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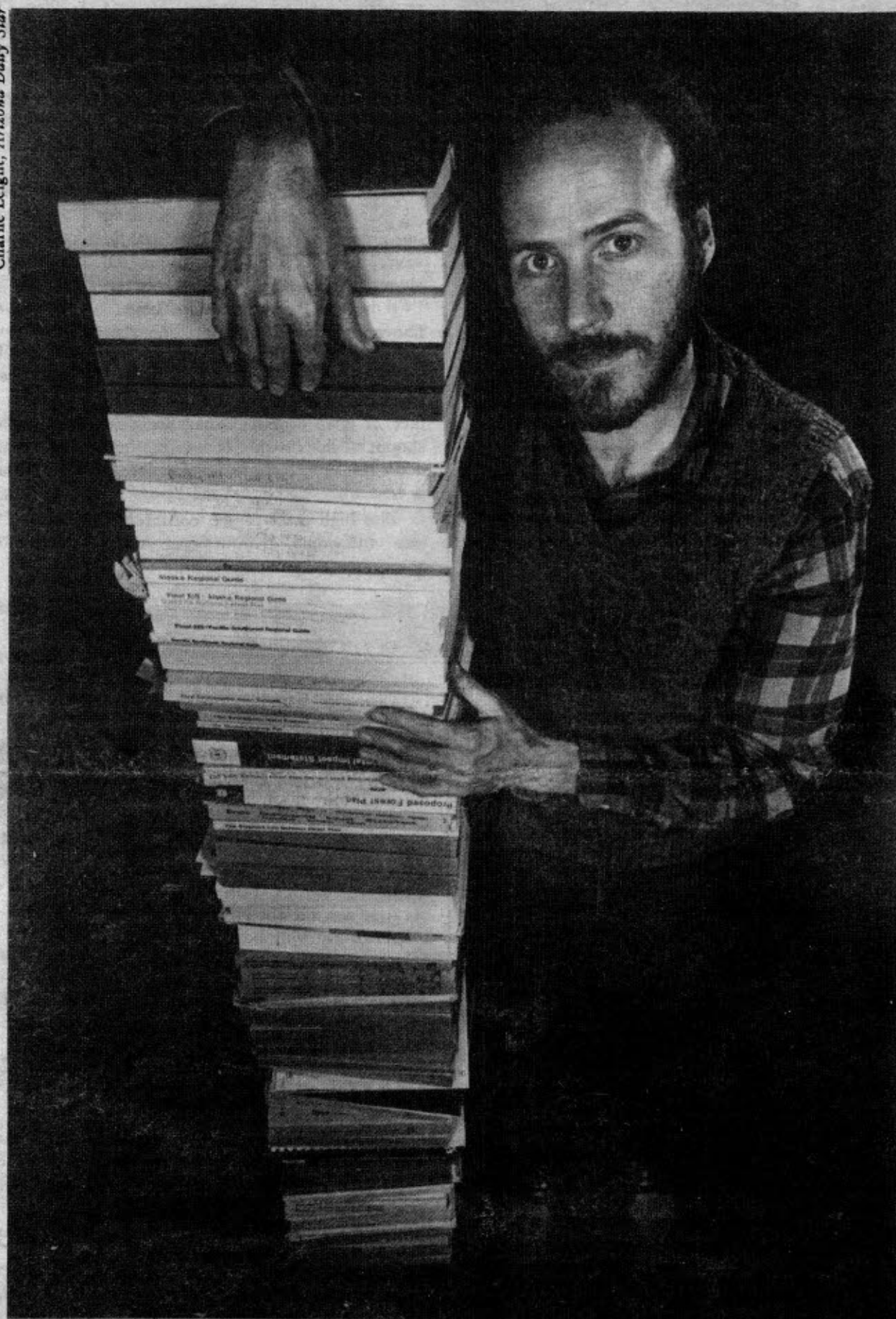
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A Paper for People who Care about the West

