



Forest Lands of the Northwest: Selecting Among Alternative Uses

Oregon
State
University

The 1988 Starker Lectures
College of Forestry
Oregon State University
Corvallis, Oregon

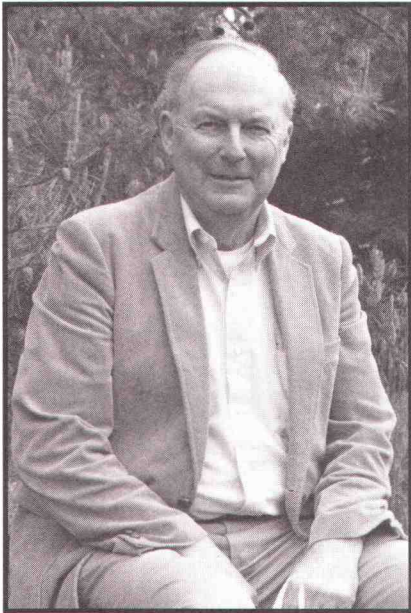
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College of Forestry
Oregon State University

Foreword



*Robert E. Buckman
Professor, Department of Forest
Resources
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The theme of the 1988 Starker Lectures, *Forest Lands of the Northwest: Selecting Among Alternative Uses*, addresses some of the forestry issues of the day in a more timely fashion than we anticipated when the Lectures were planned a year ago. As we go to press, the prospect of reduced harvest levels in old-growth forests, and their employment consequences, dominates the forestry headlines of the region. One way or another, our speakers address various aspects of these issues.

Ward S. Armstrong and Henry R. Richmond, respectively Executive Director of the Oregon Forest Industries Council and of 1000 Friends of Oregon, explore the role of private forest lands in the future of Oregon. Armstrong questions how well land-management planning is working, and suggests that other public initiatives are required. Richmond, concerned about 18,000 small nonindustrial owners, argues their importance to Oregon's economic future and also suggests policy changes.

Thomas Heberlein, Professor and Director of the Center for Resource Policy Analysis at the University of Wisconsin, describes

research devoted to placing a value on wildlife. His thesis: If we can develop reliable pricing mechanisms for nonmarket goods, then forest resource management decisions will reflect more consideration for heretofore undervalued resources.

R. Max Petersen, recently retired (1987) Chief of the Forest Service, played a key role in developing and administering legislation concerned with resource planning on the National Forests in the 1970's and 1980's. He reviews the history of resource planning on the National Forests, traces the evolution of the National Forest Management Act of 1976, and then reflects on what he would do differently if he were to start over.

Judge James M. Burns, Federal District Judge in Portland, has presided over a number of court cases involving conflicts between timber and environmental concerns. He believes that too much power is now vested with the Federal courts, and that Congress, as an elective policy body, should provide less-ambiguous guidance. He also suggests that mediation may be a more efficient and equitable way to resolve conflict.

A postscript: Thanks to Gail Wells, who edited and prepared these manuscripts for publication, and to Susan Lewis and Rebecca Chladek, who converted them into this attractive publication.

Dedication



Bond Starker



Barte Starker

T.J. (1890-1983) and Bruce Starker (1918-1975), respectively first- and second-generation founders of what is now Starker Forests, Incorporated, began and carry on a tradition in forestry that is as vibrant today as it was during their active years—perhaps even more so. Today Starker Forests manages more than 50,000 acres of Douglas-fir lands in Oregon's Coast Range. These are among the most productive temperate forests in the world.

These lectures are dedicated to the memories of T.J. and Bruce Starker. This year, the fourth of the Starker Lectures, we would like to call attention to three members of the family who carry on the tradition of responsible land stewardship and civic responsibility. They are Betty Starker

Cameron, widow of Bruce Starker, and his two sons, Bond and Barte, now the third-generation managers. The Oregon State University College of Forestry is proud to claim T.J., Bruce, Bond, and Barte as graduates.

Today's Starker family members carry on the tradition of T.J. and Bruce. Their first responsibility is to the land and to the firm, but they are always available to advance forestry through demonstration, education, and participation in local and statewide civic activities.

The Starker Lectures are intended to acquaint students, faculty, and citizens of Oregon with a sampling of forestry issues of the day. The lectures describe a series of concerns addressed by speakers at the forefront of their fields. This year is no exception. Oregon State University and the College of Forestry are proud to be a part of these lectures. Our thanks to the Starker family, continuing its tradition of supporting forestry education in Oregon.

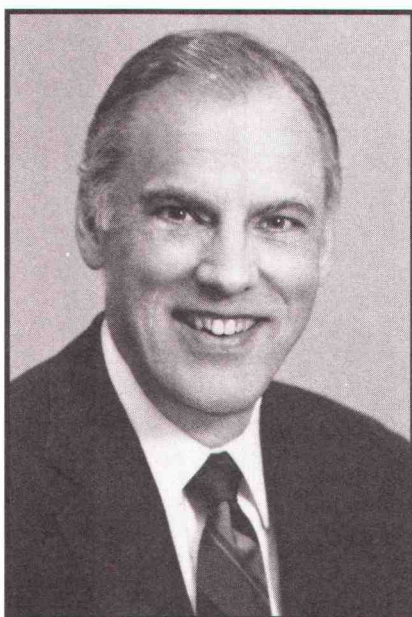


Betty Starker Cameron

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Resource Allocation on Private Lands: How To Protect Oregon's Commercial Forest Land Base



Ward S. Armstrong is Executive Director of the Oregon Forest Industries Council. This lecture was originally delivered Oct. 6, 1988 at Peavy Hall, Oregon State University, Corvallis, Oregon.

"It is self-evident that the potential wood-products yield from the forest will be primarily influenced by land-allocation decisions."

By Ward S. Armstrong

Editor's note: Ward S. Armstrong is the first of two panelists to address the topic of resource allocation on private lands. His comments are followed by those of Henry R. Richmond, Executive Director of 1000 Friends of Oregon, and then by a question-and-answer session.

My thesis today is that the ability of Oregon's commercial forest land to meet this state's future wood fiber needs is in jeopardy because of a diminishing land base available for forestry. Public policy solutions to date have focused on land-use planning as the way of ensuring that forest lands are preserved for forest use. This approach, in my view, has not worked. The solution lies in other public-policy initiatives

that encourage full use of the land for forest production, that provide incentives (not always financial) to practicing forestry, and that induce landowners to make their lands as productive as possible.

The economic future of Oregon lies with forestry. This is not to diminish the importance of agriculture, tourism, or even high technology in providing diversity and growth opportunities for Oregon's economy. Nonetheless, Con Schallau said it very well in his 1986 publication, *Economic impacts of interregional competition in the forest products industry during the 1970's*:

Opportunities for attracting new industries are limited for the timber-dependent communities in nonmetropolitan areas. These communities will rely indefinitely on the forest products industry as the major source of jobs and income. In turn, the region's forest products industry will rely heavily on public forest lands for raw material until the beginning of the next century when the supply from private lands is expected to increase. Therefore, in the immediate future, public forest management policies will have a direct bearing on the economic vitality of the region's timber-dependent communities.

Although Schallau's reference is to public timber and public-timber policies, his thesis is just as applicable to private forestry in the context of the future of timber-dependent communities.

It is self-evident that the potential wood-products yield from the forest will be primarily influenced by land-allocation decisions. These decisions as they pertain to public lands (particularly National Forests) are already in the process of resolution under the mandate of the Forest and Rangeland Renewable Resource Planning Act of 1974, as amended by the National Forest Management Act of 1976.

Although the theme of Henry's

[Richmond's] and my own presentation today relates to private lands, my concern over land-allocation decisions is more clearly demonstrated on National Forest lands in Oregon by comparing the total amount of land in each Forest with that suitable for harvest (Tables 1 and 2). The point is that land-allocation decisions are being made, irrespective of any county comprehensive plan, that restrict wood-fiber yield. The issue of land allocation on private commercial forest land is being dealt with in a different way, which raises some interesting issues for us to explore today.

Oregon embarked on a new public-policy experiment in 1973 when the Oregon Legislature passed SB 100, creating the Land Conservation and Development Commission and requiring that each of Oregon's 36 counties prepare a comprehensive plan and zoning program subject to review and approval by that agency. I played a small role in the passage of SB 100 and remember very well the intense public debate associated with this important legislation. A primary goal of this legislation was the protection of important resource lands (particularly farmland, but also forest land) from conversion to other uses such as urban development.

Today, 15 years after the passage of SB 100, I suggest that the jury is still out as to whether it has adequately accomplished this goal. It is true that every county now has an acknowledged comprehensive plan, one approved by the LCDC as having met the statewide planning goals. One of these is Goal 4, which is designed to protect and conserve forest lands. The problem is, what are these forest lands being protected for? The answer is that SB 100 was designed to protect not only resource lands but environmental values; this was reflected in Goal 5, which required the protection of wildlife habitat, scenic vistas, rivers, and so forth. These values were superimposed over all the other goals, including the forest land goal.

Trying to employ land-use plan-

Table 1. Comparison of total land and suitable timber land in Oregon National Forests: Preferred Alternatives (draft forest plans)

Forest	Total	Suitable	
	(thousands of acres)	(thousands of acres)	(percent)
Eastern Oregon			
Deschutes	1,605	1,009	62.87
Fremont	1,199	705	58.80
Malheur	1,462	950	64.98
Ochoco	957	495	51.72
Umatilla	1,403	637	45.40
Wallowa-Whitman	2,255	832	36.90
Total	8,881	4,628	52.11
Western Oregon			
Mt. Hood	1,060	513	48.40
Rogue River	629	336	53.42
Siskiyou	1,094	529	48.35
Siuslaw	630	383	60.79
Umpqua	985	626	63.55
Willamette	1,676	858	51.19
Winema	1,035	752	72.66
Total	7,109	3,997	56.22
Total Oregon	15,990	8,625	53.94

ning to achieve sound resource management, while at the same time imposing statewide requirements to protect environmental values, has resulted in mixed messages to forest landowners. The state is saying, we want you to keep your land in forest production, but we may limit your ability to produce wood fiber because you must protect wildlife habitat, riparian areas, and so forth.

I must add a note of clarification at this point. I fully support the need to protect soil, air, and water resources on the land as part of the natural stewardship responsibility of any landowner. In addition, fish and wildlife resources must be managed properly. What I am critical of is removing land from production based on inadequate scientific data as to what is required to protect these resources.

It is difficult to quantify the impact of Goal 5 protection in terms of lost wood-fiber production. In a paper presented recently at a streamside management conference at the University of Washington, John Garland said:

Streamside management today focuses on buffer strips. Larger buffers and buffers on more streams are being requested of regulatory agencies. There has been little assessment of the cost impacts. In an abstract sense, the costs associated with a 60-foot buffer on either side of a stream may seem small. However, when the full implications are totaled for a section of land, the costs can be enormous.

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Table 2. Land suitability for timber management in the Willamette National Forest

Category	Unsuited And Unavailable Lands	Total Acres
Total National Forest area		1,798,737
Other ownerships	123,330	
Net National Forest area		1,675,407
Water	23,101	
Nonforest lands and uses	122,328	
Roads	22,753	
Forested lands (stocked with 10 percent or more tree cover)		1,507,223
Withdrawn from scheduled harvest		
Wilderness	305,915	
Research natural areas (established)	1,450	
Oregon Cascades Recreation Area	5,695	
H.J. Andrews Experimental Forest	14,505	
Risk of irreversible resource damage	42,705	
Regeneration difficulty (5+ years)	131,561	
Forested lands tentatively suitable		1,005,394
Forested land unavailable due to:		
Meeting multiple-use objectives		
Research natural areas (proposed)	3,029	
Special interest areas	15,251	
Old-growth groves	3,925	
Special wildlife habitats	11,348	
Dispersed recreation areas	52,386	
Developed recreation areas	2,931	
Elk/deer thermal habitat	4,971	
Stipulated mining claims	128	
Meeting minimum management requirements		
Spotted owl habitat	42,634	
Pileated woodpecker habitat	3,144	
Pine marten habitat	6,500	
Threatened and endangered species (bald eagle)	977	
Forested land suited to and available for scheduled timber harvest		858,170
Total unsuited and unavailable	940,567	

The Oregon Forest Industries Council conducted an economic analysis in 1986 of the riparian rules then under consideration by the Oregon State Board of Forestry, and found that in western Oregon alone, 225,290 acres would be directly affected, with a lost annual harvest of 128 million board feet.

The current riparian rules require buffer strips along class I streams, streams that are significant fish-bearing streams. Biologists in the state Department of Fish and Wildlife argue that if any fish are present in a stream it should be designated class I. The impact of this decision, particularly on our coastal streams, would add enormously to the acreage in riparian areas and hence to lands essentially removed from forest production.

My point, then, is that land-use planning, designed to preserve and protect Oregon's commercial forest land base, is not working because other public-policy decisions are being made that restrict production on these lands. I have mentioned the riparian lands issue as one example. Other current issues illustrate the same point. HB 3396, passed by the 1987 Oregon Legislature, mandated that the Board of Forestry adopt rules to protect:

- Threatened and endangered fish and wildlife species listed under either state or Federal law.
- Sensitive nesting, roosting, and watering sites for birds.
- Biological sites that are ecol-

ogically and scientifically significant.

- Significant wetlands.

The law requires site-specific protection by rules promulgated by the Board of Forestry. The state Fish and Wildlife Commission is currently in the process of considering wildlife species for inclusion on Oregon's list of threatened and endangered species. The Department has analyzed three species to date: the spotted frog, the northern spotted owl, and the marbled murrelet. If any of these species are finally added to the list, the Board of Forestry will be required to adopt forest-practice rules, similar to the riparian rules, for their protection.

Another group of issues relates to water quality. The Oregon Department of Environmental Quality is putting pressure on forest landowners in two ways: requiring compliance with Section 319 of the Federal Clean Water Act regulating non-point-source pollution—which includes forest practices—and regulating total maximum daily load (TMDL) in selected watersheds that are at risk from a water-quality standpoint. In addition, there is growing criticism of forest practices within watersheds because of the impact of these practices on domestic drinking-water systems. The Federal Clean Water Act requires forest landowners to provide treatable water. Purveyors of water for domestic consumption want water coming off forest land

to be drinkable.

State fire policy has a significant impact on forest land allocation decisions and, ultimately, productivity. A major current problem is the growing proliferation of residences in the forest. This is resulting in conflicting firefighting strategies. What should be the priority for the firefighters—protection of the forest resource, or protection of the residences? There is even a lack of clarity under Oregon law as to what government entity has jurisdiction over structural fires in areas outside rural fire protection districts. Another aspect of this issue is, who should be responsible for paying for fire protection on forest land? Today, the forest landowner in western Oregon bears the entire cost. Contrast this with California, for example, where the state pays the entire cost of forest-fire protection, and Washington, where the state pays approximately 50 percent.

In summary, Oregon's immense commercial forest land base will remain as this state's most powerful economic asset. Virtually all of these lands will continue to be designated as primary forest lands under Oregon's land-use laws. The real issue, however, is whether we will squander this resource based on well-meaning but poorly thought-through public-policy decisions that will keep these lands from realizing their full potential in wood-fiber production.



Resource Allocation on Private Lands: Selecting Among Alternative Uses



Henry R. Richmond is Executive Director of 1000 Friends of Oregon. This lecture was originally delivered Oct. 6, 1988, at Peavy Hall, Oregon State University, Corvallis, Oregon.

“Those who urge a community interest in land and the landowner’s obligations to the permanent community are philosophically more in keeping with the Judeo-Christian tradition.”

By Henry R. Richmond

No one has made the point I want to make today better than Barte Starker, member of the Oregon Board of Forestry and Executive Vice President of Starker Forests, Corvallis. In a recent interview (Oregon Department of Forestry 1988), Mr. Starker was asked his view of the key changes between now and the year 2000. He said, “The thing that won’t change is the fact that Oregon has some of the most productive timber land in the world, and we have Douglas-fir, the most valuable and structurally unique species in the world.”

When asked about his goals as a board member, Starker said, “It is my hope that I can contribute to a stabilization in the land base and give forestry and the state of Oregon a stable future for investments in forestry.”

Regarding harvest reductions on federal lands, Starker said:

Companies that tend to be cut off from the log supply tend to look at small private land as their next best resource for those logs and they go in and cut and run. I see that as a real risk we run if we’re unable to stabilize the land base. I hope we are able to do that over the next few years.

I couldn’t agree more with those statements. And it’s important to recognize, as Starker does, that the issue of stability relates not to industrial land but to nonindustrial private forest land (NIPF)—the ownership class that does not also own processing facilities.

The first point I want to make today is why I agree the Board of Forestry and the Oregon Legislature are justified philosophically in exercising legislative power, granted by the state constitution, to “stabilize the land base”. By “stabilize”, I mean make long-term allocations of productive NIPF lands for the use of growing timber.

Second, apart from philosophical considerations, I will discuss why it is important for Oregon’s economic future that state officials establish policies that reliably allocate western Oregon NIPF land for timber production.

Third, I would like to offer policy choices that state officials could consider to accomplish these timber-production objectives.

