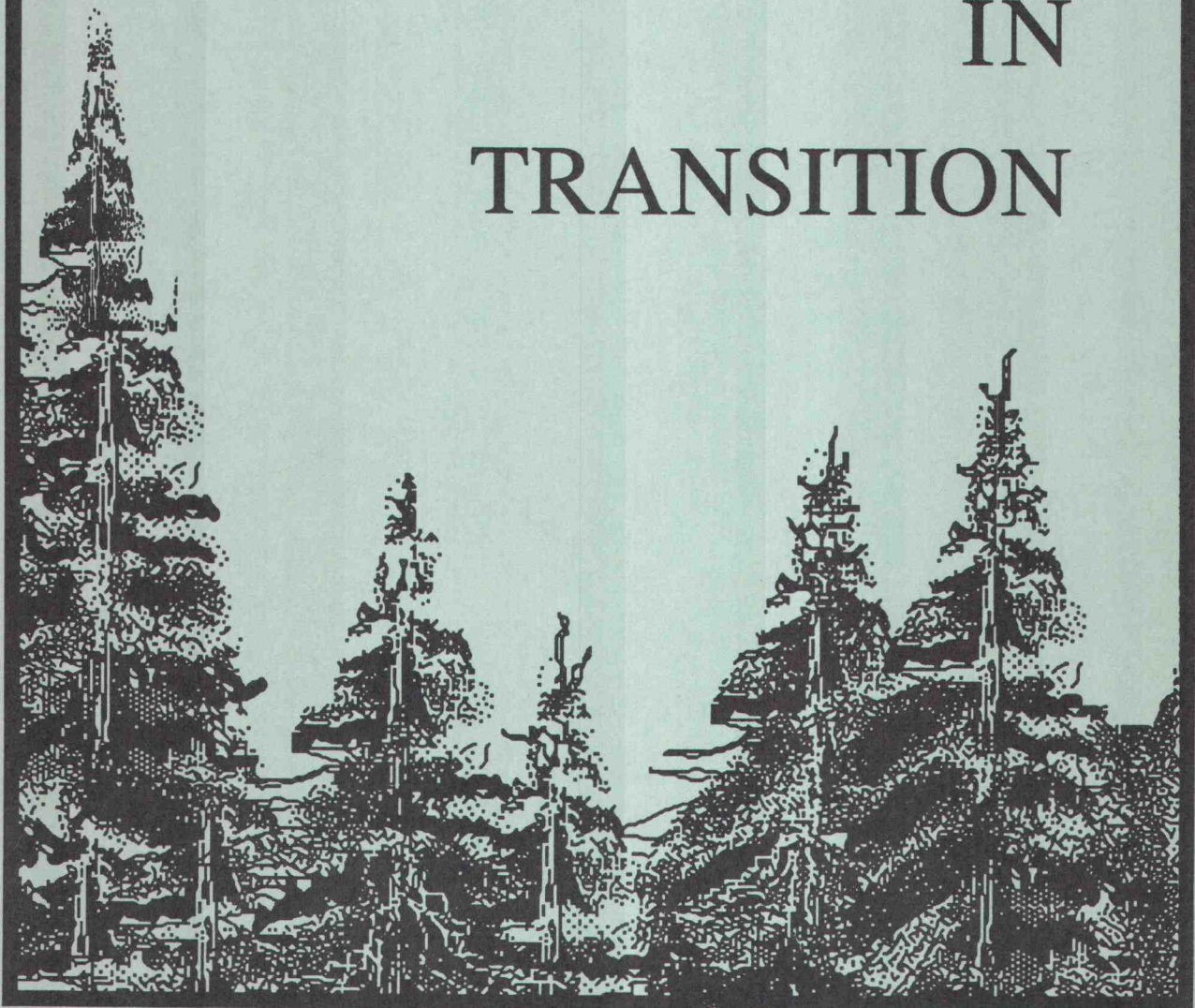


# NORTHWEST FORESTRY IN TRANSITION



The 1987 Starker Lectures  
College of Forestry  
Oregon State University  
Corvallis, Oregon

# **Northwest Forestry in Transition**

**The 1987 Starker Lectures**

**College of Forestry  
Oregon State University  
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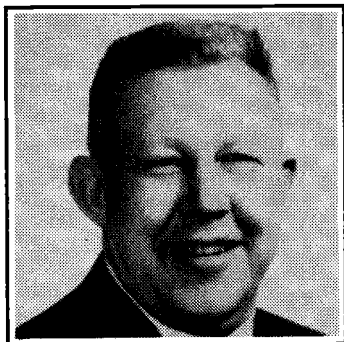
# Dedication

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## The Starker Lectures

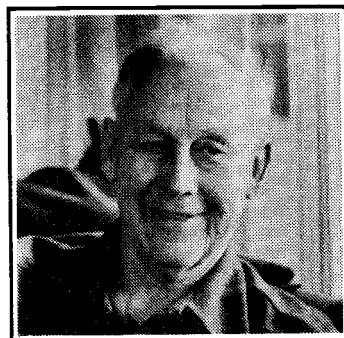
**Dedicated to  
the memory of  
T.J. and Bruce  
Starker**

This is the third year of the Starker Lectures. Last year we described the 75-year interest of the Starker family in forestry in Oregon, starting with T.J. Starker's graduation with the first OSU forestry class in 1910. Bruce, the second-generation forester, graduated from the forestry school in 1940. The third-generation Starkers, Bart and Bond, are also OSU Forestry graduates, Bond in 1969 and Bart in 1972. They continue the tradition as they manage the highly productive Starker Forests in the Coast Range of western Oregon.



**Bruce Starker**

The Starker lectures mean a great deal to the College of Forestry and to Oregon State University. First, they afford the opportunity to acquaint Oregonians with current regional and national forestry issues in the Pacific Northwest—this by distinguished speakers at the forefront of their fields. They also offer an opportunity for faculty members and college administrators to discuss issues with these speakers and, as appropriate, to incorporate their views into the classroom and into the future direction of the college.



**T.J. Starker**

Most important of all, however, these lectures are an important part of the education of forestry students. For example, each year about 20 students from all classes—freshman through PhD candidates—and from all five departments of the college meet with each guest speaker for informal discussions. Here they raise questions that go beyond the formal public lectures. Without a doubt each student derives a somewhat different lesson from these exchanges. Nevertheless it is an opportunity for students to anticipate the uncertain world of forestry as they prepare for their careers.

Once again the lectures are dedicated to the memory of Bruce and T.J. Starker as the Starker family continues its tradition of supporting forestry education in Oregon.

# Foreword

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**Robert E. Buckman**  
**Professor**  
**College of Forestry**  
**Oregon State**  
**University**  
**Corvallis, Oregon**



In 1987 a new governor took office with a pledge to address both the environmental and economic concerns of forestry. The forest industries were experiencing their third consecutive year of high production, but questions of timber supply and competitiveness remained unresolved. Citizens continued to show interest in the well-being of their forests, getting involved in such matters as spotted owl habitat and old-growth timber, clean water and anadromous fish habitat, and management plans for the Northwest's 19 National Forests.

To address the changing mood, we chose as a theme for the 1987 Starker Lectures, Northwest forestry in transition. Four distinguished speakers were invited to address topics that might point toward resolution of conflict and anticipate what lies ahead.

Gail Achterman, lawyer and natural resources assistant to Governor Neil Goldschmidt, concludes that courts and technical expertise alone are no longer fully effective in solving problems. She proposes the concept of principled negotiation and illustrates how it was used to bring the 1987 Forest Practices Act to near-unanimous passage by the Oregon Legislature in only 76 days.

John Hampton, president of Willamina Lumber Company, describes his company's efforts to survive the traumas of the early 1980's—tough labor negotiation, expensive new technology, and uncertain timber supply. He concludes by naming a series of policy issues that foresters must help the public understand.

W.B. (Bill) Early, manufacturing vice president of JELD-WEN, Inc., emphasized the people element—the guiding principles of management in this highly successful 27-year-old wood products firm, which employs nearly 3,000 people in its 30 plants.