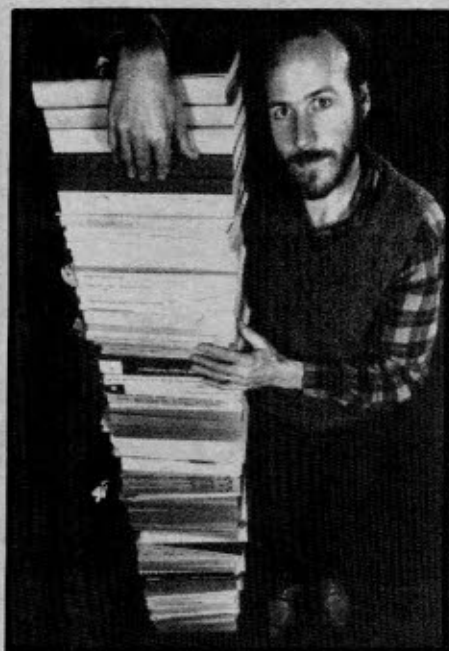
One Dollar

Charlie Leight, Arizona Daily Star



Investigative journalist Ray Ring, weighing in with his stack of Forest Service reports. See page 10.

The multi-billion-dollar Central Utah Project goes to the voters. See page 6.



by Ray Ring

This article is adapted from a talk to the Society of American Foresters, San Francisco Peaks chapter, delivered in Flagstaff, Arizona, on September 30, 1985.

I was invited here to speak by Chuck Avery, a professor of forestry at Northern Arizona University who arranged to be in Utah tonight. Chuck Avery is, nevertheless, a man who is obviously not afraid to take risks in the interest of a stimulating discussion. I hope I can live up to at least some of his, and your, expectations. If I don't, what the heck, just think of me as some sort of after-dinner cigar, puffing away and putting up a foul cloud.

Last year the Arizona *Daily Star* in Tucson published a series of articles I wrote concerning the national forests in Arizona and the West. The articles and some follow-ups were the result of more than a year's research. They had something to do with me being named the Journalist of the Year by the Arizona Press Club.

Tonight I'm going to review some of my findings and ramble a bit with opinions and questions about the direction of forestry.

My introduction to the field of forestry can be summed up in a simple phrase: "Man's triumph over the environment..."

These are the opening words, and the general theme, of a forestry textbook that many of you have probably read: *An Introduction to American Forestry* by Shirley Walter Allen and Grant William Sharpe, published in 1960.

I believe this distinctive red-bound book served as a primer in the profession for years. I was exposed to it 12 years ago, when I was studying for a bachelor's degree in environmental science. I came across the book again last week as I was preparing myself for this talk, and I couldn't resist skimming its pages again. I had to chuckle at that opening phrase: "Man's triumph over the environment."

It's been a long time since I was first exposed to that kind of thinking. Since then, I've lived in a cabin on a Colorado national forest for nearly six years, plowing roads, cutting fire-

One man's indictment of forestry in Arizona

wood, fooling around with a small cross-cut sawmill and fighting forest fires. My first story as a journalist was about a colorful old guy who ran a one-man sawmill. Afterward I wrote many stories about forest use and preservation, and for nearly 15 years I've spent most of my time in the national forests of the Southwest suffering through a variety of outdoor recreation.

In all that time, with those experiences, I've never agreed with "man's triumph over the environment." I can't even conceive that it is possible.

"Man's triumph over the environment" might as well read, "man's triumph over humanness." But it seems that generations of foresters have been schooled in this warlike view of their role in the world.

The general public is largely ignorant of forestry, and of the forests themselves, and I think foresters must take some of the blame.

Here in Arizona, most of our population lives in the two large urban areas, Phoenix and Tucson. Those who encounter the forest, the pine belt and the coniferous mountain islands, usually do so on hurried recreation outings. The Wham-Bam-Thank-You-Ma'am variety of forest use.

A population of desert residents fleeing triple-digit temperatures and urban congestion sees the national forest as little more than an oasis of cool temperatures, shade and surface water, inhabited by cute and socially acceptable wildlife such as squirrels and deer.

You need more than a snapshot, more than a momentary static view. When you are dealing with an ecosystem that has evolved over millennia, and individual trees that naturally grow for four or more centuries, you must look at history, and you must have a sense of where we are now heading.