The Traditional View: Man as Trustee

What philosophical considerations are relevant to the question of private forest-land allocations? One source of perspective is how our Judeo-Christian heritage has viewed the concept of land generally. What do our traditions say about how to balance individual landowners’ desires to use forest land in any way they might wish, at any time, with society’s permanent need for wise use of forest land?

From the perspective of the Judeo-Christian heritage, those who insist upon absolute rights of

ownership are asserting the radical, historically anomalous view, whereas those who urge a community interest in land and the landowner's obligations to the permanent community are philosophically more in keeping with the Judeo-Christian tradition.

The Old Testament tradition holds that Yahweh is the owner of the land and that man acts as His trustee. "Land must not be sold in perpetuity for the land belongs to Me; you are only strangers and guests with Me." (Leviticus 25:23)

"The intent was not to guarantee the unfettered individual right to build shopping centers and subdivisions anywhere, at any time. Certainly no one anticipated in 1787 that North America's vast virgin forests would someday be nearly gone."

The Roman Catholic view since Aquinas has also been that man acts as a trustee of the land and has essentially an income interest in it, but not the right to invade or destroy capital. The capital—the productive land itself—belongs to future generations who are the beneficiaries of this trust relationship. The nature of the trust imposes a restraint on the self-interest of the current landowner trustee (Guerry 1964).

The Protestant tradition is similar, with Calvin teaching that mankind shares a trusteeship of land, but that, on forming civil government, man transferred this trustee responsibility to government.

In the 17th century, land transactions in the American colonies reflected this traditional view.

Productive land was sometimes private and sometimes held in common. Charters sometimes specified the maximum population of the towns, determined by estimates of productive potential of the land and the permitted range and size of landholdings. The land was essentially zoned to separate land for homes and gardens, grazing, churches, and woodlands.

Towns in Connecticut, for example, usually retained control over all sales of land so that a population with a needed mix of skills could be maintained. As early as 1666 the colonial legislature of Connecticut granted all towns a right of preemption—no private owner could sell land without first offering it to the town. The town's common interest clearly took precedence over the landowner's interest in unfettered use or discretion (Strong 1981).

John Locke is often cited for support of the proposition that government should not regulate property, and it is asserted that the founders accepted John Locke's ideas (*Wall Street Journal* 1987). As a 17th-century philosopher and leading Puritan apologist, John Locke was certainly a strong supporter of the rights of property and the role of Parliament as a check on the power of the King. However, Locke's theory of property is not narrow. It is more a community-based expression of a labor theory of value. In *Of Civil Government*, Locke wrote: "God commanded man to subdue the earth, i.e., improve it for the benefit of life, and therein lay out something upon it that was his own, his labor." (Beatty and Johnson 1966) Locke emphasizes the use of land for the benefit of life generally, not simply for the current owner. Thus, the landowner owns not the land itself but what is brought to the land—namely, the landowner's labor or capital.

It was in this ethos that the just-compensation clause of the Fifth Amendment to the U.S. Constitution was written 2 centuries ago. The concern was over forced quartering of British troops in the homes of American colonists. The intent was not to guar-

antee the unfettered individual right to build shopping centers and subdivisions anywhere, at any time. Certainly no one anticipated in 1787 that North America's vast virgin forests would someday be nearly gone and that state forestry officials like Barte Starker would be concerned about stabilizing the forest-land base to assure second-growth timber production on the best timber lands on the entire continent.

Attitudes of the 19th Century

These traditional attitudes about man's relationship to land changed after the American Revolution. That change intensified throughout the 19th century, when the United States rushed to the Pacific Ocean—a rush fueled by the policies of the national government and the dreams of settlers.

The United States had a vital interest in extending the population across North America to keep Britain out of the North and Mexico out of the South. The young nation needed citizens to take hold of natural resources, create economic development, generate revenues, and form the basis for military planning and national security.

The Federal government supported these objectives by conveying publicly owned land to railroads, farmers, and other private interests that could be expected to extend American influence across the continent. Unlike the English king, Congress asked only productive use in return for this gift of land—land which the government had purchased only a few decades before with public funds.

In the 19th century, several factors led to a new view of land that emphasized the unrestricted rights of individual owners. These factors included the disappearance of all vestiges of feudalism (with its limitations on use imposed by higher authorities); the plenitude of land; the difficulty of reaching, subduing, and holding it; the absence of restrictions, due to the distance from, or even lack of, government; and the pioneers'

great desire for land ownership.

However, in the 20th century, with public resources extensively distributed to private owners and the continent settled, many are reexamining the anomalous ideas about man's relationship to land that surfaced in the 19th century—ideas which, in the 20th century, are often put forth as “traditional”. Increasingly, however, the true traditions of our culture are seen in the treatment of land as a trust asset, with man acting as a trustee of that asset and with current and future owners, and society in general, accorded an income interest in the land. Rights to urbanize land are not seen to inhere in the land itself but to be allocated by society, parcel by parcel, as is done in Britain, West Germany, and other free societies (Reilly 1973).

The Other Half of Sustained Yield

What do these principles have to do with NIPF land in western Oregon? A lot, I think. They present the concept of sustained yield less as a management technique and more as a rationale for allocating highly productive forest lands for timber production to protect society's fundamental interest in the creation of wealth and economic welfare.

Since World War II, the concept of sustained yield has usually been associated with overutilization of a forest resource. Earlier today, Ward Armstrong distributed a paper by Harold R. Walt, Chairman of the California Board of Forestry (Walt 1988). Walt's paper discusses sustained yield in connection with the Maxxam buyout of Pacific Lumber. Maxxam now owns 75 percent of California's old-growth redwoods and has indicated an intent to liquidate them in 20 years to retire the debt it incurred to buy Pacific Lumber. California legislators ask, is this sustained-yield forestry?

But in connection with the NIPF resource, the issue of sustained yield relates to the “yield” half of the equation, not to the “sustained” half. It relates to the problem of wasting a major capital asset

through *underutilization*, not *overutilization*. Available evidence strongly suggests that western Oregon's NIPF land is not being managed to produce the economic benefits that Oregon needs and should expect. Here are some points to consider:

- Timber harvests from 1975 to 1985 have been only 257 million board feet, despite the finding of the 1976 Beuter Report that with only a “modest” increase in management intensity, harvest could increase almost immediately to 1.0-1.4 billion board feet (Beuter et al. 1976, p. 19).

- The Beuter Report found that only 3 percent of the 2.2 million acres of NIPF land are receiving any kind of management intensity (Beuter et al. 1976, p. 20, Table 5).

- About 36 percent—750,000 acres—of the 2.2 million acres of NIPF land has been allowed to grow back to dense stands of hardwood and brush after old-growth softwoods were logged off decades ago. Conversions to softwoods in the past decade have been negligible (MacLean 1988).

- NIPF stands over 50 years of age typically have only 40 percent of the volume expected in fully stocked stands. NIPF clearcuts yield only about 11,000 board feet per acre, compared to 40,000 board feet per acre on industry lands (MacLean 1988).

- Of those NIPF lands that were successfully reforested (1972-1979) as required by law, only 60 percent were found to be “free to grow” in terms of brush competition, according to a 1987 study by the Oregon Department of Forestry. In contrast, reforested industrial land yielded a 90 percent success rate (Oregon Department of Forestry 1987).

On the theory that NIPF lands are being managed responsibly, the legislature has required counties to extend favorable property-tax treatment to these lands as an incentive: about \$1.50 per acre per year.

NIPF land is not only being underutilized. It is also being converted to other uses during a time when both reforestation and land-use laws have been largely in ef-

fect. From 1970-1977, 928,000 acres of forest land went out of the NIPF class. Of this, industry bought about 271,000 acres, but the balance—652,000 acres—does not show up in Forest Service inventories of commercial forest land for the period ending 1977 (U.S. Forest Service 1982).

“Oregon is not getting sustained-yield timber management and production from these lands, or anything close to it.”

In other words, productive trust capital is not being managed to produce income, and the capital itself is being eroded. Oregon is not getting sustained-yield timber management and production from these lands, or anything close to it. In my view, the people of Oregon have a legitimate expectation that forest-land capital will generate a reasonable stream of income, but state officials have either failed to allocate these lands to productive purpose, or have failed to do so effectively. In either case, the public interest in maintaining these lands in a productive, income-producing posture is not being served.

Which brings me to the second point of my talk: Why it is important economically that state officials allocate western Oregon NIPF land for timber production. I see five reasons:

1. To realize long-term timber production potential from world-class quality land.

As Barte Starker says, these are some of the most productive lands in the world. Of Oregon's total of 22.7 million acres of commercial forest land, the 2.2 million acres of NIPF lands make up one-third of western Oregon's 6.3 million acres of private timber lands. These private lands are by far the state's most productive timber land

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Table 1. Area of commercial forest land (in thousands of acres) by land and site class for each owner category in western Oregon, 1975.

Site class	National Forest	BLM	State, other public	Forest industry	NIPF	All Owners
Standard land class						
High	333.05	261.19	103.25	1,912.00	862.00	3,471.49
Medium	688.08	912.21	694.05	1,657.00	774.00	4,725.34
Low	1,568.93	634.93	—	510.00	574.00	3,287.86
Very low	275.11	—	—	—	—	275.11
Total	2,865.17	1,808.33	797.30	4,079.00	2,210.00	11,759.80
Special land class						
High	105.67	15.19	—	—	—	120.86
Medium	219.49	61.26	—	—	—	280.75
Low	350.29	45.78	—	—	—	396.07
Very low	89.73	—	—	—	—	89.73
Total	765.18	122.23	—	—	—	887.41
Marginal land class						
High	118.73	—	—	—	—	118.73
Medium	117.69	—	—	—	—	117.69
Low	378.54	—	—	—	—	378.54
Very low	58.81	—	—	—	—	58.81
Total	673.77	—	—	—	—	673.77
Other-objectives land class						
High	36.22	13.74	8.81	—	—	58.77
Medium	37.38	49.99	59.61	—	—	146.98
Low	116.49	35.73	—	—	—	152.22
Very low	39.39	—	—	—	—	39.39
Total	229.48	99.46	68.42	—	—	397.36
All land classes						
High	593.67	290.12	112.02	1,912.00	862.00	3,769.85
Medium	1,062.64	1,023.46	753.66	1,657.00	774.00	5,270.76
Low	2,414.25	716.44	—	510.00	574.00	4,214.69
Very low	463.04	—	—	—	—	463.04
Total	4,533.60	2,030.02	865.72	4,079.00	2,210.00	13,718.34

Source: Beuter et al. 1976. Table 2, p. 7

and Oregon's most important economic asset. There is more high-site acreage (land in site class I and the upper two-thirds of site class II) on the 2.2 million acres of NIPF land in western Oregon than on BLM and Forest Service land put together. While 862,000 acres of NIPF land are categorized as high-site acreage, only 261,000 acres of BLM land and 333,000 acres of Forest Service land are so categorized (Table 1).

Under intensive management, even Oregon's site class IV private forest lands can be more productive than the top one-half of 1 percent of the forest lands in the South, and 10 to 15 times more productive on the average than Soviet forest lands (Newton 1988).

The OSU Extension Service projects a 13 percent real pre-tax rate of return on a 50-year site class III Douglas-fir timber investment, assuming cost share (OSU Extension Service 1983).

Assuming that hardwood stands on softwood sites are converted to softwood, applying McArdle yield tables to Beuter's 1976 distribution of 2.2 million NIPF acres shows harvests of about 2 billion board feet per year, forever (Table 2). Harvests over the last decade are about one-eighth that amount.

Obviously, not every acre can be managed. A 15-30 percent reduction from yield-table projections should be made to reflect roads, riparian areas, and so forth. On the other hand, small owners can get more production per acre than yield tables suggest industrial owners will get. An industrial forester may be responsible for 10,000 to 20,000 acres. The owner of 100 to 500 acres experiences less mortality because he or she knows every tree. Weak or crowded trees can be removed while some value still can be realized and growing conditions for the balance of the stand improved.

Thus, the potential increase of 1.3 billion board feet or greater in long-term NIPF timber production and harvest is dramatic—given that western Oregon's harvest from *all* ownerships has averaged about 5.5 to 6 billion board feet in the last 15 years. This increased

timber growth and harvest means millions of dollars annually in business income, stumpage proceeds, and local tax revenues, as well as thousands of jobs in timber-dependent rural communities. But the true economic significance of this potential increase in NIPF productivity is best understood in the new forces dominating Oregon's economy.

Oregon's entire economic welfare is being at once secured and battered by the process of forest-products mill mechanization. On the one hand, mill mechanization has accomplished a fundamental good. It makes Oregon forest products competitive interregionally. On the other hand, mill mechanization has caused a serious loss of permanent jobs (not seasonal jobs, as in the old days) and a devastating loss in labor income.

“Increasing management and harvest on NIPF lands would give a major boost to employment and to the state's economy generally at a time when everyone agrees timber supply and unemployment problems will otherwise become severe.”

The value of an industry to an economy is measured not primarily by output of product or total employment, but by labor income and the new dollars from outside the state that circulate through Oregon's economy. Forestry has traditionally accounted for nearly half of Oregon's “base industry” labor income—43 percent in 1979. However, Oregon experienced a \$770 million decline in forest-products labor income—25.6 percent—

when the figure dropped from \$3.03 billion in 1979 to \$2.25 billion in 1986 (Keegan and Polzin 1987).

Oregon and Washington lumber production levels were actually higher in 1986 than in 1979 (12.28 billion board feet versus 11.15 billion board feet) but 32 percent fewer sawmill workers (32,320, down from 50,270) were needed to attain those levels. This labor-income loss due to mechanization is the main reason average per capita income in Oregon slipped from \$105 *above* the national average in 1979 (Oregon \$11,594; U.S. \$11,489) to \$1,177 *below* the national average in 1984 (Oregon \$11,612; U.S. \$12,789).

The best way to reverse or at least slow the reduction in economic benefits that a more competitive forest-products industry can provide Oregon is to increase timber supplies so that investments in additional modern processing facilities can be made.

Fortunately, such investments are feasible because today's Douglas-fir region is in a strong, competitive position. The timber-supply outlook in the South is less favorable than was thought to be the case 10 to 15 years ago. Timber growth of established stands has slowed by 10 to 15 percent; no one is exactly sure why. In addition, no southern state has enacted reforestation laws, and NIPF reforestation rates in the South are a disastrous 1 to 3 acres replanted out of 10 cut. This is important, because 73 percent of the timber base in the South is NIPF. Looking north, British Columbia timber supplies are impaired by higher logging costs as operations extend to marginal, more difficult sites. Hence, given adequate timber supply, Oregon could exploit this advantage and not only restore high-paying manufacturing jobs, but also regain market share lost in the last 20 years.

The point here is that sustaining new processing capacity to accomplish these important employment and market-share goals is possible only by reversing the underutilized posture of NIPF lands. No other owner class of timber land has the potential to

Table 2. Acreage, approximate potential yield, and mean annual increment by Douglas-fir site class for western Oregon nonindustrial private forest lands, 1975.*

Site class (from Beuter Report)	Site class (index) (from corresponding technical bulletin 201)	Acres (percent of NIPF acreage) (from Beuter report)	Age	Annual potential yield ¹ (cubic feet)	Annual potential yield ¹ (board feet international rule)	Total mean annual increment ² (board feet international rule)
High	All of site class I, upper 2/3 of site class II (100-year site index \geq 166)	862,000 (39)	50	167,918	1,124,048	1,258,520
			60	172,400	1,222,603	1,217,719
			70	171,784	1,260,983	1,126,347
Medium	Lower 1/3 of site class II, all of site class III, upper 1/6 of site class IV (site index 120-165)	774,000 (35)	50	101,394	574,308	574,308
			60	109,650	670,800	668,736
			70	111,014	725,349	725,238
Low	Lower 5/6 of site class IV, all of site class V, upper 1/2 of site class VI (site index 50-119)	574,000 (26)	50	23,878	109,060	117,861
			60	31,379	152,110	159,189
			70	34,932	181,220	187,889
Totals		2,210,000 (100)	50	293,190	1,807,416	1,950,689
			60	313,429	2,045,513	2,045,644
			70	317,730	2,167,552	2,039,474

* Yield and mean annual increment in thousands of cubic or board feet for trees 7 inches DBH and larger.

¹ Number of acres times yield per acre, divided by age.

² Number of acres times M.A.I. per acre.

Source: McArdle, *The yield of Douglas-fir in the Pacific Northwest*.

Calculations: R. Holoch, staff forester, 1000 Friends of Oregon.

significantly increase its long-term cutting rates above current or recent levels.

2. To avoid timber-supply-induced recession from 1990 to 2010.

Wholly apart from the long-term economic arguments for allocating NIPF land to timber production, western Oregon is now facing a 20-year period of harvest reductions on National Forest lands (200-250 million board feet) and industrial lands (650-700 million board feet), totaling about 1 billion board feet annually. Con Schallau calculates that these harvest reductions mean cumulative job losses ranging up to 24,000 jobs over the next 20 years (Figure 1). This estimate is wholly independent of additional job losses

due to future mill mechanization.