Jack Ward Thomas, wildlife biologist and researcher with the USDA Forest Service, traces the evolution of multiple use in its transition from the age of innocence, when there was little conflict among resource users, to today, when non-commodity uses compete more and more with the historically dominant timber, grazing, and mineral uses. He argues that non-commodity users might be better served if they too were willing to pay more for goods and services they receive.

An essential postscript: special thanks to Gail Wells, who edited and prepared the manuscripts for publication, and to Vivian Anderson, who converted them into this attractive book.

# RESOURCE STEWARDSHIP: APPROACHES TO POLICYMAKING AND CONFLICT RESOLUTION

by

Gail L. Achterman

No one today doubts that forestry in the Pacific Northwest is in a time of transition. The laws, regulations, players, economic forces, and resource values involved are all in flux. To understand the implications of these changes for Oregonians, it is critical to understand the institutional structures involved in setting forest policy. These structures do not operate in a vacuum. It is also critical to understand public attitudes about forest resources and how these attitudes are changing. Finally, there must be defined and understandable underlying values and standards that most of society can agree should apply to forest policy decisions. That is what this paper is about—institutions, public attitudes, and fundamental values.

To illustrate this discussion, Oregon's new Forest Practices Act will be addressed in some detail. The development of this new legislation, the first major forestry legislation in over

15 years, graphically illustrates how the times are changing for everyone interested in forest policy issues and their resolution.

## Public attitudes

After the second World War and the devastating fires of the late 1930's, the public in the Northwest became convinced that new steps were needed to protect our forests from fire and to develop a tree farm system for assured reforestation. Although I have found no public opinion polls from that era, I believe that many would have agreed without question with Gifford Pinchot's much earlier statement: "The purpose of Forestry...is to make the forest produce the largest possible amount of whatever crop or service will be most useful, and keep on producing it for generation after generation of men and trees." Some in the industry went so far as to assert: "We have the directive from God: have dominion over the earth, replenish it, and subdue it. God has not given us these resources so we can merely watch their ecological changes occur."

## A sense of the limits

In fact, the issue of the quality of the environment was not even brought up in national opinion polls until about 1965. In 1969 only 1 percent of the American population considered pollution to be an important problem. But incredibly, by 1971, 25 percent of Americans identified pollution control and the environment as important issues. Not surprisingly,



Gail Achterman is a lawyer and natural resources assistant to Governor Neil Goldschmidt of Oregon.



Earth Day occurred on April 22, 1970. Suddenly the old-line conservation movement that began to develop as the American frontier closed in the late 1800's became the environmental movement that we know today.

Public concern for the environment grew with unprecedented speed and urgency. Americans suddenly began to realize that there were limits to our natural resources; that the ethic of unrestrained development, so much a part of our past, could not continue. If we ever needed stark evidence of the limits of the earth's resources, the moon landing, with its ethereal photographs of spaceship earth, provided it. The environmental movement led to widespread acceptance of the view that the old custom of endorsing growth without regard to its quality had to be forever abandoned.

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"If we ever needed stark evidence of the limits of the earth's resources, the moon landing, with its ethereal photographs of spaceship earth, provided it."

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#### Still an issue

Some today question whether these views about the environment and natural resources still prevail. The recession of the early 1980's, certainly, made many communities in the Northwest and elsewhere look hard at how to retain and generate solid jobs. Any doubts about America's attitudes toward the environment should be dispelled, however, by a recent article in the Washington Post. Polling results from

many sources reveal "a remarkable increase in support for improving and protecting the environment." Nearly half of those interviewed in one poll considered themselves "strong environmentalists." Other polls show that Americans are willing to pay more taxes to protect natural areas (48 percent). Two-thirds of respondents agreed with the statement: "The environment is so important that requirements and standards cannot be too high, and continuing environmental improvements must be made regardless of cost."

Some in Oregon may believe that these national polls are deceptive, that Oregonians do not feel the same way. I would simply point out that there are fewer and fewer Oregonians who were brought up here when schoolchildren were routinely imbued with the fire-fighting, tree farm ethic. We are a state of immigrants—immigrants from the rest of the nation, where environmental problems are more stark and threatening. I would be remiss, however, in not pointing out the only polling I am aware of here. In June of 1987 the Oregon League of Conservation Voters released a poll in which 69 percent of the respondents said they would favor a measure prohibiting clearcutting within 100 feet of any lake or stream with trout or salmon in it. Fifty-one percent opposed timber harvesting in "watersheds". The Board of Forestry did a much more broadly based poll which contains different results. Nonetheless, even it shows the importance to Oregonians of environmentally sound forest practices.

It is hard to avoid the reality that Oregonians care a great deal about the quality of their environment. If forestry is to be practiced in Oregon, it must be done in an environmentally sound way. If the past is any indication, public attitudes will become increasingly intolerant of forest

practices and resource allocations that fail to protect what the public perceives to be basic public values, like clean drinking water.

### **Changing institutions and the decisionmaking process**

One of the major trends in America today is that from a representative democracy to a participatory democ-

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**“All kinds of technical issues are being taken out of the hands of experts and placed into the political arena.”**

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racy. People whose lives are affected by decisions insist that they be a part of the decisionmaking process. This is readily apparent in all aspects of resource management. It is no longer acceptable to assert that forest management is a technical subject requiring a forester's special expertise to address. All kinds of technical issues are being taken out of the hands of experts and placed into the political arena.

Another major trend in all sectors of society is the realization that we cannot address policy and management problems from a short-term perspective. I think everyone realizes now that the fixation on quarterly profits has in part led to American industry's not being competitive internationally. We have all recognized that the short-term savings in air and water pollution control costs are not worth the long-range damage to the environment and to our quality of life. Forest products

companies are now committed to reforestation. One crucial element of this long-range view has to be the realization that those concerned about forest management, no matter how much they have disagreed with one another historically, are going to be together in the policymaking arena for a long time.

### **Solving disputes: a better way**

Because of demand for public involvement in decisions and the realization that the parties interested in forest management will of necessity be working together for the foreseeable future, new ways of decisionmaking are imperative. I do not want to date myself too much, but I will confess that when I graduated from college in 1971 I thought it was critical to become a lawyer if I was going to have the tools to address environmental and land use problems. I went to the University of Michigan in large part to study with Joseph Sax, whose *Defending the Environment* argued persuasively that the courts were a key arena for resolving natural resource and environmental disputes. I must confess that after more than 10 years in the trenches it is obvious we must find another method.

U.S. District Judge James M. Burns, in an address to the Northwest Forestry Association in Portland, recently said it well. He noted the extraordinary expense involved in trying just one timber sale—expense in dollars and in time. Having gone through such trials many times, Judge Burns questioned the usefulness of the courts as a societal mechanism for solving such a dispute. While I do not agree that there should be no judicial review of such forest management decisions, we have to find better ways—ways that are less costly and less divisive. Some analysts point out quite correctly that more and more courts, in cases involving broad public policy issues with heavy scien-



tific and technical components, are now saying that the parties should work out their own disputes.

Other methods of dispute resolution exist, and they apply extremely well to natural resource management disputes.

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"...we have to find better ways—ways that are less costly and less divisive."

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One of the best ones I have found is described in the book *Getting to Yes*, by Roger Fisher and William Ury of the Harvard Negotiation Project. They call their method "principled negotiation."

Negotiation is what we call it any time two sides have some shared interests and others that are opposed, and people communicate back and forth in order to reach an agreement. This is really what is involved every time a resource management dispute arises. Different people have different views about how a particular case, such as a timber sale, should be carried out, or about what type of policy public officials should apply. Historically, negotiation has been very adversarial. People take positions and feel they cannot budge.

#### A wise agreement

The essence of principled negotiation is to get people to decide issues on their merits, without artificial posturing. It is *not* simply splitting the differences. It is using the differences in what people value to come out with something truly better for all. The objective is to look for areas of mutual gain wherever possible. Where interests conflict, as they inevitably will,

the parties insist that the result be based on fair standards independent of the will of either side. The objective is to reach a wise agreement—one which meets the legitimate interests of each side to the extent possible, resolves conflicting interests fairly, is durable, and takes the public interest into account.