When I began my research into the forests of Arizona, which are by and large the national forests, I was shocked. The state is supposedly home to the world's largest continuous stand of ponderosa pine, stretching in a broad curve from New Mexico northwest to Utah. Yet an extensive

search turned up little of substance on this great resource.

Most of the writings could be broken into two main categories: the gushing travel-magazine hype typified by *Arizona Highways* magazine, and the anecdotal reminiscences of long-gone pioneer foresters.

If you wanted more, if you wanted some kind of statistical overview, if you wanted analyses of trends and systematic problems and successes, if you wanted meaningful data about recreation use and timber sales and surveys and inventories, forget it. It was as if, for the hundreds of years of recorded history in Arizona, the forests had been taken for granted.

I was able to make headway by obtaining some basic original documents. I reviewed every annual report of the U.S. Forest Service, from 1905 on, and the earlier annual reports of the Department of Agriculture and the General Land Office, which had authority over Arizona's forests when

Anglo settlement began in earnest in the mid-1800s.

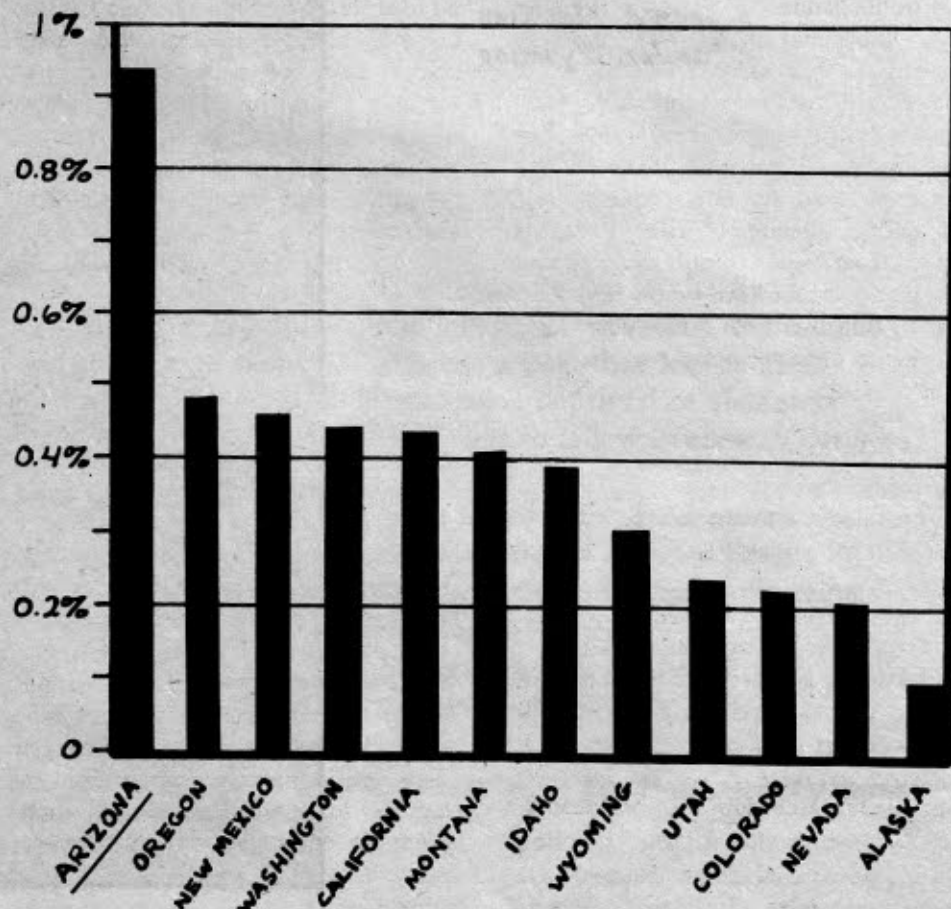
From the raw data a picture began to emerge -- a picture that explained why Arizona's forests look as they do today.

The first brush strokes on this picture took place before the turn of the century, before the national forests were established here. In the few decades preceeding that movement, portions of our forests had been violated and stripped through theft, fraud and outright giveaway.