As noted, the Beuter Report found that with only modest increases in management intensity, NIPF harvest could increase almost immediately from 260 million board feet to about 1.0-1.4 billion board feet. By way of comparison, Gov. Goldschmidt would probably count his National Forest plan review project a stunning success on the west side if he could persuade the Forest Service to cut projected reductions by 100 million board feet.

I hasten to add that I do not mean to imply that NIPF harvests can provide some kind of a neat or total offset of the declining harvest on Federal and industrial lands. Second-growth timber is smaller and of different quality

than old-growth Federal timber. In addition, NIPF supplies may not match up with industrial and Federal shortages in terms of location.

Still, increasing management and harvest on NIPF lands would give a major boost to employment and to the state's economy generally at a time when everyone agrees timber supply and unemployment problems will otherwise become severe.

3. To protect timber production on adjacent land.

Getting NIPF land into production is important not only because of the economic benefits the land itself could provide, but also because managed NIPF lands would protect timber production on adjacent Federal and industrial lands.

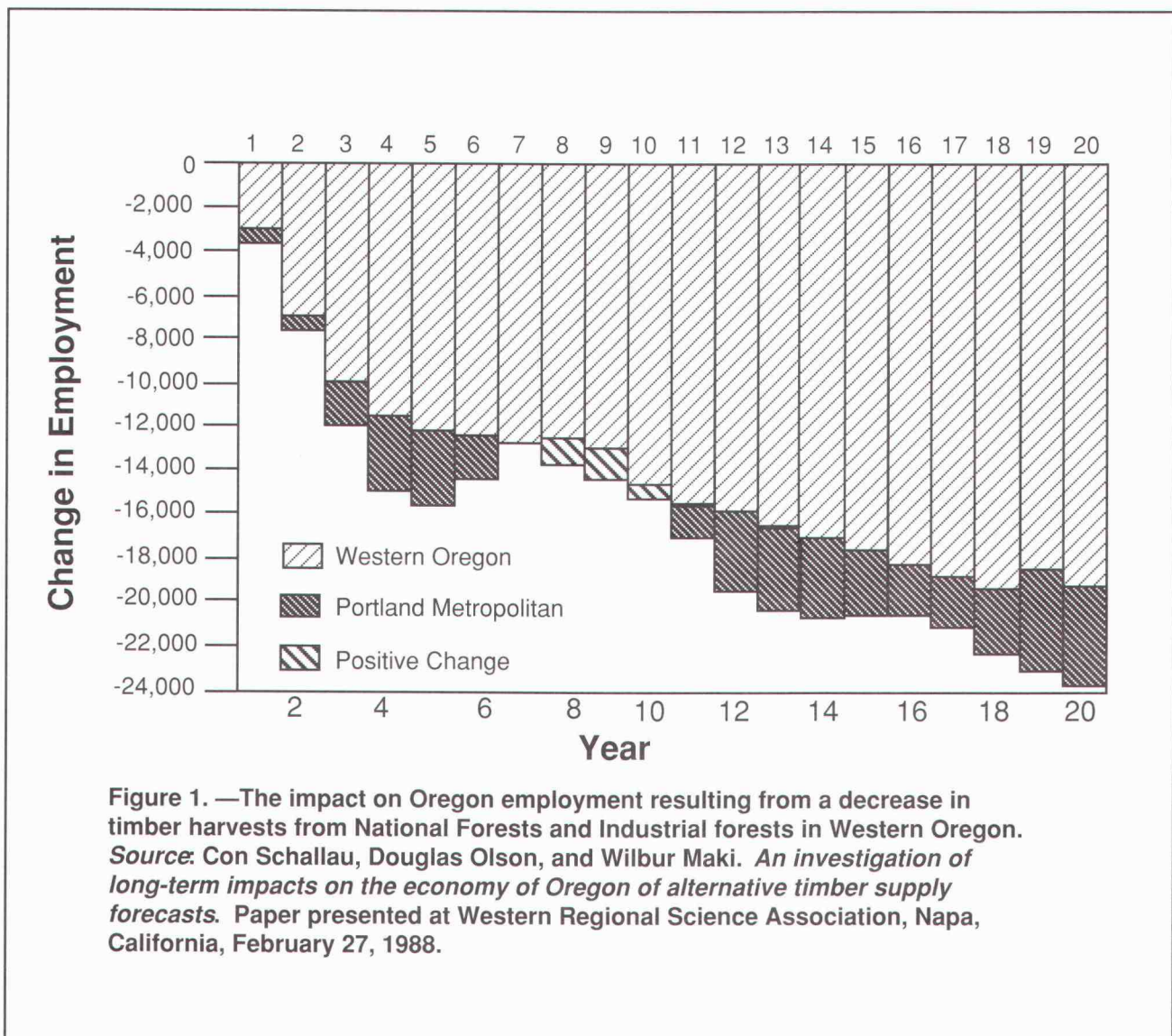


Figure 1.—The impact on Oregon employment resulting from a decrease in timber harvests from National Forests and Industrial forests in Western Oregon. *Source:* Con Schallau, Douglas Olson, and Wilbur Maki. *An investigation of long-term impacts on the economy of Oregon of alternative timber supply forecasts.* Paper presented at Western Regional Science Association, Napa, California, February 27, 1988.

Ward [Armstrong] has submitted the copy of remarks by the chairman of the California Board of Forestry, describing regulations that rural residents have been able to persuade California county governments to impose on logging and forestry operations—no log trucks being driven during commuting hours, for example.

Typically, NIPF lands are located between population centers and industrial and Federal lands. Residents in these areas traditionally either have been or are presently involved in farming or forestry. They are often sympathetic to farming and forestry because they are from families perhaps one generation removed from those activities.

Gradual conversion of these lands to upscale commuters, out-of-state retirees, and other people concerned primarily with amenity will slowly transform NIPF lands from a protective, sympathetic buffer to an increasingly troublesome, hostile source of conflict. This is gradually happening now on northern California's 3.5 million acres of NIPF land. The friendly rural "watchman" who now benefits some Oregon industrial forest landowners will become a hostile litigant, a vandal, and a political opponent locally and statewide. Without policies assuring management of NIPF lands, it is only a matter of a few decades before this destructive trend fastens itself onto Oregon forests.

The financial stakes are big. In the Federal fiscal year ending September 30, 1988, BLM paid \$109 million to the 18 O&C counties. This represents half the gross (not half the net as in Forest Service lands) from BLM timber harvests. Counties pay no cost to manage this immensely valuable financial asset. Despite this bounty, county officials are slowly killing the goose that lays the golden egg by approving rural residences and partitions to which BLM timber managers increasingly object. Residents of these houses are often the source of appeals of BLM timber sales. This week, for example, BLM is objecting to a pending application for a new home on forest land in Benton

County. The county staff recommends approval.

Champion International recently had to go to court to overturn an illegal dwelling approved by Douglas County. Publishers Paper and Crown Zellerbach have had to do the same thing in two other western Oregon counties. Unless there is a change in policy, these cross-property-line problems will only get worse.

4. To utilize existing public and private forest-related investments.

Oregon needs adequate timber supplies not simply to avoid wasting high-quality forest land, but to avoid wasting major private and public investments dependent on forest-land utilization.

Oregon has more timber-processing facilities than any five southern states combined. It has the world's largest university-based forest research institution. It has a state highway and road system designed in large part to haul timber to mills and finished lumber products to market. It has major public-policy and governmental apparatus designed to support and regulate forestry. The public and private investments made to create these assets are wasted to the extent that raw materials needed to make these assets productive are not available.

And it is well to remember how dependent non-forestry investments are on forestry. All the bankers, barber shops, bakeries, law firms, schools, utilities, restaurants, insurance companies, taxicabs, and other service industries are viable only to the extent of the basic wealth and the demand for services created by timber and agriculture—land-based industries that alone accounted for 48 percent of all manufacturing employment in Oregon in 1988—and by other manufacturers who sell products out of state.

The same is often true for the value of the principal financial asset of most Oregonians—their home. In small towns, when the mill shuts down or slows down, whether due to slow markets or lack of timber, real-estate values

decline for everyone, not just the millworker thrown out of work. For those who must move and sell their homes, a slow local economy creates a fire-sale atmosphere. Home equities are slashed. Relocating employees trade down, not up. And when assessed property values go down, a vicious cycle sets in: tax rates go up and voters reject school levies.

5. To contain the cost of fighting forest fires.

The 1987 forest fire season cost Oregon \$180 million in burned timber, fire-suppression costs, and replanting expenses. Rural residences are a source of fire. Rural residences impair effective fire-fighting practices such as backfires. Rural residences divert limited fire equipment and personnel from protection of timber to protection of dwellings, notwithstanding the sources of funds to pay for the men and equipment.

This is a major concern for Oregon's biggest manufacturing employer. This is a major concern for the Oregon Board of Forestry. Without policies carefully restricting future forest dwellings, this problem also will only become worse.

Stabilizing Forest Lands: Some Policy Options

For the five reasons stated above, no issue facing Oregon today is more important than forest-land stabilization, particularly as forest-land ownership is increasingly separated from processing-facility ownership. Financing schools and building prisons are secondary issues by comparison.

In considering how NIPF lands should be allocated, we have to recognize that land-use planning can't solve the problem by itself. But if the forest land base is not to be further destabilized, land-use policies that prevent the kinds of uses which destabilize the forest land base are an essential step.

Oregon should adopt policies to strictly limit the creation of new parcels for houses and non-forest uses, and strictly limit dwellings on existing parcels. The goal should

be to ensure that the placement of dwellings does not increase risks of fire or result in the partitioning of forest land into ownership sizes that can't be managed efficiently over many rotations—probably nothing less than 160 acres. Dwellings on forest land should also be limited to those necessary and accessory to forest management, as the Oregon Supreme Court recently ruled (*1000 Friends of Oregon v. Lane County* 1988). Owners of existing parcels should expect to buy additional land totaling 80 acres if they wish to have a dwelling. Leaders of the Oregon Small Woodland Association (OSWA) have done just that in building some fine operations.

The land price structure that can result from a stabilized forest base will help make forestry investments possible. Why does this matter? Because the private investment needed to convert the 750,000 acres of unmanaged NIPF hardwood stands in western Oregon to softwoods runs about \$300-\$500 per acre, or \$225-\$375 million. One way to stabilize the land base is to stabilize land prices in terms of forest use. There is probably no more fundamental objective in the land-use program than to contain the speculative price effects that make needed timber investments financially impossible.

A gradually unraveling forest-land base doesn't simply mean specific parcels are taken out of production. The commonly perceived potential for residential development also results in the imposing of rural residential land prices on forest-land markets, making it unlikely, if not impossible, that timber investors (large or small) will eventually buy and manage the land. Agricultural investors are affected in the same way.

Similarly, residential areas would collapse if sellers could "beat the zone" by selling land for commercial uses. The prospective homebuilder seeking to effectuate public policy favoring housing at a particular location could not pay commercial land prices and make a profit selling a house.

The debate before the Land

Conservation and Development Commission (LCDC) is over how much more rural homesite development should be allowed on and adjacent to land that is the state's most important economic asset. Some county officials say the forest-products industry is on its way out, and that retirement income and rural residential lifestyles in forest areas are a growth industry.

Josephine County has 970,000 acres of forest land. And it is true that retirement income had grown so fast that by 1978, at 30 percent of total basic income in the county, retirement income equaled basic income from the forest-products industry. However, from 1963 to 1980, Josephine County's real economic growth was only 4.3 percent, compared to a statewide average of 14.3 percent (Mark 1988). Throughout the 1980's, Josephine County was last among Oregon counties in per-capita income, and there are more people per capita in poverty in Josephine County than anywhere else in Oregon.

The FIR (Forestry Intensified Research) project has come up with management techniques that allow 128,000 acres of land, capable of producing 44-48 cubic feet of timber per acre per year, to go into BLM's allowable-cut base. Yet Josephine County recently persuaded LCDC, over our objections, to allow county officials to write off 60,000 acres of forest land because it fell below 85 cubic feet per acre per year. Since 1972, Oregon's Forest Practices Act has required reforestation of lands capable of above 50 cubic feet per acre per year.

What are the competing values in the debate before LCDC? The state forestry department and the industry point out that management of NIPF lands could (1) help stabilize timber-dependent communities, (2) reduce imminent substantial job losses and further labor-income reductions, and (3) generate major public and private revenue flows.

Arrayed against these values—which affect the entire state's welfare—are the wishes of a relatively few landowners to realize

one-time residential values by building houses on all parcels and by carving new parcels out of forest land for more houses. Which value is more important?

The cry is "I should be able to live on my land". However, 70 percent of OSWA members already live on their forest land. The real question is whether the land should be further fragmented and developed

State officials must wade through the fog of anti-LCDC slogans and reject the claim that it is appropriate for the short-term financial gains of a few to come at the expense of the long-term economic welfare of the entire body politic. For Oregon to allow land uses that frustrate the efficient and long-term productivity of its world-class forest lands is tantamount to Texas' capping off its oil wells and West Virginia's putting locked gates on its coal mines. Some forms of economic suicide are just a little more obvious.

"It takes a long time to grow a tree. If forest-management expenditures can be offset only against ultimate harvest income, landowners may stop spending money to grow trees."

In looking at LCDC proposals for private forest-land policy, people in forestry should be concerned. While LCDC is busy, Gov. Goldschmidt is also reviewing preliminary forest-land allocation decisions by National Forest managers. Norm Johnson is asking, for example, why management is not being proposed on 135,000 acres of low site class IV and high site class V lands that the Willamette National Forest staff says can't be regenerated. I am not taking sides on that issue, one way or the other.

I don't know the answer. My point is that right across the boundary line separating the Willamette National Forest from Lane County, LCDC is considering a definition of "secondary" forest land that would open up tens of thousands of acres of large-parcel NIPF lands of site class III or better to new 20-acre partitions and new homes on every existing parcel. Existing timber stands will become unharvestable backyard "amenities.". Lane County is on record as wanting to "open up" some 60,000 acres of such land for rural residences—an area the size of Starker Forests. Other counties have the same idea.

Apart from going in the wrong direction on NIPF lands, the State of Oregon could end up speaking with a "forked tongue" with respect to the issue of what forest land is productive and what forest land isn't. That inconsistency could blow up in Oregon's face.

When push comes to shove on Forest Service planning issues, Congressman Sidney Yates from Chicago, or a Ninth Circuit Court judge from San Francisco, is going to say Oregon's claims of a timber shortage sound pretty hollow when the state is proposing to relegate NIPF land to rural residential development, given that NIPF land (1) is more productive than the Federal land and (2) has standing timber in age classes that can help solve the state's timber-supply problem.

Tax Policies that Encourage Investment

As I mentioned, land-use policies can't do the job alone. Oregon has an interest in forestry's being financially feasible. Taxation must also be supportive of timber production. Carrots must accompany sticks.

1000 Friends of Oregon has joined with Oregon, California, Washington, and national woodland owner groups in asking the U.S. District Court in Portland to enjoin the IRS from adopting proposed regulations that would prevent some NIPF landowners from deducting forest-management

expenses against ordinary income. These regulations can be a serious disincentive to making the kinds of forestry investments Barte Starker and others are calling for. We believe the National Environmental Policy Act (NEPA) requires the IRS to prepare an environmental-impact statement before adopting these regulations. It takes a long time to grow a tree. If forest-management expenditures can be offset only against ultimate harvest income, landowners may stop spending money to grow trees. This would increase pressure for change of use, or at the very least, would diminish the quality of management of these lands.

A consulting economist helped us estimate the reduced value of forest-land assets caused by the passive-loss regulations. He came up with \$93 per acre (Wilson). This is somewhat theoretical in that we don't really believe that amount will be capitalized. Actual forest-land sale transactions for forest use would have to be checked to see what kind of impact the proposed regulations might have on land values. But if the passive-loss regulations (or for that matter, the loss of capital gains) are going to reduce asset values, that impact should be cranked into the valuation formula used by the Western Oregon Severance Tax and the Western Oregon Small Tract Option Tax that applies to NIPF lands.

More directly, with respect to property tax, it may be desirable to establish a stronger definition of "forest use". Landowners who met the definition would be entitled to forest-use valuation of their land. Their timber would remain exempt from ad valorem taxation.

The strengthened definition could consist, first, of stocking levels higher than 150 trees established per acre after 2 years, which is the current law. Someone who was shooting for 150 healthy trees per acre at year 2 might plant 250. But it is our understanding that most industrial concerns in the northwestern Oregon district are planting something like 375-435 trees per acre. Actual planting at something approximating these

levels, and successful establishment after 2 years, should be preconditions of approval of any dwelling on forest land, inasmuch as the rationale for the dwelling is that the owner will engage in thinning and other intensive silviculture.

Consideration should also be given to going beyond the two traditional measures of forest use in forest-land taxation—stand establishment and harvest—to some measure of stand density over the life of the stand. This would permit a simple, objective assessment to be made at any time as to whether a site is being productively occupied. If it were so occupied, forest valuation would be retained. If it were not, as in the case of an overstocked stand, some thinning would have to be done. For understocked stands, if the state had signed off on a forest-management plan and if the understocked condition had developed through no fault of the landowner, the landowner would not lose the forest-valuation assessment.