There are several steps in the negotiation process. They can generally be grouped into three main phases: analysis, planning, and discussion. The final step is implementation of any agreement reached. The best way to understand principled negotiation is to study an example. The development and passage of Oregon's new Forest Practices Act provides a good one. Before discussing this, how-

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"Historically, negotiation has been very adversarial. People take positions and feel they cannot budge."

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ever, I should note that I was a major participant in the process and thus cannot claim to be an objective, dispassionate analyst. I should also note that until I was in the middle of the process I had never had any training in principled negotiation and even today cannot claim to be an expert in it. Perhaps that is good. I can say the techniques work even without a lot of formal training. Anyone can use them.

#### Targeting the issues

When Neil Goldschmidt took office in January of 1987, his Natural Resource Transition Team identified

three key forestry issues. The two that relate to the final bill were those dealing with riparian rules—the use of rulemaking as a policysetting process—and the composition of the Board of Forestry.

Not surprisingly, the legislative leadership focused on the same issues before the session. In fact, they said that the highest-priority natural resource task was amending the forest practices program to protect designated Goal 5 resources.

Closely related to this was the Board of Forestry's adoption of the riparian management rules. The legislative leadership recognized that the forest industry badly wanted legislation stating clearly that counties can rely on the Forest Practices Act for forest land management. The leadership was blunt, through—nothing would be done on the industry's legislation until acceptable riparian rules were adopted. They wanted to make changes in the composition of the Board of Forestry, but concluded that as a matter of politics there was neither the will nor the political strength to change the board composition by statute.

As the session began, everything followed the expected course. The industry introduced its bill preempting the counties from regulating forest practices and exempting the forest practices program from the land use laws. A similar bill, dealing only with preemption of county jurisdiction, was introduced by the administration. Neither bill was heard as the legislators waited to see what would happen on the riparian rules.

### **Coming together**

The full Board of Forestry heard the rules for the first time on February 10, 1987. The Governor asked them to delay adoption to allow further work with the interested parties and the Department.

Both the Oregon Forest Industries Council (OFIC) and the consortium of environmental groups interested in forest practices expressed a willingness to sit down together and attempt to resolve their differences. To assist in this, Bryan Johnson of Willamette University's Dispute Resolution Center was asked to facilitate the meeting. On February 25, 1987, a very useful and lengthy negotiating session was held. It served to narrow the issues considerably and helped focus the later efforts of a Board subcommittee to develop the rules. Meetings continued before the subcommittee and the board until April 15, 1987, when the rules were adopted.

What did this process do? Certainly not everyone, even the legislative leadership, was wholly satisfied with the new rules. Nonetheless, they were more broadly accepted than the draft that was before the Board in February. Perhaps the most important achievement was that by trying out a mediated dispute resolution process the principal protagonists realized that they could reach some common ground. This set the stage for the new law.

Promptly after the rules were adopted, all parties turned their attention to the larger issue of the preemption/exemption bills that had been introduced earlier. Hearings on them were scheduled for April 20, 1987, and continued on April 22. Yet virtually everyone realized that neither bill in its introduced form would be accepted. We had to start the very first stage of negotiation and we were only 2 months away from the end of the session. What was the first step? Analyzing the situation and defining the problem. This process began on April 16, the day after the rules were adopted.

### **Problem, process, and players**

I met with Ward Armstrong of OFIC and Dick Benner of 1,000 Friends of Oregon. We filled sheets of wall charts

with issues, objectives, alternatives, and players. It became obvious that preemption and exemption were only a narrow part of the real problem. The real problem was this: who should be responsible for regulating forest practices in Oregon, and what should they have to take into account in making their decisions? Given the true scope of the problem, we had to address the

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“We filled sheets of wall charts with issues, objectives, alternatives, and players.”

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composition of the Board of Forestry, the role of the counties, and all the resource values to be considered under the Forest Practices Act.

Once we analyzed the problem, we had to identify the players and establish a process to follow in the negotiation. The main players were the state agencies (Forestry, Land Conservation and Development, and Fish and Wildlife), the counties, the Forest Practices Consortium (a coalition of environmental groups led by 1,000 Friends), and OFIC. Obviously there were other players not represented by these organizations, but we had to be conscious of how many parties could effectively negotiate.

By May 8, 1987, we had defined the process. All of the parties had agreed to negotiate based on a statement of principal points that the Governor and the key agency heads and commission chairs had agreed to. Each party was to have three representatives in the negotiations. Fairness and respect were emphasized from the beginning. A first draft of the new bill was prepared by the state agencies, and negotiations began on May 15, 1987.

The key points were:

- The counties would be preempted from regulating forest practices, and the forest practices program would be exempted from the land use laws.

- The Forest Practices Act would be rewritten to provide clear direction to the Board of Forestry regarding maintenance of the key resources identified and protected under Goal 5 of the land use program.

- The Board of Forestry would be reconstituted as a seven-member board appointed by the Governor with no designated positions nominated by interest groups.

- Forest operations would be exempted from the Land Use Board of Appeals system, but a limited right of appeal would be provided to the Board of Forestry.

### **Agreement on the basics**

The negotiation process continued intensely for 5 days and nights. At the end we had a draft bill. Although there were outstanding issues and ongoing discussions during the ensuing weeks,

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“Fairness and respect were emphasized from the beginning.”

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the basic bill was developed by May 22. It was introduced on June 9, only 10 days before anticipated adjournment. There were still some outstanding issues, but the fundamental commitment to major reform had been made. When the legislative hearings started on June 10, 1987, the legislators were

able to help the parties work out the remaining points on appeal rights and board composition. Remarkably, the parties themselves had reached and were able to stick to the fundamental decisions on resource values.

The new Forest Practices Act was passed by the House on June 19, by a vote of 57-3, and by the Senate on June 24, by a vote of 28-2. The House concurred in the Senate amendments on June 24 by 53-2 vote. Issues that no one thought could be resolved at the beginning of the session were resolved to the satisfaction of parties that had never before sat down and worked together. Most astonishingly, it was done in a matter of 76 days—just over 2 months.

This example demonstrates how people who have an incentive to negotiate and who can agree on the real problem can work together in a cooperative way to solve seemingly unsolv-

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“Issues that no one thought could be resolved at the beginning of the session were resolved to the satisfaction of parties that had never before sat down and worked together.”

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able problems. What they need is help in using the principled negotiation method. This method, as this example shows, is not a substitute for the legislative, administrative, and judicial processes. What the method can do, though, is complement the other institutions and allow the kind of public participation in decisionmaking that people today demand. More pragmati-

cally, it gets the job done faster, less expensively, and with better results.

## Values

A critical element of principled negotiation is the need for the parties to agree on objective criteria to apply when real differences arise. The par-

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“The parties need to agree to reach solutions based on principles, not pressure.”

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ties need to agree to reach solutions based on principles, not pressure. The standards to be applied must be fair and appropriate. Finding such principles and agreeing on them is probably the most difficult aspect of this method. This is particularly true when so many environmental issues cannot be resolved on the basis of definitive scientific evidence because of limited research about particular aspects of natural systems. Even more difficult are differences arising from profoundly different value systems.

We all know people today who truly believe that man's role on this earth is to dominate nature and use it for the benefit of mankind. Some of you also probably know followers of the “Deep Ecology” movement, most closely associated with Earth First!—people who fundamentally believe that man should not tamper with nature at all. If these values were the only ones in our society, it would be difficult, if not impossible, to use principled negotiation as a policymaking and conflict resolution tool.

## A new myth

I do not believe that either of the views stated above—exploitation or preservation—reflects the real values of Oregonians or Americans. Unfortunately we have done a very poor job as a state and as a nation of defining our true vision of the proper relationship between man and nature. Before the

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“...we can make resource stewardship our new mythology, to replace the old myth of the West—a myth of the conquest of nature.”