In 1880, theft of timber from public lands was so common that the federal land agent for Arizona, John Wasson, wrote about the difficulty in prosecuting the cases. In 1887, a federal report on Arizona's forests noted "destructive inroads" from railroads and settlements.

During this period, large tracts of prime forest land passed into private

Timber cuts in the West, 1908-1982



Arizona topped other Western states over a 78-year period for harvesting the highest percentage of their cuttable timber each year.

David Sumner



A mature yellow-belly ponderosa pine

ownership, and were subjected to cutting that would be viewed as abusive today. The Atlantic and Pacific Railroad, now the Atchison, Topeka and Santa Fe, was given probably the largest government handout ever in Arizona -- nearly 8 million acres of public land, much of it in the lush pine belt. In a deal that land agent Wasson called fraudulent, 1 million acres of prime land was resold to the Aztec Land and Cattle Company, for 50 cents an acre.

Clearcuts on the private land were common. Even moderate first entries took two-thirds of the standing timber, all the mature "yellow-belly" ponderosa pines. According to land agent Wasson, "Speculators of all degree" using "all manner of schemes" were fraudulently obtaining public timberland here.

In 1888, Arizona was second to Montana in the Rocky Mountain states, and third to California in the nation, in total suspected timber fraud. In 1900, Arizona ran second in the nation for suspected timber trespass -- cutting without permission on public lands.

Timber harvesting was often so intensive that some forested areas have still not recovered, and may never fully recover. By 1898 the public, which generally favored this triumph over the environment, was growing alarmed. The Prescott newspaper was complaining about "vast areas that have been denuded" by logging and fires. A few years later Prescott became perhaps the only town in the West to petition for an expansion of its newly created "national reserve," which later became Prescott National Forest. Even today, the forest around Prescott is still recovering, and the annual harvest is less than half what it was in the late 1800s.

While collecting this history, I came across an obscure Forest Service report that took me to the present. It was done in 1966 by researcher John S. Spencer, who is now at a Forest Service research station in Minnesota.

Spencer analyzed the "cutting rates" of national forests in the Rocky Mountain states. The analysis was straightforward. He compared the annual harvest to the standing inventory. Spencer found that Arizona had the highest cutting rate in the

Rocky Mountains, with about 1.5 percent of its sawtimber inventory being removed each year -- a rate 50 percent higher than the average for the region.

I was intrigued by this finding. Using Spencer's methods, I expanded his analysis to include all the Western states, including the big timber states of Oregon, California and Washington. I looked at all the years of Forest Service management, from 1908 to 1982. I compiled the harvest figures from the agency's annual reports. For periods when reporting had been lax, I wrangled the figures out of the Forest Service's Office of Timber Management in Washington, D.C. I used state-by-state timber inventories done in 1952, 1960, 1970 and 1977 because they were considered the most reliable.

Once I had the data, I found that Arizona again led the pack, far and away, with about one percent of its sawtimber inventory removed each year, on the average, since 1908. As a double-check, I compared the specific harvests for each inventory year. In all four years Arizona again led in the cutting rate, by about the same margin. And our cutting rate has been steadily rising. In 1977, for instance, nearly 1.8 percent of Arizona's sawtimber was harvested. Oregon was second, cutting about 1 percent of its sawtimber.

So what I ended up with was: The forests of our state have been devoted to logging more intensively than any other forests in the West. This bit of information is incredibly important to understanding our forests, but it had never been computed or put forth to the public.

In many ways, because of the heavy harvests, Arizona's forests resemble the forests of the future for the rest of the West. Controversies that are now raging over much of the region -- about planned large increases in harvests, about how to manage huge roadless tracts, about where to emphasize timber harvests and build road networks -- those controversies were settled here decades ago. Almost all of our best pine forests, our commercial timber lands, have already been devoted to management by logging, usually

without public discussion or awareness.