"If you have equity in your home, you can go downtown and, in a matter of a few hours, borrow a substantial percentage of your equity. By comparison, the immature timber asset is illiquid and relatively worthless from a financial point of view."

For NIPF landowners who meet a strengthened forest-use definition, the state should assume the annual \$.50-\$1.00 per-acre cost of fire suppression and prevention. This would help reduce carrying costs. California now assumes all such costs. Washington assumes 50 percent of such costs on the east

and west sides. Oregon is bringing up the rear with public assumption of 50 percent on the east side and zero percent on the west side.

Similarly, if a way can be devised to overcome the problem of differences between state and Federal tax returns, we would favor Oregon's establishing a state capital-gains rate for timber-harvest income. Woodland owners nationally are making a run at this problem in Congress. But they may not succeed. Still, that doesn't mean Oregon must do nothing on this issue. Assuming NIPF harvests of 300 million board feet, we estimate that state establishment of a capital-gains rate would cost Oregon about \$1 million a year (Wilson). This could remove a key obstacle to forestry investments.

For landowners properly managing their land to generate economic benefits in which the public shares, the state should consider creating a loan fund so that NIPF owners could accomplish conversions, buy additional land, or carry out any forest-management practice that would increase productivity. Interest on these loans could be pegged at 2 percent below prime.

Liquefying Immature Timber

Finally, I would like to discuss the question of the unmarketability of immature trees owned by NIPF owners. The typical NIPF owner is about 60 years old and has typically held the land between 5 and 20 years. The payback period on Douglas-fir is a long time—40-50 years—though one occasionally sees ingenious cutting and marketing at age 25.

If you have equity in your home, you can go downtown and, in a matter of a few hours, borrow a substantial percentage of your equity. By comparison, the immature timber asset is illiquid and relatively worthless from a financial point of view. The average NIPF owner can't borrow money to establish or manage an immature stand, and can't borrow against it once it's established. Banks aren't interested. Insurance companies, which are loaning tens

of millions in the Northwest to large timber companies, require \$1 million or more in collateral. Transaction cost and credit-worthiness reign supreme.

More important, NIPF owners can't sell timber until it's ready to cut. Despite the fact that young, second-growth timber is one of Oregon's most important economic commodities, there is no market for immature trees in western Oregon. NIPF landowners are thus often unable to realize a pro-rata, annualized rate of return on their timber investment.

“Because the state’s role is justified on the basis of market failure, it would stand ready to purchase cutting rights only for age classes of timber which industry was not already buying.”

This market failure or inefficiency appears to be a major disincentive to timber investment—not because this 2.2 million acres is not good land, but because this world-class land is owned by people who die instead of corporations or government agencies. Often only the heirs of these owners see the bulk of the return.

The State of Oregon should consider creating a market for immature timber—that is, by standing ready to buy future cutting rights from NIPF owners. A market for immature timber would not only encourage timber investments, but availability of cash sales would also reduce the waste caused by premature harvest. The availability of a market for immature timber would also help small owners deal with inheritance taxes.

The IRS values immature trees for purposes of assessing a landowner's estate, even though the

landowner would have to sell both his land and his trees to receive anything for the immature timber; and probably would have to sell at a 40 to 60 percent discount from present net worth. However, the landowner could effectively reduce his estate and his inheritance taxes by selling cutting rights to immature timber and gifting the proceeds, at a tax-free rate of \$10,000 per year, to his heirs (\$20,000 per heir if jointly owned). The landowner would then be able to allow the trees to grow through their maximum growth period. Because a well-managed stand of 85-year-old trees on only 18 acres of high-site ground can be worth \$750,000 in today's timber markets, inheritance taxes can be a major problem—both for landowners operating on a responsible silvicultural basis, and for the State of Oregon, which has a basic interest in keeping trees from being prematurely cut and forest land from being partitioned to pay taxes.

How could such a new state program be paid for at a time when the state is struggling to build prisons, pave roads, improve education, and avoid cutting welfare payments? On a test basis, the state could acquire future cutting rights on NIPF lands and trade them with a National Forest in the same market area for immediate cutting rights on the National Forest. The state would sell the rights on the Federal land to processors in the same market area. With the proceeds of these sales, the state could meet its payment obligations to the nonindustrial landowners, thus closing the loop.

The Forest Service may be able to do this under authority of the Sustained Yield Unit Act of 1944, by dealing with private landowners through the State of Oregon which, in effect, acts as the agent of the private landowners. The Forest Service would be acting in recognition of its responsibility to timber-dependent communities and to the values of community stability reflected in Forest Service statutes and regulations.

Gov. Goldschmidt says, “If you propose a new program, propose how you pay for it.” The state's cost

is purely administrative. There is no big hit on the general fund. People who get the benefit pay the bill.

Such an experiment by the State of Oregon would have several consequences. First, it would enable the Department of Forestry to test the idea of creating a market for immature NIPF timber on a broader basis; that is, broader than trading cutting rights with National Forests. To the extent that the concept is shown to be workable with the Forest Service, the state could consider assuming the burden of financing a process of purchasing immature NIPF timber, holding it for resale, and making annual payments to NIPF owners. Because the state's role is justified on the basis of market failure, it would stand ready to purchase cutting rights only for age classes of timber which industry was not already buying.

“Oregon is *the* timber state in America. We can't look to other states for answers on these issues. We have to figure it out for ourselves, unafraid of innovation.”

A second potential result could be a modest allowable cut effect (ACE) on some National Forests, accomplished without deviating from sustained-yield principles. By contractually “adding”, for example, 50,000 acres to the Willamette National Forest (out of the 270,000 acres of NIPF land in Lane County), or “adding” 50,000 acres to the Umpqua National Forest (of 420,000 acres of NIPF land in Douglas County), the National Forest has, in effect, expanded its productive commercial forest-land base by 50,000 acres. Land base plus volume and age class of standing timber are important factors

in determining allowable sale quantity (ASQ).

Of course, any ASQ, regardless of "additions" to the land base, is going to be subject to constraints such as spotted owl restrictions, dispersion of clearcuts, and so forth, as well as the matching up of age classes needed on individual National Forests with those on lands held by the Oregon Department of Forestry on contract from NIPF owners.

1000 Friends is now seeking to develop data about specific samples of NIPF land in Lane and Douglas counties and to put that data into appropriate form so that it can be run through the FORPLAN model for the Willamette or Umpqua National Forests. This would allow a precise measure of the allowable cut effect of such a procedure, as well as a 40-year cash-flow analysis of it. Through discussions with the Department of Forestry and others, we also seek to explore how such a proposal could operate administratively and financially. For example, what value should the state ask the Forest Service to place on future cutting rights of immature Douglas-fir for purposes of trading for immediate cutting rights of mature timber on the National Forest?

Bold Action

If Oregon is to realize appropriate use of these critically important NIPF lands—that is, their use in a manner which assures income to future generations—the state can't simply be a bystander. It must recognize that sustained yield means a productive, income-generating use as well as a "non-declining even flow" of timber. It must create a policy framework in which the potential for perpetual productive use of this resource is never physically compromised, and by which supportive tax and financial policies make it fair, feasible, and attractive for the owner to grow and harvest trees on these lands.

Oregon is *the* timber state in America. We can't look to other states for answers on these issues. We have to figure it out for ourselves, unafraid of innovation.

As in other areas of public policy, the outcome of this debate *will* happen. The underutilization that characterizes NIPF lands today is the result of choices made in the past. Inaction by state officials remains a choice—a choice in favor of continued economic waste in the face of economic need. By the same token, bold action can capitalize on Oregon's most strategically positioned economic asset, and can pave the way for Oregon's transition from a century of old-growth liquidation to a perpetual forestry of growing and harvesting trees on the finest forest land in Creation.

Thank you.



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Resource Allocation on Private Lands: Questions and Answers

“Given that the legal system for land ownership is not likely to change immediately, what kinds of educational programs ought to accompany the efforts to make private nonindustrial forest land more productive?”

Q Henry, my name is Gary Blanchard. Perhaps one of the biggest disincentives to forest landowners is the lack of assurance that they will be able to cut their timber at some time in the future. What are your thoughts on ways to assure us that if we make the investment we'll be able to cut? There are pressures against clearcutting, pressures against burning, spraying, and various other forest-management necessities.

A [Richmond] Well, with respect to the nonindustrial private land, we believe that there shouldn't be just the *option* to cut. We think that if you have this land, the trees should be harvested. And as I said, that is somewhat skimpily written into the existing tax statutes. We think it should be made more clear and that it should

be enforced. More generally speaking, I think Ward and others have properly stated that where there are restrictions on harvests, they need to be based on specific scientific evidence of a harm that's going to be created by the harvest. I think that's an appropriate standard by which to measure any existing policy.

Q I'm Bill Truax. I'd like to ask Henry Richmond this: In order to get to this substantial increase in allowable cut to small private landowners, I assume there will be some pretty intensive management practices. What would be 1000 Friends' position on increasing slash burning and spraying in those zones closer to the urban interface? In order to achieve that volume you're going to have to do those things, I think.

A [Richmond] Sir, I understand. The premise of what I'm saying—about not having residential development next to forest land—is that some of those kinds of messy things have to happen in the woods. We don't have some philosophical predisposition against burning or spraying. If you're talking about conversions of hardwood lands, there's going to be a lot of that. And we don't have a problem with that.

Q [Truax] A lot of that land is not well stocked right now. One of the best treatments would be to harvest it and then go ahead and burn it, and then follow

that with some site-prep chemicals. And a lot of that stuff is already down fairly close to the suburban population. I'm wondering if 1000 Friends would support that.

A [Richmond] I would, because you have several hundred thousand acres of land that's in dense alder and brush, and it should be converted. That's a priority, and we would push as hard as we can for the kinds of forest practices that would allow that conversion to take place.

Q I'm Bill McComb. Some small private landowners may have goals that may not be timber-oriented; they may be more oriented toward other natural resources. I'm wondering if you could address that issue, and also if you could define for us productivity.

A [Richmond] I think that small landowners can accomplish a lot of goals and grow and harvest trees at the same time. And I don't think the state should be giving people tax breaks to have parks. If the State of Oregon made a policy choice that we are going to extend forest valuation to people who manage in a certain fashion, and they are not managing that way, I think that they ought to be taxed on a residential basis.

Now, what is productivity? It's going to depend, obviously, on where you are north and south and what the site is, but there are measures of it in terms of stocking. There's a Drew and Flewelling stand-density guideline that I think could be applied to any age of the stand. Somebody could walk away after applying that guideline and say that this particular site is being productively occupied. I'm not a forester; I can't give you the details on it, but I think that in the profession, a productive occupation of a particular site is something that would be measured on a fairly objective basis.

Q [McComb] Let me follow up on that. So your definition of forest productivity then is only timber-oriented, and doesn't take into account other natural resources.

A [Richmond] On these high-site grounds, I would definitely say yes.

Q Ward, do you have that same opinion?

A [Armstrong] Mine is very similar. I thought for a minute I was going to escape. [Laughter] I was just going to take notes. I suppose I have trouble seeing the state interfere with private landowners' objectives in managing the land. I have trouble with impediments to that, and that's what I was addressing in my remarks. I thought Henry's response was very good. It seems to me the state has a legitimate interest in encouraging production from those lands—particularly private lands in which it has an investment—in tax policy, or fire policy, or whatever it might be.

Q John Garland. Henry, the motivations of small landowners, the nonindustrial private landowners, are extremely flat. Given that the legal system for land ownership is not likely to change immediately, but probably only by a gradual process, what kinds of educational programs ought to accompany the efforts to make private nonindustrial forest land more productive? These folks simply, many of them, might do a better job of managing that land if they owned a new house.

A [Richmond] Well, there are a lot of people in this room—George Bengtson

and many others—who could say better than I could what kinds of educational programs could be developed to convey basic information about forest management and public programs. I was talking with a lawyer in Portland the other day who owns some forest land in Hood River county, and he was unaware of cost-share programs. This is a responsible person who takes care of his affairs. I think a lot of people don't know what a managed forest site looks like, and they're scared to death of it. They've seen something driving along the highway somewhere, when someone says "thinning," or "harvest," they think that's what their back yard's going to look like. And they don't want anything to do with it. I have never seen a slide show that shows the kind of forest management that goes on on somebody's property, like Bert Udell's for example. It doesn't look like a war zone; it's beautiful. I don't think a lot of small landowners understand that they have that option.

“What the devil is an old man to do, where he's got 400 acres that are burned out? He'd like to see it back in timber, but if he puts it back in timber, his chances of getting any income off that is about as good as sending an old dog after an asbestos cat.”

That would be one ingredient, one objective of an educational program. How you get that word out to 19,000 people, I don't know. But I think they'll be more interested in learning if the land-use process narrows the options—if the tax system says manage or your

taxes are going to go up to residential value, and we have some things we can help you with. Maybe you'd get more people showing up at those slide presentations, or brochure racks, or whatever they might be.

Q [Wilson Bump] From my experience and what I know, and from being a victim of having about 400 acres burn down in this Shady Lane fire, the ones that need educating is the people in Congress. The biggest disincentive we have to manage our timber land is our Federal estate taxes, where it says that you or your family have to be getting income out of that land 5 of the last 8 years before you die, or it goes at market value. What the devil is an old man to do, where he's got 400 acres that are burned out? He'd like to see it back in timber, but if he puts it back in timber, his chances of getting any income off that is about as good as sending an old dog after an asbestos cat. That is the biggest disincentive that the small timber-land man has, so far as reseeding and taking care of it. But this fire has me stumped as to what I can do with that land after it's burned.

There's another item that came in, a few years back. I had two young fellows said they wanted to hunt, and I let them hunt, and they set their jug of water around on the north side of the stump while they went hunting. They hunted pretty late, the sun got around and focused on that jug on the grass and set off [a fire]. Well, fortunately we had good help there real quick and we got it out before it did much damage, and according to the law then, if the fire started on your land, you were responsible. Period. I told my hunters that, by golly, be awful careful. I'll let you go this year, but with this law this way, I don't think I can afford to take the risk. If it goes over and burns up the neighbor's timber, it

would take everything I own to pay for it. So my hunters went to the rod and gun clubs and got the law changed so that you're not responsible unless you were negligent in setting that fire.

Now I'm up against the proposition of trying to prove I'm not negligent. And when I talk to Mo Bergman about how usually these things are settled by arbitration instead of going to court, the only thing he would say was, "Get a lawyer, get a lawyer!" Well, you know what it costs to get a lawyer? I've plumped out \$5,000 so far for a lawyer, and I've plumped out about \$1,500 to Mr. Lewis to do some cruising and estimating what my losses are, and I haven't got all the estimates yet. I was selling logs at Boise Cascade for small logs for \$220 per thousand, and as soon as that fire hit, they said, "Our peeler won't take all that charcoal out, we can't sell any chips, I can't take another log." We found another buyer that would buy it, but only \$180 a thousand, instead of \$220.

A [Armstrong] Can I add a comment to that, which I think relates to the topic at hand? And that is incentives, or disincentives—land-allocation problems that affect the resource. We're very concerned about fire-closure policies. And one of the biggest problems, frankly, is the Forest Service. What we're finding is that in many cases the Forest Service has its own policy on fire closures, and they don't respect state policy on fire closures. So you may have a situation, as did happen in Lane county with the Shady Cove fire, where the land surrounding that area was closed and the Forest Service let people on the land. A fire did start, and it, as often happens, spread over onto private lands, and private resources were destroyed. And again I think that's part of the disincentive to private landowners when they know their lands are at risk and they can't control access.

[Richmond] And the inheritance tax point is very important for a landowner who has not chosen to form a sub-S corporation. That land may have to sustain inheritance tax every 20 years. The industrial lands aren't subject to inheritance; they [companies] don't die. And that is a problem. I don't know what the answer is, but there is a different taxation treatment between those classes of landowners and I think it's something that contributes to a disincentive to spend money to grow trees.

"One of the biggest problems, frankly, is the Forest Service. What we're finding is that in many cases the Forest Service has its own policy on fire closures, and they don't respect state policy."

Q My name is Leslie Powell and I have a question for Ward. You were talking about interference with land production considering all the different laws, the riparian laws and such. There is money also in other areas, like fisheries production, which is why we have the buffer strips. What kind of changes are you looking for, if what you do on your land affects other things farther downstream? We need that protection for the fish to spawn so we don't have siltation and lowered water temperatures and things like that.

A [Armstrong] You see, I don't disagree with the need to protect fisheries. I don't think that is the issue. What I was poking at is this: As we learn more of what policies are good man-

agement along our streams to protect fish, I think those policies should be implemented and used to regulate those riparian zones. What we found, for example, in the riparian rules that were recently adopted, is that some policies were adopted that we believe are not in the best interest of the fish resource. And that is what I'm objecting to—additional burdens on the landowner that restrict forestry production and that don't in fact enhance fish and wildlife or any other resource.