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promising tool of principled negotiation can really work widely, we need to go back to basics and define what we are attempting to do in our management of natural resources. This is not an easy task.

Several writers have tried to characterize the trend in American thought about natural resources and the environment. John Naisbitt, in his book *Megatrends*, concludes that as we move from a short-term to a long-term focus, we are moving from a view of ourselves as conquerors of nature to one of ourselves as becoming partners with nature. John Whitaker, Undersecretary of the Interior during the 1970's, sees decisionmakers charting a course toward natural resource development with environmental safeguards built in.

I would like to try to articulate a different vision, one I think can be shared by almost all Oregonians. This is a vision of what I will call resource

stewardship. Hopefully by working together we can make resource stewardship our new mythology, to replace the old myth of the West—a myth of the conquest of nature. As William Kittredge, a native Oregonian and one of our finest modern writers, puts it, a myth is “a story that contains a set of implicit instructions from a society to its members, telling them what is valuable and how to conduct themselves if they are to preserve the things they value.” What we need is to tell our own story, develop our own myth.

A fundamental part of the Oregon myth is a sense of place. It is not surprising to find that another of our best writers, Kim R. Stafford, has titled his recent series of essays *Having Everything Right: Essays of Place*. The essays are designed to seek out the speaking places of the Northwest in order, in the author's words, to weave “a rooted companionship with home ground.” “Rooted companionship” says it well. This is what I hear virtually all Oregonians saying about why they live here, what they value, and what they are seeking.

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“A fundamental part of the Oregon myth is a sense of place.”

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Unfortunately, Americans and Oregonians have too often failed to focus on harmonizing our use of our natural resources. Instead the American solution has been; as Stafford puts it,

...to use most of nature intensively, even destructively, but to leave large tracts of land untouched as “wilderness areas.” It shows a recognition of

both the priority of human use of the land and an equal priority to preserve and care for the land. It has long been recognized by a few that the ideal solution is instead a kind of harmony; but this ideal of harmony has not been nearly so attractive as the polarization of city/nature which we now see in America.

Although the literature of forest policy is rife with discussion of multiple use management, forest management has succumbed, as much as or more than any other field, to the polarization of its goals—setting aside land

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“The use and care of nature is entrusted to us; we are not to exploit and dominate, but to manage constructively.”

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for either intensive management or total preservation. We need to seek the harmony we have long strived for in defining our vision for the future.

### Finding stewardship

So what, then, is resource stewardship? To understand the concept let's consider the meaning of the word “stewardship”. The dictionary defines “steward” to mean “one who actively directs affairs”. But the word has a deeper meaning to most of us because of its roots and usage. The Greek word in the Bible most often translated as “steward” is *oikonomos*. It is composed of two roots, *oikos*, meaning “house”, and *nomos*, meaning “order” or “law”. *Oikonomos* is also translated as “economics”. It is interesting to note the

similarity to the Greek origins of the word “ecology”: *oikos* and *logos*, meaning “study of”, or “knowledge”. Thinking about the underlying root meaning of the word “steward”, then, it is possible to redefine it in the context of the relationship between man and nature.

The authority of humans on this earth is more that of a trustee than that of an owner. As stewards of the earth, men are both servants and managers. The use and care of nature is entrusted to us; we are not to exploit and dominate, but to manage constructively. As stewards, we must balance present needs against future needs, just as any good trustee would do. The critical element here is that, rather than rejecting the use and development of natural resources, this concept of stewardship celebrates the exercise of human skill in the careful and constructive management of resources. Yet there is a recognition that such human use and development must be measured against a long-term standard of trusteeship. The dominion that humans are to exercise is no longer acceptable if it is viewed as a justification for exploitation. Instead, we should exercise dominion as responsible servants.

Aldo Leopold wrote eloquently of the development of such an ethic, an ethic dealing with man's relationship to nature. He noted that the prophets of the Old Testament asserted that despoliation of land is wrong, but regretted that, even up to the time he was writing, society had not yet affirmed their belief. I believe that Oregonians have affirmed this belief today. This fundamental, yet poorly articulated, change in our attitude toward nature must be the foundation of our new vision of forest management. I think that Oregonians share love, respect, and admiration for the land and have a high regard for its value. This, Leopold asserts, is the basis

for an ethical attitude toward the land. To illustrate his call for such an ethic, he said,

By and large, our present problem is one of attitudes and implements. We are remodeling the Alhambra with a steam-shovel, and we are proud of our yardage. We shall hardly relinquish the shovel, which after all has many good points, but we are in need of gentler and more objective criteria for its successful use.

That is where I started this discussion—the need for objective ethical criteria as well as factual criteria. At a time when society is becoming more and more conscious of the long-term future, at a time when people affected by forest management decisions are demanding a role in the decision-making process, we need to build a common understanding of what resource stewardship means. It does not mean polarization—either preservation or exploitation. It does not mean that we sacrifice the blessings of some of the best earth in the world to grow and harvest trees. What it does mean is that if we are going to harvest trees we must do so in a way that is respectful of the land and its long-term productivity, a way that is respectful of the complementary uses that can and will continue to be made of our forests. I believe profoundly that this is what Oregonians seek—a harmonic balance, a rooted companionship with home ground.

### The broad view

Foresters and would-be foresters in this time of transition must broaden their outlook far beyond the utilitarian philosophy of Gifford Pinchot. First, you must recognize and welcome the fact that the public cares about our forests and will insist on being a part of decisions affecting them. Second,

you must realize that historic reliance on administrative expertise, and even the more recent reliance on the courts to resolve forest policy issues, will no longer work. The trend is toward pluralism, and the principled negotiation method seems to hold the most promise today for dispute resolution. Finally, and probably most importantly, we as a society must develop and articulate a vision of resource stewardship, an ethical foundation for natural resource use and development. This is our greatest challenge.

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# THE FOREST INDUSTRY IN TRANSITION

b y

John C. Hampton

This may turn out to be a different kind of lecture from the conventional Starker Lecture. Webster defines "lecture" as, one "a discourse given before an audience or class, especially for instruction" and, two, "a formal reproof." Webster defines "reproof" as "criticism for a fault." Depending on the content of your questions today, we will decide whether this lecture is one or two—a discourse or a reproof.

What I expect to do is to use my personal experience in the forest products industry to discuss and analyze the forest industry in transition. Hopefully the past can assist us in looking forward to solutions for the future.

I am highly appreciative of the opportunity to deliver a Starker Lecture. Although I plead guilty to graduating from the University of Washington, I knew T.J. Starker and learned to respect his pithy observations. The establishment of this lecture series as a

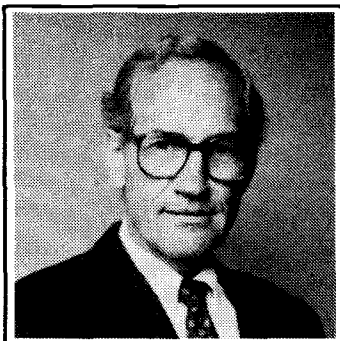
memorial to Bruce and T.J. Starker is typical of the Starker family tradition: community responsibility, a desire to inform and help others through educational enhancement, a feeling of obligation to put something back, very much in the way the tree farmer replants after harvest. The stewardship exercised by the Starker family on their lands serves as an excellent example to all of us in the business of

**"The rate of change has accelerated radically in the last decade."**

forestry. Consequently, I consider this an ideal opportunity to make some small contribution through my lecture today, and to share the perspectives of 40 years in the forest industry with you. I hope to give you some insights that might be helpful to you in pursuing your careers in forestry.

## A decade of rapid change

I suppose it is true that the forest industry has been in transition since its inception. It strikes me, however, that the rate of change has accelerated radically in the last decade. I can remember opening my wholesale lumber office in January of 1950 and responding to inquiries from my customers by dictating air mail letters to them, which took 3 or 4 days to arrive.



John C. Hampton is president of Willamina Lumber Company, Portland.