We outproduced Montana in logging until the 1950s, even though, in volume of wood in the national forests, Montana outranks us four to one. Our forests were put on the block first. The trees that went were the giants, the grandfathers and the weird uncles. Where clearcuts were not used, normally all the trees over 18 or 21 inches in diameter were taken. Ponderosa pines that had lived for 400, 500, even more than 600 years, were cut down. Everywhere, the forest was groomed, as the rough limby trees, the leaners, the snags and the isolated wolf trees were removed.

Forest management during this lengthy period was best described by a pamphlet published by the Forest Service in 1943 titled "Taming Our Forests." The pamphlet explained: "We tame our forests so that we will get better service from them, domesticate them as we have domesticated horses, wheat, cabbages and hens."

Forests of the future, according to this pamphlet, would be "born tame, just as certainly as a canary bird that is hatched in a cage."

Forty years later, these are the forests we have in Arizona. Cutting cycles in ponderosa pine that were once defined as 250 years have been shortened to 200 years, then 150 years, and now to 120 or even 90 years in some locations. Most of our prime ponderosa pine woodlands will be kept frozen in their youthful "blackjack" stage. They will be cut down not in their old age or even prime, but in their adolescence. The great stands of gruff yellow-belly ponderosa pines -- those older than 150 years, with fat trunks wrapped in the stunning orange and yellow and red bark -- will be the exception, though they used to rule the forest.

As part of my research, I gathered data about wilderness areas on national forests in Arizona. I found that, even with the recent enactments that were touted as compromises with the industries, only 1 percent of Arizona's commercial pine forest, our quality forest, is preserved in official wilderness areas. In a state that is home to the world's largest stand of ponderosa pines, we have officially preserved in a natural condition a

forest about the size of the city of Flagstaff. Even including the Blue Primitive Area, Arizona has protected only one-eighth of the quality, commercial forest that New Mexico has in its wilderness areas.

Battles being fought over forest wilderness around the West are over in Arizona. Our forest wilderness issues were settled de facto by development years ago, when almost no one was speaking up for wilderness here.

There is a fairly universal intrinsic truth about resource management that is ignored in Arizona. That is: The more scarce a resource becomes, the more valuable it is.

I am saddened that this principle is not being applied to the virgin ponderosa pine stands we still have in Arizona outside of wilderness areas.

I'm sure many of you are aware of the rarity of virgin or nearly virgin ponderosa pine forest in Arizona. Many rangers I've talked to know where small virgin stands in their districts are located, and rangers value these stands greatly, often guarding them much the same way a fisherman will not reveal a favorite fishing hole.

These virgin stands have not been protected officially. Rather, they have been left out of the harvest by oversight, or accident of topography, or steep slopes. But with the current push for more intensive management, and with cable logging coming into Arizona's canyons for the first time, many or all of these stands are now being put into the normal timber rotations. I hope that foresters who love these areas will speak out and do all they can to preserve them.

That sounds like a strange reference, doesn't it? "Foresters who love these areas." Admitting such emotion doesn't happen often in the profession. Perhaps it is because most foresters are men, and men traditionally have not felt free to express emotion. We go about our jobs, we do our duty, stoically. Many foresters in government service wear uniforms, heightening this attitude that there is a mission that emotions

(Continued on page 12)

Arizona forests...

(Continued from page 11)

have no part in. We must go out and tame the forests, triumph over nature.

Many of you may have expected me to get up here and make a plea for preserving wild forests based on the importance for wildlife, or for recreation, or for the gene pool. But I want you to consider something else: the feel of a natural forest.

I think most of us react in the same way to a virgin stand of giant pines, and their attendant vegetation and wildlife and atmosphere. We feel inspired, or humbled, or calm. It is not the feeling we get from a managed stand. Sometimes I think we can sense the values of virgin stand more accurately -- even the biological and scientific values -- than any number of transect surveys and computer models can ever document. Our emotional reaction is an outgrowth of all that we see and smell and hear and feel about the richness of a virgin stand.

Even that introductory forestry text that I studied years ago acknowledged this great emotional and spiritual lift provided by wild forest:

"The yearnings of men throughout the ages have led them to the beauty and solitude of the forests, and these sanctuaries still yield to sincere thinkers the deepest and most spiritual of satisfactions."