So my urging is that we have those riparian restrictions based on good science. For example, one little example, there are a number of streams, particularly on the Cascade side, where stream temperature is not a problem—it's not a limiting factor to fish production. Yet even there the shade requirement applies, even though it is basically a temperature-induced standard. So you have to leave shade on both sides of the stream, a canopy closure. You can't open up the stream. That's a small example, but that's one example. And that's what I'm complaining about. I'm not complaining about the need to protect fisheries. I think that's an important public policy.

Q Mike Newton. I'd like to ask both of you how you would propose to deal with the cost to a timber owner, a landowner, of set-asides for noncash, no-economic-value resources like wildlife, or for resources that are valued off-site. They are of no particular value to the landowner. He has to set aside his land. His revenue-producing ability goes to generate some value for somebody else. How do you propose to get this small landowner compensated for such set-asides?

A [Armstrong] My answer may not be totally satisfactory to you, I think, because I'm not so much interested in compensation. I'm more interested in having rules be as

sharply defined and as narrow as they can be and still protect that resource. A case in point: Let's say you're trying to protect an eagle's nest. Maybe that's not the best example because that's governed by Federal law, but let's say we now have this proposal that maybe will end up in regulations to protect the marbled murrelet, or the spotted owl, or whatever it may be. Rather than having the state buy that land or compensate the landowner for that loss of production (which I think does create a problem to the landowner; maybe it creates a presumption that the public has use of that site), I would rather see a very rigorous analysis of those requirements and I'd rather keep them as narrow as possible. That's a good subject for debate, and I think you could come down on various sides of it. But I would come down on the side of being very, very careful that we're not removing any more land from the land base than absolutely necessary.

[Richmond] Well, I would say in the same vein that maybe the "thank you" response by the legislature shouldn't come in the form of compensation, but rather in putting Oregon more on a par with Washington and California in the state's covering of fire-suppression costs. Right now we're picking up the rear. Or in the area of the severance-tax rate. If forest landowners are doing things that are accomplishing public benefits beyond production, profit-generating benefits, I think the answer is an overall atmosphere of public policy that makes that pay. I think compensation is not only untidy for the reasons that Ward mentions, but it raises a whole bunch of questions about other classes of landowners who have had dollars taken out of their wallets too. The downtown office-building owner with a setback, or me, I can't build a hot dog stand in my back yard. You'd have to start compensating everybody and everybody's got some restrictions on their property. So I would say there's got to be another way of going about it than direct compensation.

Q I'm Bob Zybach. I have a two-part question for both men. I will say that we need additional incentive to manage small private lands. The principal incentive being cash, the principal cash market being the export market. How do you feel about the state, with the Tillamook Forest coming in line, competing directly with these landowners? Two, have any studies been done by either of your organizations to measure the additional cash the state gets from these exports, as opposed to the additional cash they would get from taxing new workers and their homesites?

A [Richmond] I haven't done those studies. In our efforts to come up with means of financially benefiting nonindustrial owners, we have tried, and this is cowardly, but we have tried to not tip the status quo on the export issue one way or the other. We don't feel like we need to address that to accomplish our objectives and we're just buying a lot of shots in the chest, so . . .

[Armstrong] As you know, we have a very courageous position too—we're neutral on that issue. It is a difficult issue, and you can argue both sides.

Q My name is Bill Emmingham. I'm concerned with the question of how to get the scientific data base into the legislation and into the regulations. I'd like both of you to comment, first on how well that procedure is happening—I'm relatively ignorant of how those things get in there—and secondly, how can the research organizations get the kind of research done that's necessary?

A [Richmond] Well, I don't think a very good job is being done of integrating the data into the policy process, from either the practices point of view or the land-use point of view.

I mentioned earlier that the concerns that have been presented by BLM, by industry representatives, the Board of Forestry, Department of Forestry—these concerns about the problems that dwellings cause forest management are not being taken into consideration by the LCDC in adopting its secondary-lands policy. Maybe those kinds of communications need to be presented in document form so there is something left on the table after the witness goes away. I think Dean Stoltenberg would have a fix on that one.

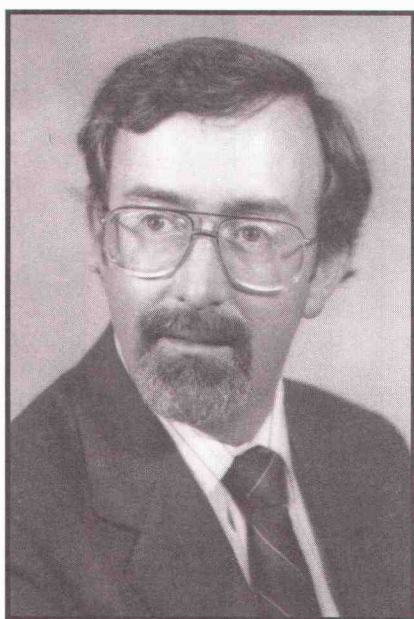
[Armstrong] Well, I don't know either. I think that's a pretty good answer. It is a difficult problem; that input is desperately needed. Having been through the process fairly recently, too recently, on the riparian rules, I can say that there are a lot of scars from it. I mentioned other areas that are on the table right now, such as what kind of protection will be needed for threatened and endangered species, certain birds' nesting and roosting sites, wetlands.

[Stoltenberg] I think each of the organizations represented here has played its own role in the development of such data. Henry's organization played a very positive role in gathering data and having his representatives, who have spoken in this building, identify some of the concerns with existing knowledge and existing practices, and in a very eloquent way. Some were defensive about that presentation, but it has drawn very strong attention to the need for better information. Ward's organization, along the same line, has been a very strong backer of a harvest tax on their own membership to make sure that better information is developed through this organization and others.

With those comments I would like to ask your expression of appreciation to both Mr. Richmond and Mr. Armstrong for a stimulating set of ideas, and for coming to us and participating in the Starker Lectures today. Thank you.



Evaluation of Nonmarket Goods and Services: Their Relevance in Resource Management



Thomas A. Heberlein is Director of the Center for Resource Policy Studies and Programs and Professor, Department of Rural Sociology, University of Wisconsin, Madison. This lecture was delivered Oct. 20, 1988 at Peavy Hall, Oregon State University, Corvallis, Oregon.

“Some commodities have a market value, while others, like wildlife, recreation, scenic beauty, and clean water, do not . . . The nonmarket commodities are often assumed to be worth zero.”

By Thomas A. Heberlein

Economists study how people make choices. Sociologists study why they don't have any choices to make. The overall title of the Starker Lecture Series this year implies that there are choices in selecting among alternative uses of the forest lands of the Northwest. In many situations, however, the resource manager appears to have no choice at all. What I intend to do in this lecture is to describe some relatively recent developments that will help the manager and the public make better comparisons between alternatives and help them make choices where none seem to exist.

This apparent lack of choice arises from different ways of deal-

ing with value. Some commodities have a market value—for example, timber, corn, hay, or electricity—while others, like wildlife, recreation, scenic beauty, and clean water, do not have a market value. When we are concerned with revenues, the nonmarket commodities are often assumed to be worth zero, since the marketable products produce income while nonmarket commodities do not. The forester as revenue maximizer grows timber with the highest market value, while the same forest manager as citizen knows that something may be lost—whether in wildlife, biotic diversity, or scenic beauty—through such a management decision. The manager has no choice in this case, because the dollar value of some products of forest management cannot be measured and thus are inappropriately valued as zero.

Sometimes the nonmarket commodities are treated in just the opposite way, as if they had infinite value. Again we are into a no-choice situation. Those taking this view oppose *any* decline in air quality, water quality, or wildlife since these commodities are viewed as invaluable, no matter what the losses in revenues. In the end, the society has no choices. In the first case, everything that is marketable is sold and we all face losses in nonmarket amenities. In the second case, valuable resources are locked up in a gridlock where nothing is sold because the resource exploitation is supposed to hurt invaluable amenities.

The Worth of Wildlife

The way out of this situation is to develop mechanisms for valuing nonmarket goods so that managers and the public can compare apples to apples and have the information to make rational choices. Estimation of nonmarket values has great applicability to environmental management. In Wisconsin, red pine has a greater market value than aspen. Hence the forester concerned with maximizing income has no choice. On the other hand, aspen produces better wildlife habitat and more wildlife for both consumptive and

nonconsumptive users. Determining these wildlife dollar values from the recreationists will allow us to determine whether society as a whole is better off with red pine or aspen in a particular area. Farmers on the prairie are motivated to drain marshes and farm wetlands because of the market value of crops, yet the loss in wildlife has an effect on duck hunters and wildlife viewers all over the nation. What are the hunters and viewers willing to pay to keep the wetlands intact? What are they willing to accept for the loss of wildlife? A decision to clean up a eutrophic lake has known costs, yet the decision of which way to clean up a lake, or even which lake to clean up, depends on estimating the value of water-quality improvements, many of which are non-market goods. How much are people willing to pay for cleaner water in a lake?

“What are the hunters and viewers willing to pay to keep the wetlands intact? What are they willing to accept for the loss of wildlife?”

The interest in estimating non-market values goes far beyond the science of economics, which has struggled with this problem for decades. Aldo Leopold, the forester and wildlife ecologist, pondered this same issue. His journals, published posthumously in *Round River* (1953, p. 168), record his concerns about valuing nonmarket goods:

If wild birds and animals are a social asset, how much of an asset are they? It is easy to say that some of us, afflicted with hereditary hunting fever, cannot live satisfactory lives without them.

But this does not establish any comparative value, and in these days it is sometimes necessary to choose between necessities. In short, what is a wild goose worth? As compared with other sources of health and pleasure, what is its value in the common denominator of dollars?

Estimating Nonmarket Values: Contingent Valuation

The idea of estimating the value of nonmarket goods is a worthy one, but the more crucial question is how to do it. Again Leopold (1953, p. 169) was ahead of his time with an approach. After postulating a theory, he proposed a comparative method:

I have a ticket to the symphony. It stood me two iron men [dollar bills]. They were well spent, but if I had to choose, I would forgo the experience for the sight of the big gander that sailed honking into my decoys at daybreak this morning. It was bitter cold and I was all thumbs, so I blithely missed him. But miss or no miss, I saw him, I heard the wind whistle through his set wings as he came honking out of the gray west, and I felt him so that even now I tingle at the recollection. I doubt not that this very gander has given ten other men two dollars' worth of thrills. Therefore I say he is worth at least twenty dollars to the human race.

Economists have begun refining this rather straightforward method of estimating value by asking people what they would be willing to pay or what they would be willing to accept in dollars for a nonmarket good such as a wild goose. This method is commonly called contingent valuation (CV). The idea is to assume that there is a market for a normally nonmarket good such as wildlife or clean air, and then to ask people what they would be willing to pay for that

good or what they would be willing to accept as compensation if it were lost. The dollar values estimated are those values that are *contingent* on the existence of a market. Contingent-valuation studies then set up a market situation in a survey and ask people what they would be willing to pay or to accept. These values can then be compared to market values to produce more-informed choices. Because this estimation procedure involves the design of a questionnaire and a population survey, some economists have turned to sociologists to assist them. This is how I became involved professionally, and why you are in the unusual situation of hearing a lecture on choices today by a sociologist rather than an economist.

If contingent values can be used as a valid measure of the value of nonmarket goods, the fundamental question that must be answered is: How accurate are contingent values as assessed by surveys and questionnaires? Will people really pay what they say they will pay on a survey? Will they really accept what they say they will accept? The hard-nosed manager knows the market value of red pine and aspen. These are real dollars. What people *say* they will pay for more wildlife on a questionnaire is a hypothetical value. Does the old adage “ask a hypothetical question get a hypothetical answer” apply? Or does what people say they would pay or accept on a survey give a good estimate of what they would really pay or accept? Can the scientific community assure managers that the contingent values of nonmarket goods are reasonably accurate?

To explore this question, Richard C. Bishop, a resource economist and professor at the University of Wisconsin-Madison, and I have designed and conducted a series of field experiments using wildlife values. We have been assisted by several able students in resource economics and sociology: Dr. Mary Jo Kealy, now a professor at Colgate University, and Dr. Michael Welsh and Dr. Robert Baumgartner, both now with a consulting firm in Madison. In the

Table 1. Comparisons of contingent values and simulated values in four field experiments.

	Willingness to sell		Willingness to pay	
	Horicon	Sandhill 1984	Sandhill 1983	Sandhill 1984
Contingent values	\$101	\$420	\$32	\$35
Simulated market values	63	153	24	31

remainder of this lecture, I will be reporting on this joint research.

The Wisconsin experiments on contingent valuation took place at two locations, the Horicon Marsh area and the Sandhill Wildlife Demonstration Area, both in Wisconsin. At Horicon, hunters apply for a permit to hunt Canada geese and at Sandhill they apply for a permit to hunt white-tailed deer. Any licensed hunter may apply, and in both cases the permits are free. There are more applicants than there are permits, so a drawing is held and those applicants who are chosen get a permit.

Willingness to Sell

In 1978, we took a sample of the hunters at the Horicon Marsh who got a permit to shoot one goose during the early season. We divided them at random into two groups. The first group received a survey that asked them if they would take a specified dollar amount to give up their permit. The dollar amounts on the questionnaire ranged between \$1 and \$200. This gave us a contingent value of willingness to sell with a dichotomous-choice, take-it-or-leave-it offer. A second group got an actual check made out to them in a specific amount ranging from \$1 to \$200. The letter instructed them to either send back the check (refusing the offer) or to send back their permit and keep the check (accepting the offer). Thus we established a simulated market to see if people would actually do as they said they would—to see whether contingent valuation for willingness to sell was valid when

compared with real dollars. This experiment is described in much more detail in Bishop and Heberlein (1979) and in Bishop, Heberlein, and Kealy (1983).

The second experiment was conducted at the Sandhill Wildlife Area in 1984. The hunters who were drawn to receive Sandhill permits were randomly assigned to two groups. One group got a questionnaire with a contingent-value question asking if they would accept a given amount (ranging from \$16 to \$539) to give up their Sandhill permit. The remaining group got a check instead of the survey and so had a real opportunity to sell their permits. Thus we had a second comparison of contingent values and simulated market values using real dollars for willingness to sell. See Bishop et al. 1988 for a more complete discussion of this experiment.

Willingness to Pay

Two experiments to assess the validity of willingness to pay were conducted at Sandhill in 1983 and 1984 using two different contingent-valuation procedures. In 1983 two samples of unsuccessful applicants were drawn and each applicant was told that we had four permits to sell to the highest bidders. In the contingent-valuation group this offer was hypothetical, while in the simulated-market group hunters were actually requested to send checks, and four permits were sold to the highest bidders. In 1984 we were able to make the same take-it-or-leave-it offers used in the willingness-to-sell experiments. Two samples of

unsuccessful applicants were selected at random. One group got a questionnaire asking if they would pay a specified amount for a permit. The amounts ranged from \$18 to \$512. This established the contingent value for the Sandhill permit. The second group received a letter indicating that they would get a permit if they sent us a check for a specified amount. The amounts ranged from \$18 to \$512. This established a simulated market value of the permit to compare to the contingent value. A more complete description of the two experiments can be found in Bishop et al. 1988.

“The remaining group got a check instead of the survey and so had a real opportunity to sell their permits.”

The findings of these four experiments are displayed in Table 1. They are relatively straightforward. When hunters are asked the value of a hunting permit in terms of selling, the contingent values are higher than the simulated market values. For the goose permits, the contingent values were 60 percent (\$101 vs. \$63) higher than the simulated market values. For the deer-hunting permits, the contingent values were 175 percent (\$420 vs. \$153) higher than the simulated market values. These differences are statistically

significant. These data currently lead us to believe that contingent values have validity problems for measures of willingness to accept compensation.

Things look much more positive on the willingness-to-pay side, however. In neither of the experiments was there a statistically significant difference between the contingent values and the simulated market values. The Sandhill applicants had a very good idea of what they would actually pay for the permit when asked on a survey. Thus, contingent values for willingness to pay appear to be a valid measure of monetary value of nonmarket goods when compared to a simulated market in a market situation. This finding is robust in terms of method. Contingent valuation is an accurate measure of willingness to pay whether or not hunters are making bids or accepting or refusing dichotomous-choice offers. Thus, the overall conclusion here is that contingent valuation appears to be valid for willingness to pay, but at least at this time its validity for willingness to sell is questionable. If a resource-policy decision can be placed in the context of willingness-to-pay values, contingent valuation seems to be a reasonable mechanism to help make choices.

Contingent Valuation in Practice: Some Examples

In this next section I will briefly describe four actual cases where contingent values are being used to make resource-policy decisions. They are not Pacific Northwest examples, but those knowledgeable about the Pacific Northwest should find them relevant to local concerns.

The first involves a plan to clean up Delavan Lake. It was possible to come up with a number of methods to clean up this highly eutrophic lake in southeastern Wisconsin. The key question was how clean to make the water, and at what cost. It was possible to accurately estimate the costs of the various clean-up alternatives, but what about the benefits? We per-

formed a contingent-valuation survey of lake property owners to determine their willingness to pay and used this survey to estimate the benefits. The survey and analysis showed that only one of the plans produced benefits that outweighed the costs (see IES 1986 and Heberlein, in press, for a more complete discussion). A program is now underway implementing this plan.