They would frequently write a letter back when they wanted to place the order. The obvious concern was, of course, to control communications costs, but I can tell you that the productivity level was very low in terms of hours expended per carload of lumber sold. In those days we used to think a million homes per year was a hot building year. Consumption figures in 1950 were 33.3 billion feet of softwood in the United States. This year we are on our way to reaching a record volume of 50 billion feet of softwood consumption. Our sales personnel never write letters. They sit at a desk beginning some time between 6 and 7 o'clock in the morning with a headset on and talk to customers all over the country,

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**“Manufacturing techniques were relatively crude in those days.”**

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starting with the East Coast and working their way back across the time zones. Their productivity is significantly better than mine was 37 years ago, and, I might add, so is the profitability of Hampton Lumber Sales Company better than what was produced by a one-man sales office with one secretary.

Manufacturing techniques were relatively crude in those days. It was quite common for mills to use circular head saws, and those that had band saws were using very heavy steel with relatively thick kerfs. Our saw kerfs today are less than half what they used to be, and we are manufacturing lumber much more accurately and generating better recoveries by far than in the early days.

Electronic media have accelerated the pace of communications and the

tempo of business decisions. This applies to the dissemination of technology and the speed with which breakthroughs in research, management, marketing, transportation, personnel, and financial and other aspects of business are susceptible to change. Hopefully some insights into my everyday world will broaden your perspective on how forestry education may fit into today's forest industry environment.

It would be easy for you students to think in a relatively narrow manner in terms of employment in the industry and the application of the skills and knowledge you have learned. In fact, forestry is only one of the important facets of a complex mosaic that today's business manager deals with. I am fortunate to have the fascinating job of being able to manipulate the various elements of our business, of which forestry is an important one. My job is essentially helping to plan, to deploy, and to coordinate the professional skills of the key people in my organization.

### A road map for opportunities

Let me explain a little about how we put our business puzzle together. My vice president of finance and administration has the responsibility for producing the annual budget and the monthly financial statements that show us how we do in each of our business activities. We display a monthly profit-and-loss statement with detailed income and expense items and, on the same page, the year-to-date income and expense figures by various line items compared to the budgeted amounts. This provides a tool for our managers in the various divisions to use to monitor their performance against what they said they were going to do. The budget is built from the bottom up by the foremen working with their superintendents, up through the plant

managers. Then it moves up to my level, where we either agree with what they have set out as an objective for the year, or negotiate more ambitious objectives with the managers in charge. We do not set their goals and objectives for them, but we challenge them to produce improved results. We work with them to try to identify how we can achieve those goals realistically. As we review the data every month, we identify why we did or did

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**“We do not set their goals and objectives for them, but we challenge them to produce improved results.”**

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not achieve the budget objectives. Things such as selling prices, changing log costs, and superior productivity by the crew are examples of what causes variation in results from month to month. This kind of tool gives the financial department the ability to do the planning to provide the resources, either through generating cash flow from earnings and depreciation, or through borrowing if we have some ambitious construction programs.

The sales department builds its budget in a similar manner and is responsible for forecasting returns for our various product lines. These are integrated into the financial planning to assist the financial department to produce the income (or loss!) forecasts. The plant managers at Willamina and Tillamook and the president of the sales company are responsible for generating their plans for the year in consultation with our management team. The wood supply vice president reviews with his department members the raw

material available from our existing backlog of public timber sales, our 30,000-acre tree farm, and our estimate of what may become available in open market log purchases—some of which I am happy to say come from the Starker Forests. (And, by the way, we have plenty of competition for the Starker logs.) The woods department develops its logging plans and from these plans come our wood cost estimates.

The budget that evolves from this process is not only a road map that tells us where we are going and how to get there, but because of the detail that is outlined in the document, it enables us to pinpoint opportunities for improvement in each and every area that we have influence over. It also reminds us of the areas over which we have no control, such as the lumber market or the weather. Of course, we can affect our return by cutting more or less of the desirable or undesirable items, depending on how the market is performing. This integrated approach is essentially our key to success.

## **Getting the best people**

I am sure that sometimes my son, David, who works on our tree farm, has difficulty appreciating the nuances that are going on in the sales department when he is fighting a slash burn in an east wind. For forestry students today it is important to understand that in an integrated operation such as I just described, every activity plays a key role in the success of the company. In today's highly competitive world, the stability of the company, its profitability, and its employment opportunities all depend on the success of every part of this complicated operation. You may start your career in forestry, but you should work to understand the other disciplines of the business. The CEO sometimes comes from the forestry department!

## The Forest Industry in Transition

Our organization started as a very primitive do-it-yourself activity. I went to work in the sawmill in 1947. My father started Willamina Lumber Company in 1942, having never been in the lumber manufacturing business before. So what is going on is largely self-taught, trial and error, and a product of the very strong contribution of some superior people that I have been fortunate to recruit and retain over a period of years.

I have always followed the principle of striving to recruit the best possible talent and to pay them above the industry average. That is a conscious choice. In retrospect, I would say that it has been a good tactic. We take that beyond the "executive suite" and tell our hourly people that we want our manufacturing process to be better than the industry average and that we will share profitability with them when productivity improvements justify it. Last February we distributed \$425,000 in bonuses to our hourly people at Willamina. This year we have already distributed a number of monthly cash bonuses to our people at both Willamina and Tillamook, and will no doubt be looking at a sizable year-end bonus as well.

In conjunction with this bonus system, I believe that labor relations in our industry have made a radical change beginning in 1983. Our company and Louisiana Pacific Corporation were involved in a very bitter extended strike with two different labor unions. I felt at the time that our labor costs had become non-competitive and that the experience of the early 1980's indicated that a change was necessary to permit our company to survive and to grow and prosper. Competition from the South and from Canada was encroaching on market share and causing curtailment in the Northwest. Our labor relations at Willamina had deteriorated under union pressure to the point where we no longer had con-

trol of our business. We found ourselves incapable of making the kinds of rational business decisions that would permit us to survive at the costs we were being required to pay because of union negotiations in main industry.

We set out to change the approach to compensation and to reduce what we considered to be excessive fringe benefits. Some of our more senior employees were receiving 6 paid weeks of vacation and 12 paid holidays. We were paying them for 2 months for not working. At the end of 13 weeks of strike it was apparent that the union was not going to permit our local people to make a decision on their own behalf. The bargaining rights were controlled by the regional council. At this juncture we issued a notice that employees would be required to return to work or be permanently replaced by new hires. Over 100 of our former employees were replaced at that time with

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"Labor relations in our industry have made a radical change. . ."

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new personnel. We implemented our offer and instituted a rollback of 20 percent in fringe benefits. We reduced wages for less-skilled jobs and spread that pool over the more-skilled ones.

This was a very traumatic period for our employees, as well as for the company. But I firmly believe, in retrospect, that it was worth the personal sacrifice on both sides. As a consequence, in subsequent negotiations, the Northwest industry has taken a firmer stand. Labor costs in the Northwest are one-third less, enabling us to compete more successfully with Canada

and the South in unfavorable markets. I firmly believe, however, that the company has an obligation to share profitability with our employees during good times when productivity is high, and we are doing that.

### **A different kind of downturn**

It is interesting to review how some of the major changes of the last decade were brought about. Frenetic bidding in the late 1970's by operators who were dependent on public timber was fostered to a considerable degree by the optimistic forecasts of both private and public economists at many institutions and agencies. The decade of the 1980's was billed as holding forth the promise of residential starts in excess of 2 million per year. These forecasts were shared by the National Association of Home Builders, the U.S. Forest Service, and the Department of Commerce, while FAO and others were fore-

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**"This was a very traumatic period for our employees and our company."**

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casting world-wide wood shortages within the century. Product prices were booming as a result of the extraordinary building activity of 1977, 1978, and 1979.

Housing starts dropped from a peak of 2.04 million in 1978 to a level 1.1 million in 1981. Since about 40 percent of the consumption of lumber in the U.S. is a product of residential construction, you can see what a radical impact was made by the sharp reduction in housing starts.