Yet I've collected a stack of the new national forest management plans and impact statements coming out around the West, a massive stack of thick tomes that would literally reach

15 feet in height, and I have yet to find even a passing reference to this most basic of human reactions to the forest. The awe, the instinctive love for a virgin stand.

We have quantified everything except what we can sense on the most basic levels. We have quantified everything except our own souls. And I don't doubt that soon we will be seeing forest management plans that contain detailed maps showing how different geographic units will be managed to produce various intensities of spiritual outputs, and lengthy tables will be published, displaying the pluses and minuses of various spiritual values that will be experienced under the preferred alternative:

"Management unit 14A will be 6 percent less awesome in the second decade, but management unit 12 will be 8 percent more uplifting."

I, for one, will still not be reassured.

When I think of forestry in Arizona, I think of options that have been foregone.

I think of a proposal drawn up by the National Park Service years ago to establish a Mogollon Rim National Park, to feature the distinctive topography and fine ponderosa pine forest of that region. I think of how the establishment of that park, within easy driving distance of the Grand Canyon and the Petrified Forest and the Painted Desert, would have drawn tourists from around the world to the rim country. I think of what the park would have meant to the local economies, and what it would have done to preserve a significant portion of the forest in an inspiring and unlogged condition. I think of how that

We have quantified everything except our own souls.

option has been foregone, largely because of the emphasis on timber cutting along the rim.

I wonder why, here in Arizona, home of the world's largest stand of ponderosa pine, we have no Ponderosa Pine Scenic Highway. Nor do we have any 100 mile stretch of highway that would really qualify, except perhaps the drive across the Navajo nation's forest north of Window Rock. On our own national forests, the highway across the Kaibab Plateau north of the Grand Canyon comes the closest to qualifying. But if you turn off onto any of the dirt side roads, it becomes clear that the signs should read, "The Ponderosa Pine Woodlot Highway."

If there is one attitude that has been prevalent in American forestry, it is arrogance. I see it today in these computerized plans that offer assurances that everything will work out perfectly as long as the preferred alternative is followed.

I'm always suspicious when anything is presented as a sure thing. I don't believe the foresters who are writing those reports are that certain, deep down inside. Many surveys of foresters, dating back decades and running through this year, have shown an uncertainty about all kinds of basic data, including harvest levels, reforestation and regrowth rates. To me it seems dishonest not to admit this uncertainty and show it right there in the plans. Foresters have been wrong many times in the past in their most basic assumptions, about fire suppression, grazing capacities, harvest levels and so on.

Foresters are only human, and so, by the way, are computers, and we should not hesitate to admit it. There is nothing wrong with uncertainty. Once we acknowledge it, we can still proceed in the intensification of forest management around the West. But we can proceed at a slower rate, with some wide margins for error.

One thing I've tried to do in my work is to encourage natural-resource professionals, including foresters, to speak out when they have uncertainties and concerns about the management strategies they are pursuing. Usually such concerns are expressed only privately, if at all. I think the cover-up amounts to deceiving the public.

Recent evidence of such deceit came six months ago, in a survey done at the request of the Forest Service. The survey involved about 100 foresters on national forests in California.

Fifty-two percent of the foresters said the agency was putting more emphasis on meeting target goals than on quality work. Seventy-five percent said they were expected to meet targets "no matter what." About 5 percent reported they had been pressured to make fraudulent reports about site preparation, reforestation, release and precommercial thinning.

So-called "ghost acres" were being reported in order to meet targets.

Such internal pressures and questionable behavior is neither new nor limited to California. Twelve years ago, a Forest Service internal evaluation of Arizona and New Mexico forests found that "supervisors and rangers are under severe pressure from the top to sell timber to meet quotas, and are forced to sacrifice quality for quantity."

"Constant pressure" to meet "timber quotas" was coming from agency supervisors and "the forest-products industry." The "most critical problem" was the "failure to properly administer timber sales" -- to check logging practices on the ground, which the investigators found was "a regional problem of major significance."