“The key question was how clean to make the water, and at what cost. It was possible to accurately estimate the costs of the various clean-up alternatives, but what about the benefits?”

Contingent valuation has also been used to make judgments about the optimal flows on the Colorado River from Glen Canyon Dam. The Bureau of Reclamation commissioned a wide variety of studies to estimate the environmental and recreational impacts of the amounts of water released from the dam and the timing of the releases. Recreationists were surveyed to determine what they would be willing to pay for their recreation experience (either fishing or white-water rafting) given a certain flow level which they had or might have experienced. This measure of contingent value allowed economists to estimate the flow regimes which produced the highest levels of recreational benefits (Bishop et al. 1987, NRC 1987). Discussions are currently underway to conduct contingent-valuation research to help with the value of generated power.

In Wisconsin, contingent valuation has been used to estimate the value of scenic beauty on the Wisconsin River. As part of a planning effort for the lower Wisconsin River, canoeists were given cameras and asked to take pictures of

things that they particularly liked or disliked about the river. These photographs showed amazing consensus. Many people took pictures of the bluffs that rise above the river (Chenoweth 1984). One of the key issues in the plan for the riverway was the potential development of these bluffs with houses and condominiums. It is possible to estimate these values, but what about the scenic values? Economists (Boyle and Bishop 1988) showed people pictures of the bluffs with various levels of development and asked how much they were willing to pay to keep development off the bluffs. These kinds of data were used to help the Wisconsin Department of Natural Resources decide to purchase scenic easements or to actually buy the land outright.

The final case must be a bit more vague, for while it is real and may firmly establish the utility of contingent valuation in judicial decision making, it involves an ongoing lawsuit. Suppose a particular private concern polluted a trout stream. Since there is no market for trout streams, how would one establish the value of this loss? One method might be to ask anglers how much they would be willing to pay to fish on the stream if it were clean and had trout. This approach has many complexities, such as the difficulty of finding the relevant angler populations, but it appears that CV is seen by many as helping to answer these kinds of environmental questions.

Strawberries and Candy Bars

Our validation studies all dealt with free but unavailable hunting permits. Is there any additional evidence involving goods other than hunting permits to suggest that contingent valuation is valid? Since our work was conducted, a laboratory study looking at the validity of contingent valuation has also found that contingent values and simulated market values converge (Coursey, Hovis, and Schulze 1987) for tasting beverages. A field study looking at the willingness to pay for strawberries and the ac-

tual payment for strawberries showed no difference between the two when actual purchases were considered (Dickies, Fisher, and Gerking, unpublished). Another paper (Kealy, Dovidio, and Rockel, unpublished) showed no differences between the simulated market and contingent valuation when purchase of a candy bar was considered. Thus, the additional available literature, although limited, continues to support our optimism about the validity of willingness to pay.

Another question that people ask is: How far beyond hunting permits can one extend contingent-valuation procedures and be reasonably sure of valid estimates of value? I believe the procedure can be safely extended to other specific values, such as the clarity of the water in a lake that a person uses, the value of an angling day on a stream where a person has fished, and so on. I am much more skeptical when people try to argue for the validity of willingness-to-pay measures when the commodity is less specific, like improved water quality all over the United States, or the clean-up of all polluted sites in a particular state. Contingent valuation may be valid for these kinds of things, but until evidence becomes available, I remain skeptical.

Compensating the Losers

Why do people overestimate the amount of compensation they will accept on a survey compared to what they will accept when real dollars are involved? I don't think this is because people lie or have some other motive. Rather, I speculate that it is because they don't really know. Most of us don't sell things as often as we buy them, so we don't really know what we would take to give them up until actually confronted with the opportunity. In the case of willingness to pay, we make repeated acts daily of deciding what we will pay for something and then paying it if the price fits within our behavioral intention. If we were to find a group of people who sell

things regularly, I would speculate that their willingness to accept compensation as assessed by contingent valuation would be more likely to be the same as that reflected in simulated or real markets.

What additional research is needed from a policy perspective? An obvious difference between contingent values and market values is that market values create real dollars that can be spent. This is a powerful factor that makes people more interested in these dollars. The utility of contingent valuation for decisions lies in the logic of benefit-cost analysis and notions of Pareto Optimality. Simply stated, this economic principle posits that for a policy to be justified, those who gain should gain more than the total losses experienced by others, so that if possible, the losers could be compensated by the gainers. The research described here shows that

“Estimating these values does not mean that we will never harvest any more timber. In many cases the market values will be higher than the quantified amenity values.”

people will really pay what they say they will pay on surveys. Thus, there is a potential that the gainers—such as the duck hunters, wildlife viewers, or environmentalists who gain from the evaluation of nonmarket benefits—can, in fact, compensate other sectors of society for the real-dollar losses to them from not plowing up pot-holes or not planting red pine. We need additional research on how to establish institutional mechanisms to translate contingent values to real dollars and to get these dollars to those people who face real-dollar losses.

Comparing Choices

The major conclusion I want to leave you with today is that the scientific community has developed and is continuing to perfect ways of estimating the value of nonmarket goods. Thus, when it comes to selecting among the alternative uses of the forest lands in the Northwest, the managers and the public have choices. It is no longer appropriate to let the decisions simply be driven by market factors. One can estimate the dollar values of improved wildlife populations, cleaner water, and even scenic beauty. Estimating these values does not mean that we will never harvest any more timber. In many cases the market values will be higher than the quantified amenity values. What contingent valuation does provide is a mechanism for quantifying multiple values and comparing these values in a more rational way, a way that can lead to more-informed choices.

A second point that I wish to leave you with is that this work is at the leading edge of science. You should not go out tomorrow armed with a back-of-the-envelope questionnaire and try to value everything of interest. In a short public lecture I have had to skip over the many complications that trouble my colleagues in economics, such as starting-point bias, strategic bias, vehicle bias, truncation problems, and additional estimation and theoretical mysteries. Further, I have not been able to consider the complexities of such non-use values as bequest and existence values. I also must say as a survey researcher that surveys of adequate quality, that provide data comparable to market values and that will stand up under careful scrutiny, are few and far between. Economists don't design questionnaires and conduct surveys much better than sociologists do econometric modeling. In short, at this stage of the game, to safely use contingent valuation for management decisions, one must have a substantial amount of expert advice and involvement. I am hopeful that in the next decade contingent-valuation procedures will

become standardized, and contingent valuation will be used in more management decisions. I am hopeful, too, that before the 21st century we will be routinely making resource-management decisions that are informed by both market and nonmarket values.



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Land Management Planning on the National Forests: In Retrospect and Prospect



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“The early rangers were concerned with fire, trespass, land lines, and disease, and with getting a reasonable map of the land and an inventory of its resources.”

By R. Max Petersen

Some months ago, I agreed with Dr. Buckman to come here to discuss some of the history of Forest Service land-management planning and speculate about what the future might hold. Though I find it rather easy to deal with the history portion, my crystal ball is not nearly so clear about the future. Even so, in the real world we must plan for the future. For resources, like forests, that span generations, such planning is essential but not easy.

My remarks are in three sections. First, I will very briefly review some of the history of resource planning in the Forest Service. Second, I will review the evolution of the National Forest Management Act of 1976 (NFMA) and how it was implemented. Finally, I will speculate with you about the future.

Resource Planning: A Brief History

Some would say that the earliest district rangers began to inventory and plan what to do with the land and resources assigned to them. There is certainly evidence to support that theory if you examine the old records of the Forest Service. Such plans, though, were very action-oriented to correct a problem such as overgrazing or erosion, and seldom involved more than one resource. The early rangers were concerned with fire, trespass, land lines, and disease, and with getting a reasonable map of the land and an inventory of its resources. There were early range- and timber-management plans that included a reasonable inventory and projections of carrying capacity or sustained yield.

The earliest resource plans that I have studied in detail were those prepared for the work of the Civilian Conservation Corps in the 1930's. These plans not only looked at resource needs in terms of fire control, reforestation, revegetation, and erosion control, but also considered facilities needed to protect and manage these resources—such as offices, warehouses, barracks, telephone lines, trails, roads, bridges, and campgrounds.

During World War II, most general planning took a back seat to specific plans aimed at locating and developing strategic minerals and providing access to and harvesting timber for the war effort. At the end of World War II everyone seemed to expect a recession, so a lot of attention was focused on developing project-level information that could be used to provide postwar employment. These project work inventories were based not only on resource and facility work deferred during the war, but on best estimates of work required to meet future long-term resource needs. By that time it was common to have detailed timber management plans covering either a ranger district or a “working circle” of range allotment plans covering specific range allotments, and maybe watershed rehabilitation

plans. Most National Forests also had an all-purpose transportation plan detailing existing and planned roads, trails, bridges, and sometimes airstrips. Most Forests also had a fire management plan, which contained not only information on past fires and burned areas but also evaluations of fuels, potential damage from fires, and prevention and control strategies.

I don't want to leave the impression that the early plans were not important; some very important decisions were made in these plans. For example, in 1924 an area in New Mexico was considered to have important natural values and was set aside administratively as the nation's first Wilderness Area. Other such areas were identified, too, so that 40 years later, when the Wilderness Act was passed, all of the initial units had already been administratively designated on the National Forests. Under the Flood Control Act of 1944, some very detailed watershed-protection plans had been developed. Most Forests also had reasonably well-developed wildlife and fish-habitat plans.

Pulling the Plans Together

From this list of plans, it is easy to see that some mechanism was needed to ensure that plans were coordinated—that work done to benefit one resource did not adversely affect others. From the end of World War II until the passage of the National Forest Management Act in 1976, the coordinating mechanism was a multiple-use plan prepared for each ranger district. Typically these multiple-use plans delineated planning zones or specific land units and contained coordinating instructions. Some of these zones were quite small, such as a travel-influence zone along a major highway, and included very specific instructions as to how resource activities would be carried out to retain visual quality.

These individual resource plans and coordinating multiple-use plans were quite useful to field personnel and understandable to

the public, but they also had some very serious limitations. First, the individual resource plans were becoming much more detailed and were being done at different times with different assumptions. Second, there was no common geographic area for plans; range plans might cover all or a portion of the Forest. Third, it was difficult for Forest Service people and others to understand all of these plans.

Several regions used map overlays of the various resource plans to identify areas of potential conflict and develop coordinating instructions. Lighted map-display cases in rangers' offices were used to explain the plans to interested visitors or users. For the most part, there was very little apparent interest by the public in such things prior to the 1960's. There were, of course, isolated instances of intense public interest and sometimes conflict over plans for a specific area, but interest in resource planning was generally lacking.

“The resources of these lands are wanted by a large number of diverse users who see them as critical to meeting their future needs.”

At the national level, planning included direction for functional (single-resource) plans as well as rather detailed directions for the coordinating multiple-use plans. In addition, the Forest Service had long been required to make a national inventory of timber resources on public and private lands every 10 years. Other organizations were required to make national inventories or assessments of resources, such as the National Outdoor Recreation Resources Review. In 1959 the Forest Service completed a nationwide Program for the National Forests, which

was based on needs identified in the various resource plans.

I wish I could say that there was general recognition that an updated planning system was needed and that the National Forest Management Act emerged out of that. To be sure, several regions made efforts to improve planning, but these were destined to be overtaken by legal and legislative events. Even so, it is important to review those planning efforts because of their influence on the National Forest Management Act.

The Southern, Eastern, and Pacific Northwest Regions of the Forest Service developed a system of regional and unit plans. Reasonably similar physical regions were identified and planning guides developed for them. These planning regions did not follow either regional or Forest administrative boundaries. They were named for the physiographic region; for example, the Appalachian Regional Guide. Several units were identified within each regional guide. Typically a unit was a portion of a Forest that formed a logical planning area, which might or might not follow administrative boundaries. The regional guides and unit plans (1) addressed all resources of an area at one time, (2) were prepared with the assistance of interdisciplinary teams, (3) included specific involvement of users and the public, and (4) produced a coordinated single plan for an area of land. Those elements became the foundation for the planning process of the National Forest Management Act.

The public's sudden interest in environmental and resource issues in the 1960's and 1970's is well known to all of you. The National Forests were of particular interest and concern for several reasons. National Forests are located in 44 states and within a 1-day drive of 90 percent of the U.S. population. They provide more outdoor recreation, more hunting and fishing, more timber harvest, more hydroelectric power, and more wilderness than any other public or private land system. In addition, they are a source of high-quality water and a number of important and

strategic minerals, and provide significant domestic livestock grazing.

In short, the resources of these lands are wanted by a large number of diverse users who see them as critical to meeting their future needs. Many also see their own desired use as either exclusive of other potential uses or at least incompatible with them. In any language, that spells controversy.

“Wrangling over solutions in the administrative and legislative arenas tends to bring the third branch of the Federal government into the arena—the courts.”

In a democracy, it means full use of administrative, judicial, and legislative means to protect important present and perceived future needs. This simple fact is also evident in the large number of studies and legislative proposals that addressed timber, minerals, outdoor recreation, wilderness, wild and scenic rivers, domestic livestock, wildlife, and water needs in the 1960's and 1970's.

After passing the Multiple Use Act in 1960, which listed the renewable resources alphabetically to avoid showing any priority of use, Congress passed the Wilderness Act in 1964 and declared it to be “supplemental to the purposes for which national forests and units of the national park and national wildlife refuge systems are established and administered...” Other acts of Congress have designated special management areas, such as National Recreation Areas, Wild and Scenic Rivers, National Trails, and National Monuments. These special designations overlay the basic National Forest, National Park, National Wildlife Refuge, or Public Domain status of the lands.

In the late 1960's and early

1970's, a number of attempts were made to provide some national change in direction or prescriptive legislation for the National Forests. These included the Public Land Law Review Commission report, the proposed Moratorium on Clearcutting Act, the proposed Forest Lands Restoration and Protection Act, and the President's Advisory Panel on Timber and the Environment. None of these resulted in legislation. For an excellent discussion of these efforts, see *Decade of change—the remaking of Forest Service statutory authority during the 1970s*, written by Dennis C. LeMaster under the auspices of the Forest History Society.

During the same period, the Forest Service made several internal studies covering such specific areas as Wyoming, the Bitterroot National Forest, and the Monongahela National Forest. Studies by external groups included the University of Montana's report on the Bitterroot National Forest; reports on clearcutting by five forestry school deans, commissioned by the Council on Environmental Quality; and the report by the West Virginia Forest Management Practices Commission on forest management practices on National Forests in West Virginia.

Wrangling over solutions in the administrative and legislative arenas tends to bring the third branch of the Federal government into the arena—the courts. In this case, it was a rather innocuous-looking lawsuit filed on May 14, 1973 in the Federal District Court for the Northern District of West Virginia. This suit, *Izaak Walton League v. Butz*, simply charged that timber harvesting by clearcutting on the Monongahela National Forest violated specific provisions of the Organic Administration Act of 1897, which referred to the sale of “dead, matured or large growth of trees.” On November 6, 1973, Judge Maxwell held that the 1897 Act authorized the sale only of dead, physiologically mature, or large trees which must be individually marked and completely

removed. In August 1975, the Fourth Circuit Court of Appeals agreed with the District Court but recognized that the law might be obsolete. The Appeals Court said:

We are not insensitive to the fact that our reading of the Organic Act will have serious and far-reaching consequences, and it may be that legislation enacted over 75 years ago is an anachronism which no longer serves the public interest. However, the appropriate forum to resolve this complex and controversial issue is not the courts, but the Congress.

On August 28, 1975, Chief John McGuire halted future timber sales throughout the jurisdiction of the Fourth Circuit, which included West Virginia, North Carolina, and South Carolina.

The decision was also cited as precedent in other lawsuits. On December 23, 1975, the District Court for Alaska adopted the conclusion of the Fourth Circuit and halted timber harvesting on an existing 50-year sale in Alaska (406 F. Supp. 258 (D. Alaska 1975)). This meant that it was only a matter of time before the decision spread nationwide. Clearly, it was time for the Congress, as the Court suggested, to address the “complex and controversial issue.”

Congressional Action

Congress may address issues that are before the courts, but is more likely to await the outcome of the court case before taking definitive action. That is what happened here. Congress considered and passed a major long-range planning statute, but delayed any definitive policy-making legislation until after the Fourth Circuit decision on the Monongahela case. Then it had no real choice but to act.

I want to very briefly cover the planning act, which has the formidable title of Forest and Rangeland Renewable Resources Planning Act (RPA). Many have taken credit for the act, and there are many who had a part. I will again

refer you to Dennis LeMaster's book for an interesting and reasonably accurate portrayal of the players in the process that ultimately became the RPA.

For our purposes, let me simply point out that the Congress had considered and failed to pass other legislation that provided specific management direction for National Forests. There was high public and congressional interest in doing something. In addition, there was frustration and confrontation between the Congress and President Nixon. This was due to

“The Congress had considered and failed to pass other legislation that provided specific management direction for National Forests. There was high public and congressional interest in doing something.”

such things as impoundment of funds, including some appropriated for Forest Service activities, and a demand that the Forest Service's regional structure conform to the 10 Standard Federal Regions (which would have meant closing Forest Service regional offices in Missoula, Montana and Albuquerque, New Mexico).