It takes a long time for perceptions to change. At first the radical drop in 1980 in construction activity and product prices (Fig. 1) were thought to be the beginning of another typical cycle. Over the past 25 or 30 years we have experienced ups and downs in business cycles approximately 4 to 5 years long from peak to peak, or valley to valley.

The downturn that began in late 1979 has been significantly different from previous cycles. This difference

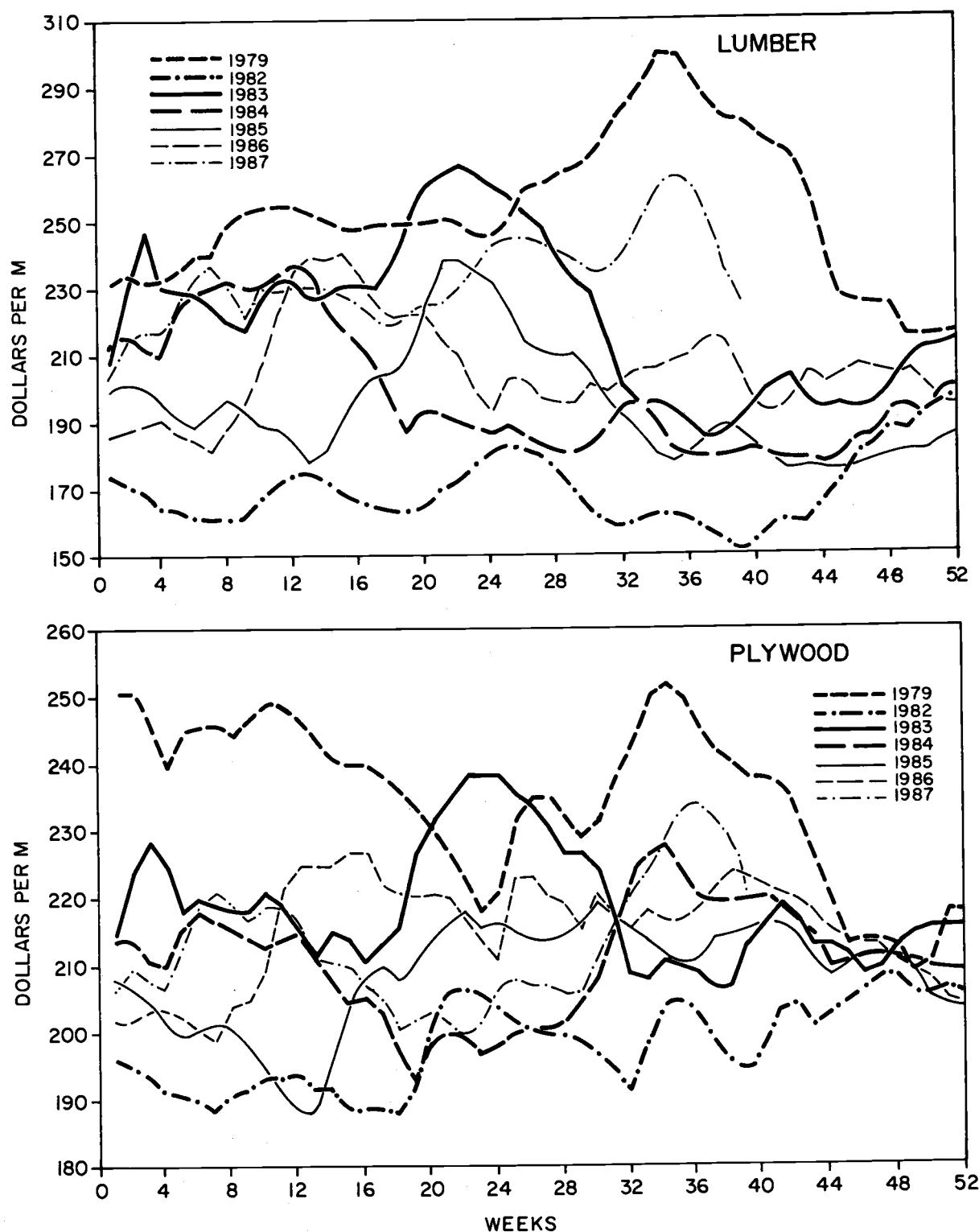
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**"It takes a long time for perceptions to change."**

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is the fundamental outgrowth of two major governmental actions. The first was the change in policy instituted by the Federal Reserve Board of Governors in October of 1979. Under chairman Paul Volcker, the Fed stopped targeting interest rates and began a long-term struggle to bring about national economic stability by wringing out the pervasive inflationary trend of the 1970's. The Fed chose to tighten monetary growth and put the brakes on the economy. It began to emphasize monetary aggregates and to target the growth of those aggregates to regulate the tempo of the economy. M1, M2, and M3 were invented, and a whole generation of Fed-watchers was born. Through the stringent control of monetary aggregates the prime rate of interest soared to 21.5 percent in December of 1980, and the world began to view the U.S. economy quite differently. Inflationary expectations began to unravel and the economy slowed significantly. Virtually all elements of the U.S. economy were in a tailspin. History has shown us that we radically

# The Forest Industry in Transition



**Figure 1.** Random Lengths indexes for prices of lumber and plywood at 4-week intervals of the years 1979 to 1987, in dollars per thousand board feet. Framing lumber and plywood composite prices are broad measures of market price movement. Lumber composite price is a weighted average of nine key framing lumber items chosen from major producing areas and species. Plywood composite price is a weighted average of seven key items chosen from two major producing regions. Compiled by Paul F. Eninger with data from Random Lengths Publications, Inc., Eugene, OR.



reduced the rate of inflation. Even today we still have a paranoia about the potential for reigniting inflation as we see the CPI and GNP deflator starting to edge upward this year. The recent change in the Federal Reserve discount rate was Dr. Greenspan's answer to whether the Board of Governors is likely to permit inflation to ignite again.

The second major change was the Monetary Control Act of 1980. For many years, savers had little choice in the investment of their savings. As a consequence, billions of dollars were put into savings and loan accounts with a fixed-rate interest ceiling. This huge pool of capital became the reservoir available to provide low-cost mortgages to support the financing of residential construction. With the passage of the Monetary Control Act and the deregulation of the banking institutions, interest rates began to float.

“There was no longer an artificial limit on the amount of interest that could be paid to these investors.”

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There was no longer an artificial limit on the amount of interest that could be paid to these investors.

At about the same time, the creative genius of Wall Street developed money market mutual funds of a wide variety as an alternative form of investment. People began withdrawing money from savings accounts and from other traditional deposits to place them in money market accounts. At the same time, fascination with the stock market came into vogue. This radical change

in where money was placed brought about a totally different environment for the financing of residential mortgages. Many savings and loans had themselves locked into fixed-rate, 30-year mortgages while interest rates escalated to incredible levels above those that had been committed. We saw the demise of a number of savings and loan institutions as a consequence. All this change brought about the sharp reduction in residential housing starts.

## **Tariffs and trade barriers**

Two additional key factors changed the balance of supply and demand in the forest products industry. Beginning with the crash of lumber and plywood prices in late 1979 and 1980, manufacturers began to do their best to cut their operating costs by remodeling. Although there were a few new projects in the United States and Canada in the early 1980's, most operators, under the pressure of reduced prices, began to try to cut costs through improved productivity. Financial resources were devoted to investment in cost-cutting capital equipment. As a consequence, although there has been an attrition of some 109 mills in the West in the last 7 years, the combined capacity of the remaining mills is much higher than it was in 1980. At the same time, Canada was building new facilities to try to open up new timber stands in the East. The British Columbians were remodeling and improving their facilities in much the same manner as we were. Recently the devastation of the beetle-killed timber in Canada has thrust a significantly larger volume of raw material onto the Canadian market. This has been converted into increased lumber production in British Columbia.