I have a serious problem with resource managers who carry such doubts without acting on them. Professionally, it is gross negligence. I would push for criminal indictments against public-lands foresters who knowingly make fraudulent reports about reforestation accomplishments and timber sale administration. I would trace such conspiracy, because that's what it is, to the supervisors and bureaucrats who create the pressure.

Sam Rayburn, former speaker of the U.S. House of Representatives, had a saying that described how young congressmen could fit into the power structure he dominated. He said, "To get along, you go along." Apparently this is the attitude that many foresters have. I would ask foresters to resist such pressures however they can, and to inform the public when they exist, even anonymously through a tip to a journalist.

I know many of you are thinking traditional thoughts: What about jobs? What about the timber industry? What about all these forest products that have been, or will be, so desperately needed by the public? I encourage you, as foresters, to think in other terms. Foresters shouldn't be in the business of making social judgments. They shouldn't be saying, well, we've got to meet this demand for wood. We've got to provide these jobs. Or even, we've got to provide this recreation.

Each one of those goals includes an assumption: This is good for society. And those kinds of assumptions are dangerous.

For the sake of argument, consider for a moment how the availability of low-cost wood products from the national forests affects the business of a man I know. This man builds houses out of mud, out of adobe down in Tucson. He uses very little wood. He has perfected a new technology that could be a revolution in adobe homebuilding. His houses are already competitive in price, and they will likely outlast the typical modern wood-frame house. But this businessman is having trouble getting the public interested on a wide scale.

What would happen if the price of



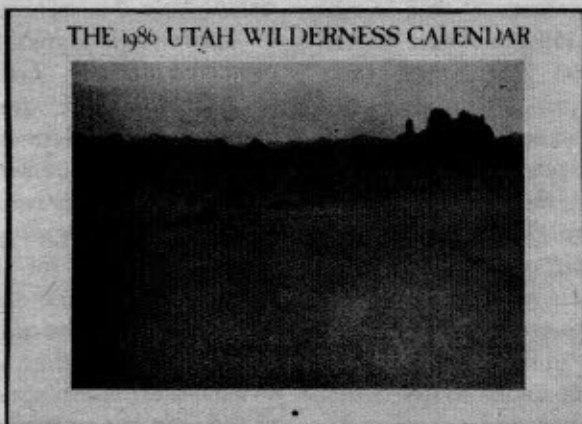
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Roaming The West

lumber from the forests were to rise, and the price of wood-framed houses went up accordingly? Do you think that is something this Tucson businessman fears? How many new jobs could he provide if people began buying his houses, instead of those made entirely out of wood products? Wouldn't the public demand merely shift to other materials?

Our economy is elastic, adaptive and many-faceted. It will adapt. The so-called demand for wood houses and jobs in the wood industries is really a demand for the status quo by the timber industry, the homebuilders industry and the real estate industry. Together they form one of the most powerful alliances in the country.

Who knows how many other industries are suppressed by the longstanding alliance of the Forest Service with the wood-products and homebuilding industry? If foresters dedicate themselves and the public forests to preserving this alliance with the status quo, they will eventually lose. Change is the one constant, in our economy, our society, and our environment.

But foresters have seemed intent on making this social judgment that the timber industry is good. Once it starts, how far do foresters go with this kind of involvement in society?

If foresters are so concerned about providing houses for the public, shouldn't they be taking the most important action of all: lobbying actively to bring down the federal deficit so interest rates are lowered and wood-built homes are more affordable? Shouldn't they be actively pushing for recycling of newspapers and all wood products throughout society? And how about changes in packaging to reduce waste of cardboard and other wood products?

How do foresters stand on the installation of fireplaces and the burning of firewood as a luxury in many new homes today, though the trend will mean more air pollution and depletion of the forest inventory? Where do foresters stand on the dangers presented by indoor pollutants such as formaldehyde vapors, which are given off by high-technology wood products inside most new wood-built homes?

It gets awfully complicated when foresters try to make judgments about what is good for society. Foresters will never be able to answer, or even recognize, all of society's demands. Society will want one thing one year, and another thing entirely the next. Sooner or later, society will want everything, and then more of everything.