Sen. Humphrey of Minnesota summarized the concern of many as (1) lack of long-term planning by the Federal government, (2) polarization on forestry issues, and (3) the threat to the conservation of natural resources by the Office of Management and Budget's bias toward short-run fiscal expediency.

Many interest groups thought that if a long-term look were taken at natural resources, their particular resource would receive more attention. Thus, there was wide-

spread support for a statute that mandated a long-term look at the supply-and-demand situation for renewable natural resources. Members of Congress who had favored other specific statutes got on board as the planning statute was developed by the staffs of the congressional committees, with the active participation of interest groups. People from the Forest Service, including retired Chief Richard McArdle, were involved from time to time.

The bill became law in a remarkably short time for such a major piece of legislation. It was introduced as S. 2296 by Sen. Humphrey in July 1973, was introduced in revised form in November 1973, and passed the Senate by unanimous consent on February 21, 1974, after picking up bipartisan support. The conferees agreed on a final version on August 1, and the bill was adopted by both houses and sent to the President.

The RPA, as it became known, basically requires three things:

- A periodic *Assessment* of the supply and demand of renewable resources on all lands, both public and private.

- A renewable resources *Program* every 5 years, covering programs assigned to the Forest Service for research, cooperative programs, and the National Forest System.

- A presidential *Statement of Policy* intended to be used by that administration in framing budget requests.

Ironically, this planning bill, which was of great interest to many of us, was being overshadowed by other events. It arrived on President Nixon's desk within a week of his resignation, accompanied by a veto recommendation from the Office of Management and Budget, which was particularly opposed to the idea of a presidential statement of policy. OMB saw the requirement of such a statement as an attempt to get a presidential commitment to future program levels—which it was. The Department of Agriculture recommended signing. Of course, the White House noted that the bill had

passed without opposition in both houses of Congress. For whatever reason, the bill did not see action by President Nixon before his resignation on August 9 and was sitting on President Ford's desk to greet him. President Ford quietly signed the bill, without a signing ceremony, on August 17, 1974.

It should be noted that during consideration of the RPA, there was interest in a remedy for the restrictive wording in the 1897 Act, which was the issue in the *Izaak Walton League v. Butz* (Monongahela) case. Section 201 of the July version of S. 2296 would have repealed and replaced the 1897 language to allow timber to be sold in any way that was environmentally acceptable. It became apparent that any such provision would become controversial and that all sorts of provisions related to forest management might be added. Therefore, Sen. Humphrey deleted Section 201 and refused to add it back after the District Court decision was issued in November 1973, while the RPA was still being considered by Congress.

The NFMA—Front and Center

After the August 1975 Appeals Court decision, the “complex and controversial issue” was indeed before Congress for resolution. Although attorneys for the Forest Service were rather confident of winning in Appeals Court, the Forest Service was working to develop a legislative approach in case one became necessary. I had come to the Chief's office in the Forest Service as Deputy Chief for Programs and Legislation in early 1974, in time to participate to a limited extent in the final legislative efforts on the RPA and to be assigned by Chief McGuire the responsibility for developing the 1975 version of the Assessment, Program, and Statement of Policy for the RPA.

At that time I do not believe I had ever read the voluminous appeal briefs for *Izaak Walton League v. Butz* that were filed by the Government and the plaintiff. I asked the Department's Office of

General Counsel for the appeal briefs and took them with me to read on a trip. When I brought them back I remarked to Tom Nelson, who was then Deputy Chief for the National Forest System, "What kinds of contingency plans do we have when we lose this case?" That evoked a spirited defense. I told Tom that, after reading both briefs, I would rather have the plaintiff's side than ours.

We then began some staff work on legislative options. Some of the options considered were (1) a simple appropriation rider to continue the timber sale program approved by Congress, (2) a congressional moratorium on applying the court decision to give Congress time to act, (3) an amendment to simply remove the restrictive words in the 1897 Act, (4) a more extensive amendment to the 1897 Act, and (5) an amendment to the recently passed Forest and Rangeland Renewable Resources Planning Act.

When the Appeals Court decision was issued in August 1975, these potential legislative remedies were considered along with a possible appeal to the Supreme Court. At the urging of the timber industry, several members of Congress introduced bills to provide a quick fix. Environmental groups convinced Sen. Randolph of West Virginia and Rep. George Brown, Jr., of California to introduce legislation to provide specific prescriptions for management of National Forests. Sen. Humphrey had spoken to the annual meeting of the Society of American Foresters shortly after the Monongahela decision by the Appeals Court. He promised to work with various groups to develop a legislative solution if one were required.

By early 1976 it became clear that the administration could not agree on a legislative approach but recognized that legislation was the only logical answer. A crisis was looming. Some in the administration said that we should just quit clearcutting. However, anyone reading the decision realized that, although the issue started out as clearcutting, the decision of the court clearly prohibited selling

trees that were cut in thinning or improvement sales. The best estimate of the Forest Service in 1976 was that timber harvesting on the National Forests would be reduced by at least 50 percent if the decision spread nationwide.

In March 1976, Sen. Humphrey and thirteen co-sponsors introduced S. 3091 (94th Cong., 2d Sess.), which became the focus for the Senate drafting process. In introducing S. 3091, Sen. Humphrey referred both to his promise to the SAF and to an expected Administration legislative proposal which was not provided. In fact, the decision of the Administration was that a better bill would probably result if the Forest Service were given some freedom to work with the Congress rather than go through the polarization that would likely result from an Administration bill in an election year.

It would be possible to spend several sessions talking about how such a major and controversial bill makes its way through both houses of Congress and gets signed into law by the president. As one who participated from the consideration of legislative options through the hearings before the House and Senate, the committee markups, action by the House and Senate, and the conference markups, I can attest that democracy in action can be rather messy. The statement "if you like sausage or laws don't watch either being made" took on new meaning to me. I did gain a healthy respect—and also a level of concern—for members of Congress and their staffs. These people grapple with complex issues that they do not understand very well in order to fashion durable legislation in the public interest.

The National Forest Management Act

I have already referred you to Dennis LeMaster's book, *Decade of Change*. The story of the National Forest Management Act is also told rather well in his book from the viewpoint of a congressional staffer. If you'd like even

more detail of the congressional action, I'm sure your library has a copy of *Compilation of the Forest and Rangeland Renewable Resources Act of 1974* (United States Congress 1979). Although the title refers to the 1974 RPA, the compilation also contains the legislative history of the National Forest Management Act of 1976, which technically is an amendment to the 1974 Act. The committee print also contains legislative history of the Cooperative Forestry Assistance Act of 1978, the Forestry and Rangeland Renewable Resources Act of 1978, and the Renewable Resources Extension Act of 1978.

"It became obvious to most that neither Congress nor anyone else could possibly write management prescriptions that would fit the many physical situations on National Forests."

For purposes of this discussion today, I do not want to focus on the tugging and pulling that produced the law, but focus instead on a few basic principles that are embedded in it. Early in the consideration of the National Forest Management Act, it became obvious to most that neither Congress nor anyone else could possibly write management prescriptions that would fit the many physical situations on National Forests. For example, how could the coastal plains of the South, the Appalachians of the East, the semi-arid areas of the Southwest, the great mountain forests of the Pacific Northwest, and the Southern California watershed forest, be addressed in one set of prescriptions?

This led to a recognition that the legislation would have to set forth a process rather than specify answers. Over time, it was agreed that the process would have these

ingredients:

- There would be one integrated and coordinated plan for an area of land which included all resources contained in it.

- An interdisciplinary team would be used in developing the plan.

- The public would have an opportunity to participate in the planning process.

- Plans would be revised from time to time, but at least every 15 years, with amendments permitted after appropriate public notice.

Do these provisions sound familiar? This basic process was already being used in the unit planning I referred to earlier. Other important provisions of the Act should be mentioned. The Act requires the Secretary of Agriculture to develop regulations for land-management planning, addressing everything from diversity of plant and animal communities to limits on the size of an area to be cut in one harvest operation. In addition, the Secretary was required to appoint a committee of scientists who were not officers or employees of the Forest Service to provide scientific advice and counsel on "proposed guidelines and procedures to assure that an effective interdisciplinary approach is proposed and adopted." The Act also contained a provision allowing departures from an even flow of timber sales by decades under certain conditions, and required timber to be sold by sealed bids in most situations.

Oh, yes! In one sentence, Section 13 of the Act repealed the provisions of the 1897 Organic Act, which were the basis for the Monongahela decision, which started the whole thing.

The NFMA was signed into law on October 22, 1976, and the next month a new president was elected. Secretary of Agriculture John Knebel wisely decided that it didn't make any sense for an outgoing secretary about to be replaced by a secretary of another party to appoint a committee of scientists. This caused the first delay in getting the necessary regulations in place for the new planning effort.

The committee of scientists was appointed by Secretary of Agriculture Bob Bergland and began work in May 1977. The committee held 18 public meetings around the country. Draft regulations were published in the Federal Register on May 4, 1979. After further public comment and a report by the committee (on August 17, 1979) on the scientific and technical adequacy of the regulations, the final regulations were issued on September 17, 1979. Thus, 3 of the 9 years anticipated in the Act for completion of the plans were used just to get the regulations out.

"The most arrogant statement I have ever heard is, 'If I had it to do over again I wouldn't change a thing.' Almost every difficult job can be done easier and faster the second time."

In March 1981, a short 18 months after planning was underway throughout the country, the Presidential Task Force on Regulatory Relief identified the regulations as being of high priority for review. In February 1982, proposed regulations were again issued and more than 2,000 comments were received. The original committee of scientists was again convened to review the public comment and to propose new regulations. The final regulations were issued on September 30, 1982—some 6 years after the Act passed.

We could again spend several sessions discussing how the planning was carried out in the field. Without question, developing new land-management plans for every Forest in the United States, using new planning procedures, new computerized support programs, newly formed interdisciplinary teams, and changing national

regulations, was a potent challenge. Someone described the situation as somewhat like learning to ride a bicycle while it was being assembled. After learning the new planning system, though, people found it considerably better than the previous ones.

Let me admit that I am far from being an objective viewer of the process. I was very much involved in the legislation. I was mostly an observer as the first regulations were completed. Later, though, as they were revised and all the new plans were completed in draft or final form, I was deeply involved as Chief of the Forest Service.

I have found it useful to evaluate the new plans against the expectations of the NFMA. Let's consider some of those expectations:

1. The new plans would be more balanced and better integrated than the old ones.

2. The public would better understand what is planned and why, so that the new plans would enjoy more public support and less controversy.

3. Interdisciplinary plans would reduce the unexpected adverse effects of forest management, improve coordination, and better identify complementary relationships among resources.

4. The plans would be both better and less costly than would be possible if the separate, functional planning process had been followed.

5. Coordinated plans would result in more balanced financing to carry them out.

6. There would be fewer appeals and less litigation because plans would be better understood and accepted.

7. Finally, as stated by Sen. Humphrey, forest managers could practice forestry in the forest and not in the courts.

If I were rating those expectations, I would say that there is no question that the new plans are superior to the old ones. They have provided an opportunity to have high-quality, balanced management of forest resources, and the public has had significant opportunities to be involved in and to

influence the outcome of plans. Unfortunately, I think we were rather naive in expecting that a planning process could significantly reduce controversy in those situations where strongly held values and views are seen as presenting mutually exclusive solutions. Wherever there are strongly held views and acceptable solutions are not found in the planning process, then other actions, such as appeals, litigation, or requests for congressional intervention, will be sought.

Looking Ahead

The most arrogant statement I have ever heard is, "If I had it to do over again I wouldn't change a thing." There are significant opportunities to profit from experience gained in the first round of planning. Almost every difficult job can be done easier and faster the second time!

I would retain the basic process; that is:

- One integrated, multi-purpose plan for an area of land.
- Interdisciplinary planning assistance.
- Public participation.
- Periodic revision of plans, probably on a 12-to-15-year cycle.

Within that process there are substantial opportunities for procedural changes. That list is longer and more detailed:

1. I would immediately seek ideas from both inside and outside the Forest Service on how to streamline the planning process. This search would include planners, users, interest groups, and academe. This effort would include identifying material that could be left out, condensed, or made available outside of the planning documents. It could also include identifying plans, or portions of plans, that were considered particularly good.

2. I would try to identify ways for the common citizen to be more meaningfully involved in the planning process. This would be improved by increased review of proposals in the forest, rather than in large documents. It might also include dividing most forests into planning units so that the options

could be more easily visualized. Simply cataloging useful approaches might be a good start; Forests use a number of techniques, including task groups, newspaper response forms, and others. My concern is that those groups that have the time and expertise or that can afford to hire staff have a significantly greater opportunity, through the planning process, appeals, and litigation, to unduly influence the outcome.

"Today, NEPA statements are written primarily for the courts. I can guarantee that a 500-page NEPA statement is neither read by the public nor useful to the decision maker."

3. By regulation or by change in laws if necessary, I would try to reconcile NFMA procedures more closely with those specified under the National Environmental Policy Act (NEPA). The NFMA was written to provide a framework for long-term natural-resource planning for large areas, while NEPA case law has made NEPA focus primarily on site-specific impacts of an individual project or related projects. To comply with both laws, the Forest Service does an Environmental Impact Statement (EIS) on the national RPA Program, on the regional guides, and on each Forest plan. In addition, each project that is considered a major Federal action significantly affecting the quality of the human environment has a separate EIS. Despite all this effort in voluminous documents, there is no assurance that some worst-case or cumulative-impact theories won't be used to assert that protection efforts still are not adequate. The sad fact today is that NEPA documents are so large and detailed that the purpose and the people they were

supposed to serve has been lost in the process. I regret to say this, because I was an early and long-time supporter of NEPA. Today, NEPA statements are written primarily for the courts. I can guarantee that a 500-page NEPA statement is neither read by the public nor useful to the decision maker.

4. I would clearly focus planning on the next 15 years, rather than an unrealistic 50 years. The long-term sustainability of various resources may still be tested, but a lot of time, effort, and confusion was created by trying to lay out 50-year scenarios.

5. I would significantly reduce the prominence and role of issues in the planning process. The primary purpose of a plan is to take us from where we are now to where we want to be 5 to 15 years from now, locally, regionally, and nationally. Concentrating on issues tends to polarize the process, bog it down, and divert the plan from its primary purpose. To be sure, some major issues must be addressed in the plan, but most can be handled by some separate issue-resolution process.

6. I would develop a new approach to planning documents to make the proposed plan user-friendly and understandable. This probably includes dividing the Forest into several planning units so that options can be more easily analyzed. I would publish in a separate document the detailed analysis of alternatives and detailed inventory information so that it would be available to planners, analysts, and any courts that want more details.

Lessons Learned

So what have we learned? Let me start out with a few emphatic statements about National Forest planning:

First, the plans emerging from the National Forest planning process are far superior to anything we or any other agency has produced to date in the United States, or—as far as I can determine—in any other country.

Second, completing the plans has been a difficult and sometimes

traumatic experience for the people involved, particularly in areas such as the Pacific Northwest where the stakes are high and there is so much public disagreement.

Third, and in hindsight, the rather idealistic planning process adopted in 1979 was ahead of the ability of our people and supporting computer programs to handle effectively. It has been complex and at times confusing to the public. The result has been a process that has cost more and moved more slowly than anticipated.

Fourth, continuing litigation and court-directed requirements threaten the future of professional resource planning.

I don't question that the courts have a vital role in our democracy. In fact, I believe the courts were technically correct in the Monongahela decision. The law should have been changed at the latest by 1911, when the eastern National Forests were purchased and trees that were not "dead, mature, or large growth" were being sold as the immature stands of the East were being thinned.

I have been a long-time supporter of NEPA. What I object to is the courts' seeming tendency to require such a high level of detail in various planning documents as to make them so voluminous and complex that they are not usable by either the public or the decision maker. I can guarantee you that most decision makers don't wade through voluminous environmental-impact statements. NEPA was written to ensure that the decision maker consider environmental factors along with social and economic ones. Today, environmental-impact statements are written for the courts. When Judge Burns participates in these lectures, you might ask him if he would like a NEPA process for judges, requiring them to analyze alternative decisions, the impacts of all their decisions (including the cumulative effects), seek public comment, and specifically lay out worst-case scenarios!

My second problem with NEPA is that court proceedings over the years have established site-specific impact-analysis requirements for NEPA statements. With recent requirements for analysis of cumulative impacts, we see the courts wanting a site-specific level of detail for plans covering large areas. That is simply not a feasible way to approach compliance with NEPA.

What does the future hold? I see several things:

First, I believe we need to develop a land ethic that makes each of us more responsible for helping to care for the land and its resources.

Second, we need to appreciate more fully the concept of sharing natural resources with other users, other critters, and future generations. Currently, we are of an "I've got mine and would love to have part of yours" mentality.