As many of you may be aware, stumpage values in British Columbia are not the primary consideration of government policy. Community stability, fostering continuing employ-

## The Forest Industry in Transition

ment, generating tax revenues, and sustaining long-term stability of the forest industry are the primary considerations, with stumpage values being secondary. This is different from the approach of state and federal agencies in the United States, which attempt to price stumpage at fair market value by establishing the level at which competitive bidding can begin. There is virtually no competition in British

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“[Intent [of the trade agreement] is to remove...all the trade barriers between the two countries...”

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Columbia, since most areas of activity have been allocated to individual operators. Almost all timber is bought for the appraised price except a small volume that is set aside for competitive bidding by small businesses. This results in a major difference between stumpage costs in Canada and in the Pacific Northwest.

On October 1, 1987, British Columbia instituted a new stumpage appraisal system which increases values to some degree. It attempts to take into account the differences in quality, and it puts the responsibility for road construction and reforestation in the hands of the customer rather than the province. These measures are intended to raise about \$500 million a year as a preliminary estimate. As a *quid pro quo*, the province will be asking the U.S. government to relieve it of the 15 percent tax on imported Canadian products. The \$500 million, however, is not an adequate substitute for equalizing stumpage rates to effectively eliminate the subsidy.

A further complicating factor is the new trade agreement which was negotiated as of Friday, October 2, between Canada and the United States. Although the details of this agreement are not yet available, its intent is to remove substantially all the trade barriers between the two countries in the interest of improving trade in both directions. Just how this goes together with the 15 percent tax remains to be seen.

## Cargo, currency, and contracts

In addition to this, there is a major complicating factor in exchange rates between Canada and the U.S. The Canadian dollar today is worth about 75 cents, which provides Canada with about a one-third price advantage when selling into the U.S. market.

Furthermore, deregulation of freight rates in the U.S. under the Staggers Act has made it possible for Northwest mills to reenter some of their traditional markets through negotiations with carriers and the establishment of more competitive rates. On the other hand, British Columbia Railway has recently adjusted freight rates downward by as much as 15 percent to a number of destinations.

Dependence on government timber by a number of our mills, and the paranoia of reductions in allowable cut, brought about severe overbidding on state and federal timber contracts in the late 1970's. This placed some of our mills in the impossible position of being unable to operate these contracts without bankruptcy. Federal legislation was passed in October of 1984 permitting Northwest mills to buy their way out of a substantial volume of high-priced contracts. For most companies, this amounted to approximately half of the contract price on the books. Larger companies were limited to a maximum of 200 million

feet. Payments to the federal government for these buyouts amounted to about \$190 million. They were perceived to be considerably more than what the government would have recovered through damages from bankrupt mills.

Due to the abrupt reduction in demand for softwood, product prices sank to less than half of their peak levels during 1979. This was reflected in a similar reduction in timber and timberland values. Only in the last 12 to 18 months has a significantly different attitude begun to emerge in terms of acquiring timberlands.

### **Working smarter**

The depression of the early 1980's has caused a major restructuring of the Northwest forest industry. Many companies changed strategy and sold or

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**"There is no doubt that the forest industry has led the economy out of the wilderness."**

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liquidated mills to concentrate investment for better returns to their stockholders.

One of the best-kept secrets is the successful recovery of Northwest mills during the last 3 years. Because of very profitable operations, and partly because of relief under the 1984 law, both Washington and Oregon have experienced a major economic rebirth. There is no doubt that the forest industry has led the economy out of the wilderness. Product prices do not reflect increased profitability, a fact I attrib-

ute to increased productivity and enhanced recovery through investment in technology (Tables 1 and 2).

Certainly part of the increased demand is due to a vigorous program of trade promotion launched by the American Plywood Association (APA) and the Western Wood Products Association (WWPA). WWPA is spending an extra \$1 million per year on a program called Impetus, which was started in 1984. It is designed to increase demand by 2.5 billion feet over a 5-year period. It appears that these promotional efforts have generated significantly more consumption in the remodeling and repair, commercial, industrial, and export markets (Table 3). APA expects 8 percent more sales in 1987 than 1986 in repair and remodeling and in exports.

Another factor was the imposition of a 15 percent tax on Canadian shipments into the U.S. market, which was negotiated in December of 1986. As a consequence the Canadians turned their attention to promoting increased markets in Asia and Europe. For the first time in a decade, their penetration of the U.S. market went down by 2.5 percent.

One of the major changes in our industry—an outgrowth of the traumatic depression of the early 1980's—is substantial improvement in productivity. Out of necessity we have had to work smarter and work harder. We have added a significant amount of technological improvement. WWPA now reports that the productivity per man-hour in the West has improved by 60 percent since 1980. In 1979 it took 4.5 employees to produce a million board feet of lumber in a year, with one employee producing an average of 222,000 board feet per year. At the end of 1986, it took only 2.79 employees to produce 1 million board feet—each worker producing an average of 358,000 board feet per year.

## The Forest Industry in Transition

**Table 1. Framing Lumber Composite Prices**

Monthly Averages of Reported Prices in Dollars per Thousand Board Feet

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Yearly Average
1978	224	225	226	222	230	226	230	241	238	242	245	233	232
1979	233	241	254	249	249	250	266	288	290	274	237	218	254
1980	219	230	207	165	175	210	218	218	196	192	203	205	203
1981	202	201	197	215	213	211	210	198	180	171	166	177	195
1982	170	162	170	168	166	179	172	160	158	158	175	192	169
1983	229	223	228	230	253	260	237	200	188	200	196	212	221
1984	213	229	234	215	192	187	183	190	180	179	186	196	199
1985	198	193	185	193	223	226	206	184	185	178	178	183	194
1986	188	187	226	232	218	200	198	206	211	198	205	197	206

Courtesy: *Random Lengths Yearbook* 1986

**Table 2. Plywood Composite Prices**

Monthly Averages of Reported Prices in Dollars per Thousand Board Feet

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Yearly Average
1978	237	240	235	230	230	242	245	261	251	257	256	245	244
1979	247	245	248	240	230	226	232	247	242	233	215	214	235
1980	216	218	209	188	213	220	238	256	238	238	248	236	226
1981	230	223	221	228	218	221	215	208	200	190	194	203	213
1982	194	190	193	190	197	204	199	197	199	202	206	207	198
1983	224	219	218	213	227	237	227	211	209	216	211	216	219
1984	212	216	214	206	198	199	204	224	220	216	212	210	211
1985	204	201	191	204	214	216	217	213	214	213	212	203	208
1986	203	202	220	224	220	218	219	217	222	219	213	206	215

Courtesy: *Random Lengths Yearbook* 1986

**Table 3. U.S. Softwood Lumber Consumption By Markets Under Impetus Program. (Million Board Feet)**

Markets	1984	Projected 1987
Residential Construction	16,687	18,260*
Other New Construction	6,554	7,100
Repair & Remodeling	11,281	15,300
Materials Handling	4,213	4,800
All Other	4,097	4,600
Total	42,832	50,060

I am happy to say that our plants have improved our productivity in excess of the industry average. I would like to tell you what the number is, but I don't want my competitors to know. In spite of our relative position in the industry, we continue to strive for productivity improvements in our everyday activities. I have been through enough recessions that I can tell you I can hear footsteps. The time will come when we will need every bit of efficiency we can get to keep from curtailing operations. In the meantime, the added improvement in productivity enables us to pay bonuses to our people so they have a base package that they know is competitive with industry, but they also have incremental income as a product of their efficiency and our joint profitability.

My policy has always been to provide my people with the best mechanical and electrical tools available. Our challenge to them is to use and

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“I have been through enough recessions that I tell you I can hear footsteps...”

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maintain this equipment so that we continue to enhance our productivity. One of the gratifications of being in this business for 40 years is seeing the continued performance improvement of our various operations. I sincerely believe that there is no end to the process. There is nothing more stimulating than developing a new creative idea that improves recovery, enhances value, generates better productivity, and improves job security and growth. All of our people are sensitized to identifying opportunities in these areas.

## **Management by communication**

Management styles have also changed in some companies. About 3 years ago, I was frustrated by some internal bickering between depart-

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“I frankly couldn't recognize myself...my impression had been that I was caring, understanding, patient, creative, paternalistic, and lovable.