Yes, people need houses and they need jobs. But if some of them don't get houses and jobs made out of wood, they will get houses and jobs made out of something else. Really, public lands foresters shouldn't be so concerned about society. Foremost, foresters should be thinking about the integrity of the resource they are managing. Everything else is secondary.

Integrity: it's a management goal that I hope you will take home tonight. I use it to refer to the forest in all its aspects, including the young stand and the old growth and the wild forest, and all the wildlife that would naturally occur.

In a century of forest management in Arizona, little or no emphasis has been put on forest integrity. Instead, the wild forest has been steadily

converted to the managed condition. Now, under integrated stand management and computerized planning, the word is that some of the remaining old growth will be saved and managed in perpetuity, on a rotating basis of course, so that some of our pines will be allowed to live up to 240 years before they are harvested.

That's fine, but it won't preserve the integrity of the resource. It will give us managed old growth, but it will not give us wild forest with inspiring pines growing for four or five or six centuries.

You are kidding yourselves if you equate managed old growth with unmanaged virgin forest.

In June 1920, one of the most serious acts of vandalism ever in Arizona occurred on the Coconino National Forest. A ponderosa pine that had lived for 640 years was cut down by a logging crew. We recognize today that this tree was probably the oldest and largest ponderosa pine in recorded history in Arizona.

Forty feet up from the base, it was six feet in diameter.

Of course this grandfather of the forest produced a great deal of lumber, but its value to future generations of Arizonans certainly far outweighed any momentary benefit from cutting it into wood products.

Forestry in Arizona will not be a success until we have replaced this grandfather of the forest with a ponderosa pine of equal or greater stature and age. And we better grow a few just like it, and not tell the computers about them, as a kind of insurance against shifting management goals.

I'm not suggesting that today's foresters should be blamed for the mistakes of the past. Only that they should now do their best to compensate.

As far as I know, integrated stand management and the other new management strategies will do little or nothing toward growing more 640-year-old grandfathers of the forest. This, too, saddens me greatly.

I've arranged the briefest slide show you'll ever see to illustrate this point about the difference between managed and unmanaged forest. This is a photograph taken by the Landsat satellite in 1973. It shows the Grand Canyon and the Colorado River and the Kaibab Plateau to the north.

The only man-made feature visible on this slide is the straight line running east and west across the plateau, which is ponderosa pine in that area.

That line was not drawn on the photograph. It represents the boundary between the national park and the national forest. South of it we have virgin ponderosa pine, the only stand of major size left in the state. North of that line, you can see how timber management has thinned the trees so the winter snow on the ground is much more visible.

I remind you that the North Kaibab was the last forest in the state to be opened to timber cutting. Logging began there in earnest only in the 1950s. And now, just 30 years later, we can easily see the results across the entire forest from almost 600 miles out in space.

If we can see the difference in the forest in this photograph, I assure you, the wildlife and the plants and people who visit it are also experiencing it.

I hope you don't go away from tonight's talk dismissing me as just

another tree hugger. But I tell you without a trace of embarrassment that I have hugged my share of trees.

When I come upon one of the big ponderosas while hiking, I can rarely resist measuring myself by wrapping my arms as far around it as I can get. I always come away feeling small and humble, and a part of the natural world.

I bet many of you in this room have measured yourselves and the trees in the same way. I bet your feeling for the wild forest had a lot to do with why you went into forestry years ago. I am a tree hugger, and I think many of you are too.

In conclusion, I hope public lands foresters will pay less attention to the production goals set by computerized cost-benefit plans, and by agency and

political bureaucrats who are warehoused on the stump.

I hope foresters won't try so hard to meet any and all of the demands of the public. I ask foresters to instead devote themselves to one thing that has been overlooked in Arizona: the integrity of the resource.

Finally, I hope we will all not be so hesitant to admit the deep feelings we have for the big old trees.

□

Ray Ring's series, "Taming the Forests," ran for eight days in the *Arizona Daily Star* in February 1984. He has since resigned to freelance and write a novel. This article was paid for by the High Country News Research Fund. Copyright 1985 by Ray Ring.

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