Third, we will probably have to get, through the legislative process, some direction on how much old growth to preserve before resource issues in the Pacific Northwest will settle down. A related question is how much of the land base will be or should be set aside for wilderness. The wilderness bills in Washington and Oregon were designed to settle that question for the first generation of plans, but the controversy continues.

Fourth, we will need to rediscover the concept of conservation and wise use. Currently, the preservation and exploitation camps are the primary participants in the debate. The concept of multiple use or shared use should not be "gerrymandered" into some combinations of preserved and exploited lands.

Fifth, the current appeals and litigation processes are frustrating and time-consuming to all. We will need simpler and better processes such as the following:

On appeals—

- Provide for informal reconsideration of a decision by the person who made the original decision.

- Use more oral presentation, rather than the lengthy documentation now required for appeals.

- Reduce the number of appeal levels.

- Require a modest filing fee that is refundable if the appeal is successful.

On litigation—

Experiment with alternatives to litigation. These might include:

- A type of "science court" or experienced panel like those now used to decide complicated matters such as the value of real estate condemned by the government, questions of water rights, and other hot issues.

- Mediation and issue resolution. These seem more appropriate for clearly defined issues than for a plan.

- Clearly allowing the judgment and expertise of the planning team and the decision maker to be the significant determinant in litigation, rather than voluminous and sometimes meaningless documentation.

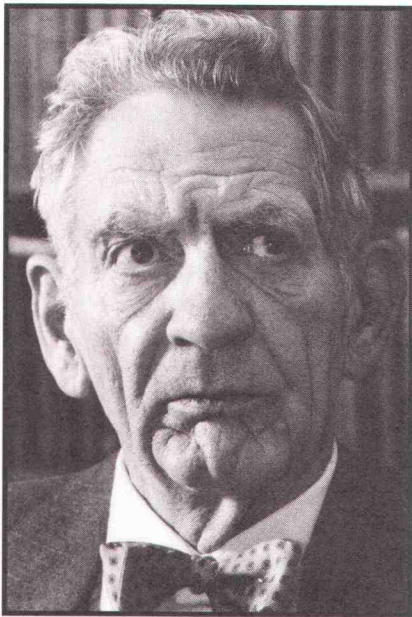
- Assigning liability for court costs to those who bring litigation that is found substantially without merit, and awarding compensation to those who suffer clear financial damages due to the delay.



References and Notes

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The Role of the Courts in Resolving Land Use Questions



The Honorable James M. Burns is U.S. District Court Judge in Portland, Oregon. This lecture was delivered on Nov. 17, 1988 at Peavy Hall, Oregon State University, Corvallis, Oregon.

“If the driver of one car lives in Washington and the driver of the other one lives in Oregon and somebody gets a sore neck in the crash, they can sue in Federal court and I have to hear that case.”

By James M. Burns

The charge today given to me is to discuss the role of the court in land-use decisions, primarily in the field of forestry. That's pretty heavy stuff because I have to tell you a little bit about the jurisdiction of the court in which I serve, so that I can offer a thought or two of what should be the role of the court, what that role is now, and what it has been in the past. So I lay upon you the subject of Federal jurisdiction, a topic guaranteed to glaze the eyes of any audience to a fare-thee-well at 4 o'clock on a Thursday afternoon.

Federal courts are courts of limited jurisdiction. We try bank-robbery cases if the bank is feder-

ally insured. We don't try bank-robbery cases if the bank isn't federally insured because we don't have the jurisdiction to do so. Jurisdiction means simply the power to hear and decide certain kinds of cases; it carries with it the correlative duty that we must hear and decide them, despite any distaste we may have for them. I suspect you will find some of that element displayed here, from some of the comments and notions I offer to you. We have to take a bank-robbery case if the bank was federally insured, whether we want to or not.

The same thing is true on an ordinary auto-accident case. If the plaintiff and defendant in such a case both live in the state of Oregon, I don't have jurisdiction, so I don't have to hear their “rear-ender” auto-accident case. But if the driver of one car lives in Washington and the driver of the other one lives in Oregon and somebody gets a sore neck in the crash, they can sue in Federal court and I have to hear that case.

Judicial Review

Now, a different type of jurisdiction is the jurisdiction involved in the kind of disputes we're talking about. That jurisdiction comes down to judicial review of action by Federal administrative agencies. When a judge gets this kind of case, someone—perhaps the environmental group, perhaps an industry group (perhaps both)—someone is claiming that an agency decision should not be carried out. My job then boils down to this: Was the agency decision arbitrary or capricious; contrary to law; is there a lack of substantial evidence to support it? If the answer is yes, I must tell the agency to go back and do it right. In NEPA cases, the test is stated this way: Did the agency take a hard look at the consequences and alternatives and did the agency give the proper notice and opportunity to comment? If the answer is no to either, the agency will be enjoined.

Let us take, for example, the management plan of the Willamette National Forest under the National Forest Management Act

(NFMA). Here it is [demonstrating a large box of documents]. Next year, when the Willamette National Forest comes out and drops that thing—1,900 pages, 14 pounds of management plan, Environmental Impact Statement (EIS), and appendices—somebody is going to come running to me (I hope to God it isn't me!) or to one of my colleagues and is going to say, you must review the action of the agency; its record of decision which says, here is the plan!

Barring something highly unusual, we have to hear that case, because we have jurisdiction to do so. It is a requirement at this point that I issue the customary disclaimer: Nothing I say today is intended in any way to be a comment upon how that kind of case ought to come out, if in fact it is filed—and I'm a thousand percent sure that it will be—and if, God forbid, it gets assigned to me. I don't know how I will rule on it, and it would be thoroughly inappropriate for me to say anything here today about what the merits of that kind of litigation might be. But it is almost guaranteed that you will have one group who will say that the plan is inconsistent with, and contrary to, the statute under which it is promulgated, the National Forest Management Act (NFMA); that group will also say that the plan is inconsistent with the environmental statute, the National Environmental Protection Act (NEPA); and that the Forest Service should be told to go back and do it right.

We use a lot of acronyms in these cases—NFMA, NEPA, and so on. And by the way, the Record of Decision is the actual instrumentality that the Forest Service uses, and this forms another acronym—ROD. It is important to remember, when you take a look at NFMA and the obligations that it imposes upon, and the opportunities that it furnishes to, the Forest Service, that the kind of plan that will be concocted will govern production and the other activities of the Service for the next 10 years in the Willamette National Forest. So it is also important to remember that NFMA

grew out of some history which in a few moments I will share with you as quickly as circumstances allow.

“A good many of those folks got hold of me and said, ‘You stay out of the forest—you don’t know a damned thing about clearcutting or anything else.’ I would always say sweetly, ‘Just go get an Act passed that will keep me out.’”

Judges in the last 20 years have had a way of getting mixed up into areas where a lot of people think they don't belong. Over the years I have been on the Federal court—16-1/2 years now—I've been called upon to be a rangemaster, a fishmaster, a watermaster, a schoolmaster, a prisonmaster, a roadmaster; the list goes on and on; and all of a sudden in our society judges are becoming masters in a whole range of areas. In the mid-seventies, when we became forestmasters, that's when some folks got really excited. The great cry was, get the judge out of the forest, and get the Forest Service, the industry, and other interested groups (affiliated with or against the Service) out of the courtroom! Many soon believed that the judges were the greatest threat to the timber industry since the forest fire.

The Monongahela Decision

Much of this fervor stems from the clearcutting decisions in the early to mid-seventies. That's what was really the push behind the consideration and adoption of

NFMA. A court in West Virginia came along in 1975 and issued a ruling called the Monongahela decision, the clearcutting decision. The Forest Service had been clearcutting in the Monongahela for a number of years—clearcutting in '75 wasn't anything new or different. The Service was going about its business as it had long been doing. Some of the local citizens became upset because, for the most part, they had been ignored. Well, the Forest Service picked the wrong time to ignore the citizens, specifically the Izaak Walton League, who stepped in and got the attention of the Forest Service with a 2-by-4 called a lawsuit.

This suit charged, of all things, that the Forest Service was breaking the law. What law? Why, the Organic Act, passed in 1897. This law hadn't really been followed literally for three-quarters of a century, but the Act said that the Service couldn't sell any trees that were not “dead, physiologically mature, or large”. The Organic Act also required the Forest Service specifically to mark each tree it planned to cut, and mandated that all felled trees must be removed from the forest. No one seriously disputed that the Organic Act was archaic and grossly outdated. It should not, obviously, have been the framework for forest management in the middle 1970's—three-quarters of a century after it was passed. But the language had never been amended by Congress. When the judge stepped in and said, “That's what the statute says—stop it!”, there was an uproar! When the case went up on appeal (these cases nearly all go up on appeal), the Court of Appeals in that area said,

We are not insensitive to the fact that our reading of the Organic Act will have serious and far-reaching consequences, and it may well be that this legislation enacted over 75 years ago is an anachronism which no longer serves the public interest. However, the appropriate forum to resolve this com-

plex and controversial issue is not the courts, but the Congress.

I don't know anyone who could really quarrel with that kind of ruling in that setting.

At just about the same time, I issued an opinion on logging on Bull Run and ordered the Forest Service to stop commercial logging. Technically, mine was not a decision on clearcutting, but those two decisions came in relatively quick order and many people, primarily from the timber industry as well as environmentalists and the Forest Service folks, tended to treat them as twins—thoroughly unwanted twins. A good many of those folks got hold of me and said, "You stay out of the forest—you don't know a damned thing about clearcutting or anything else." I would always say sweetly, "Just go get an Act passed that will keep me out."

The history of the debate in Congress as to the enactment of NFMA is well documented and I'm not going to bore you with its details. It is clear that one thing the Congress thought it intended was that it *would* take the judges out of the forest. The legislative history and the congressional record are filled with quotes from Sen. Hatfield, Sen. Humphrey, and others like them saying that's what they intended to do. But Congress didn't put a section into that statute that said there shall be no judicial review. The bill itself, the (NMFA), simply didn't have such language. So for better or for worse, barring some kind of legislative change, this big stack that I showed you here a few minutes ago [The Willamette Plan], when that actually hits next year, it will undoubtedly produce a lawsuit.

Public Involvement

Some of you may have noticed the story in the *Register-Guard* the other day under the heading, "Forest Service Studies Flood of Responses". The comment period on those draft papers of the Plan ended May 15, 1988. The Forest Service received responses from

17,500 individuals and organizations; these contained 177,000 suggestions, an average of 10 per "customer." The Forest Service has now gotten them organized, collated, computerized, and segmented into various kinds of comments about the proposed plan and the draft EIS. That's part of its job. Now it's going to start on the responses required by statute—by both NEPA and NFMA. By far the largest number of comments addressed the proposed level of timber harvest. Proponents of a bigger harvest emphasized the jobs that come with the larger harvest

"When a society puts these kinds of issues into the single branch of government designed *not* to be responsive to the electorate—the judicial branch—you may well have seriously weakened the fabric of a republican form of government."

and greater revenues for schools and counties that share in Federal timber sales. Opponents expressed concern for the need to preserve the state's dwindling old-growth forest and emphasized the long-range benefits of managing resources with an eye toward wildlife habitat, water quality, and so on. That's a summary of what the contentions will look like when that case is filed. It will be a lot longer than that, though.

So then a judge will have the lovely job of plowing through 1,900 pages, 14 pounds of material, to find out if the Forest Service did its job the right way under NFMA and NEPA in preparing the forest plan. That judge will be required to evaluate the plan and the *final* plan, and to evaluate the responses

to those 17,400 letters of comment with 177,000 separate suggestions. Doesn't that sound like fun? There will undoubtedly be lengthy, expensive, excruciatingly prolonged and difficult court hearings by virtue of the judicial review of administrative agency action that is allowable under NFMA. Had Congress wanted to make that review unavailable, it could have done so, but it did not. Fortunately, or unfortunately—that depends on your point of view. Many say, heavens sakes, we've got to have an avenue of judicial review so we can keep these administrative agencies in line, make them obey the statute, comply with legal requirements, and so on. Congress doesn't have time to do it; Congress doesn't have the means to do it. They lay down broad policy guidance in the statute—the rest is up to you judicial folks. Somebody has to do it.

At the moment there is no very good answer to the question of how to resolve these conflicts. I want to suggest briefly to you why I think there should be alternatives to resolving these large-scale land-use decisions in the court system.

I pull back a bit at this point to furnish some historical perspective. The growth of these new-fangled, complicated, sensitive kinds of lawsuits has been largely in the last 20 years and largely in the Federal courts. It used to be we tried rear-ender auto-accident cases, burglary cases, breach-of-contract cases, and so on. Really mundane kinds of lawsuits. It sounds like a very dull life and probably was. Now what do we have? Right-to-life cases! How in the world am I qualified for that? We have right-to-death cases. We have right-to-a-clean-environment cases. We have cases of rights of all kinds that reach to the very heart of the large-scale social, economic, environmental, and indeed, even political issues of our times.

The fact of the business is that when a society puts these kinds of issues into the single branch of government designed *not* to be responsive to the electorate—the

judicial branch—you may well have seriously weakened the fabric of a republican form of government in a democratic society, that being representatives chosen by the people themselves. Every subtraction from the power of the legislative and executive branches and every addition to the power of the judicial branch in areas where it ought not to be, weakens your democracy and your republic. You don't elect me and you can't get rid of me unless you impeach me. Only three or four times in our entire history has the Senate impeached a Federal judge.

Well, what do we do about this? What kinds of alternatives are available to us to get the judge out of the forest and get the forest industry and those interested in it out of the courtroom? Well, a few things can be done. Congress has done it a very few times. Congress did it in Oregon in connection with the Mapleton area of the Siuslaw National Forest. A specific statute says there shall be no judicial review of certain types of sales in that district. That's right, *no* judicial review! Two or three similarly worded statutes were passed last year and this year that have the same effect, or that Congress thought would achieve that effect. For example, on issues where there is an interplay between the spotted owl and the NFMA: This produced a decision rendered earlier this year by my colleague Judge Helen Frye in a case called *Portland Audubon Society v. Hodel*. The case was appealed to the Ninth Circuit and it was argued this summer. No ruling has yet been achieved. [Editor's note: The Court of Appeals in January of 1989 reversed and sent the case back to Judge Frye.] Congress can do it that way, but I think it is idealistic to expect Congress to do so on any large scale.

Are there other solutions? Maybe so. I call your attention to the situation that took place I think a year ago, when the Washington State Board of Forestry got together with various groups interested in forest matters. They essentially mediated a kind of solution which would pretty much

preclude lawsuits breaking out in that setting.

Another approach, which may produce a partial solution, is what might be called partial mediation for want of a better name. An example of this would be the approach adopted by Region Six of the Forest Service involving the spray squabble that grew out of the use (or abuse) of herbicides in the forests of the Northwest. In 1984, spraying of herbicides was enjoined until compliance with environmental requirements was achieved. This case, brought by an environmental group called NCAP, involved an arcane aspect of NEPA known as worst-case analysis. In the years between 1984 and 1988, the Service worked closely and cooperatively with NCAP (and others as well) to reach a point where limited resumption of herbicide use might be approached and even possibly achieved.

“What kinds of alternatives are available to us to get the judge out of the forest and get the forest industry out of the courtroom?”

Similar approaches may also be employed even in cases where the parties are already in court lined up on opposite sides like Wellington and Napoleon at Waterloo. In a few instances the alternative dispute resolution folks—mediators, arbitrators, whatever you wish to call them—have had success. For example, such an approach in the Klamath National Forest seems to have been a striking success. The American Arbitration Association, the Mediation Institute, and Willamette University's Alternative Dispute Resolution (ADR) program are among those involved in this emerging process.

Expert Panels

Another way that might bear fruit would be this: Congress could, if it wanted to, enact a statute which would say this to the Forest Service: Before you adopt your management plan, select a blue-ribbon panel—five, seven, or nine experts—starting with persons such as the various faculty members here at OSU's College of Forestry. Suppose Congress were to say to the Service: For NFMA plans, if you get approval by a majority or even a two-thirds vote of this blue-ribbon panel, go ahead and put the plan into effect, and the courts must stay out of it. Would the world really come to an end if that were the procedure? This kind of statute would ensure an opportunity for interested persons and groups to be heard—certainly the two groups most prominently identified, the forest industry and the environmentalists. Those interests would have to have a single fair shot to put their point of view in front of the blue-ribbon panel and then that would be it. There would not be appeal after appeal, lawsuit after lawsuit.

In summary, my view would be that the role of the court in land-use decisions is an unwisely large role, especially in cases involving environmental issues. Some agency, some entity, some tribunal or official has to be there to resolve those issues when the competing interests themselves cannot. In our country, given our governmental structure, our society, and our culture, the policy-making branch (the legislative) must lodge the power somewhere. I believe deeply that at the Federal level the Congress has lodged far too much power in the judicial branch. But I do not think that it is realistic to expect any substantial or large-scale change. For the most part, I don't really see the judges getting out of the forest, or getting the forester out of the courtroom. Certainly, however, you here at OSU's Forestry College and the Starker family deserve high compliments for arranging programs like this.



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