when white settlement began were most likely more open than are forests now, a result of the constant presence of natural fire and Indian cultural fire. These forests were not "naturally functioning ecosystems" free of human impacts, as the President's plan implies. Humans have been shaping and re-shaping this region's forest landscape for at least 11,000 years. We have ample proof the Indians who greeted the first white settlers were very aggressive resource managers.

▲ The human impacts on this region's forests have been nothing compared to the great natural forces that have been present here since the beginning of time. All of the scientific evidence we've seen points to the fact that few trees in this region have ever lived out their lives, to die of old age. Most have succumbed at early ages, to great winds and even greater fires.

The Clinton forest plan all but ignores these human and natural forces, so long present in this region's forests. An unknowing public is left to believe forests that were here when white settlement began were vast stands of ancient Redwood look-alikes, and that the Clinton plan will bring these forests back. This is impossible, *especially in nature*, because Pacific Northwest forests have never been Redwood look-alikes. They are Douglas-fir forests, shaped in the images of great fires and great cultures.

In a 1910 response to enormous public pressure, Congress put the U.S. Forest Service in the fire fighting business, and we have been putting out forest fires ever since. As a direct result, many of this region's forests are now too thick with trees. Forests are dying, and the danger of catastrophic fire looms large. Now the only way to safely reduce this fire danger is to do some harvesting along the lines proposed by Dr. Oliver. The Clinton plan makes no such provision.

What Bob Zybach has done in his research adds significantly to the weight of points made earlier by Dr. Oliver and other forest scientists who believe the Clinton forest plan is headed in the wrong direction. We share their fear catastrophic fires will destroy the very forests everyone is trying to protect. If you want to see what these fires do, turn to our fold-out centerfold and study the aftermath of the 1907 Soleduck fire. Then ask yourself, "Is this the kind of naturalness the public wants to see in forests?"

Every theory ought to be endangered the moment it is uttered, including Mr. Zybach's and Dr. Oliver's theories, so we have no problem with rigorous debate between scientists of varying viewpoints. But we do have a problem with government scientists who are now trying to dismiss Mr. Zybach as a crackpot graduate student looking to make a name for himself. What do these Phd scientists have to fear from a graduate student?

We also remain deeply troubled by the secrecy that has surrounded creation of this plan, and we suspect that what went on behind closed doors before and after the Clinton Timber Summit has a lot to do with the way government scientists have reacted to Mr. Zybach's research. Why the press has not tried to pierce this veil of secrecy is beyond us. The stuff Pulitzer's are made of is tucked away here, just waiting for someone from the *Wall Street Journal* or *Forbes* or some other similarly prestigious organization to pick up the phone and start asking questions.

Meanwhile, the spotted owl fiasco has crept on to a new playing field. We see a direct connection between steadily rising lumber prices and the Federal Reserve's recent decision to raise short term interest rates. It will be interesting to see what happens to interest rates and financial markets when it is finally discovered there is not enough lumber available to sustain the recovery of the nation's housing industry. Maybe then the right telephones will start ringing off their hooks.

- *The Evergreen Foundation*

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