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ment managers and was sharing my discomfort with an industry friend. He referred me to a management consultant. This resulted in a company-wide confidential survey that developed some startling information. This survey, which was conducted by the consultant, consisted of about 100 interviews among our 300 hourly personnel and an interview with every supervisor and manager. The data clearly indicated that the attitudes and circumstances within the company were significantly different from what I had perceived. There was a lot of frustration, inadequate communication, and a general lack of trust among our people and our management.

The most compelling evidence was the confidential survey data which the consultant read to me after interviewing my peer group. I frankly couldn't recognize myself from the description that came out of the discussion with the consultant. I was perceived as insensitive, unpredictable, selfish, unwilling to listen, overbearing, and critical. My impression had been that I was caring, understanding,

patient, creative, paternalistic, and lovable. The consultant asked me whether I was willing to change my management style, since it was apparent that unless I was willing to change, he would be unable to work with our people to improve the performance of our management.

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**“We have committed ourselves to be open and honest in our discussions.”**

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I have never been confronted with such compelling objective evidence before in my life. My immediate answer to him was, "When do we start?"

Since that experience, we have concentrated on an intense level of education and training for supervisors and managers. We learned through careful evaluation and interviewing that none of our supervisors was technically qualified to supervise effectively. Each of them had been promoted from the hourly ranks because of ambition or aggressive personality. The company had not provided any of them with the technical skills of supervising. Since then, all of them have gone through the Oregon Leadership Institute and have attended video training classes. This has brought about a substantial improvement in their ability to handle their departments in a more effective manner. We continue to work on it.

Our overall objective is to enhance communication and cooperation between hourly and salaried personnel. Our hourly people are being encouraged to participate in the decisionmaking process. Many of them have taken supervisory training. We

still have a long way to go in team-building and in making group decisions with input from the hourly people who have to do the work in the trenches, but we are substantially ahead of where we were 3 years ago. There is no question that the supervisors are more communicative and more candid and direct in their discussions with their superiors and their crews.

At my level of decisionmaking, we have a series of agreements that have taken all the game-playing out of the so-called "executive suite." We have committed ourselves to be open and honest in our discussions. We have promised that we will not ridicule each other for any ideas or criticisms that are advanced. We encourage each and every person to argue his or her point of view until we arrive at the best possible solution based on the presentation and evaluation of the facts. We discourage decisionmaking by opinion; we strive to evaluate facts to derive the most constructive solutions to our problems.

### Consensus, not committee

This is considered to be decisionmaking by consensus, not by compromise. It is not decisionmaking by committee in the negative sense. In case you are under the impression that it takes longer to make decisions in this fashion, there is a course available to airlines which teaches how to use this method to make cockpit decisions in a crisis. You might think that the simple thing would be for the captain to make the decision, but through the use of this process it is possible for every person in the cockpit to participate in the decision without delaying the timing of the decision. In this manner, it is possible to quickly get the maximum information from each person.

There are numerous examples of pilot error that have been made when

the captain has made a unilateral decision. The classic one is the crash in which the black box was recovered and the recording replayed. The captain was striving to fly the airplane and make the decision on what to do, while in the background the flight engineer was telling him how many pounds of fuel he still had left, until he finally told the captain there was no fuel left and the plane crashed. The captain simply didn't pay attention to the input, but it was the captain's decision how the plane should be deployed. Hopefully our company has avoided a crash of that kind a time or two by virtue of the input from the "flight engineer", but it might not otherwise have happened had I been making the key decisions the way I used to, prior to 3 years ago.

## **Investments in technology**

Industry has a whole new generation of technological advancements that have developed largely since 1980. Scanners and computers are no longer a novelty in the industry. This kind of process control has significantly improved the amount of lumber and veneer that we get out of a log. Depending on the mill operation, about three-fourths of the full product cost is the cost of the log itself. With that kind of value, it is imperative that we do everything we can to enhance our recovery. The positioning devices available today in some mills are substantially better than those that are operator-controlled. We have four different types of headrigs in our three sawmills. All of them use scanners and computer output to position the log and to provide the sawyers with the information about options.

Downstream in Willamina we have an edger optimizer that processes 12 boards per minute, a rate that is faster than a manual operator can handle and that gives substantially better accuracy. The face of the board is

scanned, and the board is then positioned automatically by computer to enhance recovery and to produce the allowable waste that the company chooses to program into its dimension. Not only has this particular installation significantly improved productivity, but we have a double whammy there in view of the additional volumetric recovery, because not only does the piece count go up but the volume per piece goes up as well.

Downstream from our edger systems in our mills are trimmer optimizers that scan and automatically trim the lumber. The operator is only there to keep the lumber unscrambled and feeding smoothly through the system.

These kinds of technological investments are expensive. They are much more affordable in larger operations than in smaller ones, since the volumetric throughput provides a substantial amount of leverage which is not available in a smaller operation.

I look back to 1955, when I took over management of the Willamina mill, and recall a number of technological advances that were relatively simple beginning at that time. In 1955, the Willamina mill produced 18 million feet and employed a total of 60 people. In 1987, the plant will produce 230 million feet and it employs about 225 people, not counting those in the veneer mill. An increase of 340 percent is a rather dramatic improvement in productivity.

It is unlikely the plant would still be there had we not made those improvements in technology. But having been willing to commit ourselves to this investment, we have significantly improved employment opportunities at the plant. Our Willamina payroll in 1955 was \$300,000; in 1987 it will total over \$7 million. It's important to call your attention to what happens to that income stream in the community. The



## The Forest Industry in Transition

general public tends to overlook the benefits that flow from this kind of economic activity. Those payrolls are expended largely in the area surrounding our operations. Besides, the supplies and materials purchased by our company this year will total over \$2 million. This money is all spent within about 50 miles of Willamina. In addition to these dollars, we will pay logging contractors over \$11 million.

### Alienation of the forest land?

The most important point I have to make is that none of this would be possible without an underlying volume of wood supply. For some obscure reason

“The general public tends to overlook the benefits that flow from this kind of economic activity.”

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the industry has been unsuccessful in explaining to the general public why a healthy forest industry affects each and every person in this state, and to impress upon them that keeping it healthy depends upon an abundant wood supply at an economical cost. I have a passion for this particular subject—it's the one subject to which I devote most of my waking hours—striving to improve the understanding and development of a reliable timber supply on which the industry in this state can depend for the underpinnings of our economy and the economic and social benefits that flow from it.

This is really the exciting part of a career in forestry. The part that you students will deal with—the resource

base—is the most fundamental, the most basic, and the most important part of the entire economic equation. Your ability to grow and harvest trees in an environmentally responsible manner is absolutely fundamental to our industry's ability to make our optimum contribution to society. But I am increasingly frustrated by the alienation of the commercial forest land base from the responsible practice of forestry.

Certainly there have been appropriate set-asides for scientifically supportable reasons, but the tragedy of foreclosing on the opportunity to practice forestry on many of these lands is essentially a product of a lack of public understanding and a deliberate attempt by environmental obstructionists to stop the growing and harvesting of trees. More and more we see our legal and administrative systems being used to frustrate our attempts to manage productive lands in an environmentally sensible fashion. More and more we see deliberate attempts to confuse the public about what is truly going on in this most productive forest area in the world. It is a sad commentary when the draft plan of the Siuslaw National Forest, the most productive forest in the National Forest System, calls for timber outputs 32 percent less than those in the previous forest plans. More and more we see environmental zealots attacking responsible forest activities with deliberately emotional campaigns. It is a technique of “win at any cost.”

The forest industry has consistently avoided responding to these attacks by criticizing the environmental movement. We have attempted to defend our land stewardship and our management practices through the explanation of scientific data supported by extensive research. It seems to me, however, that it will be imperative for industry to change its tactics and to refute accusations and misinformation whenever

and wherever they occur by pointing them out and displaying them to the public. We should continue to avoid using misinformation and distortion and stick to the facts, but it is my judgment that the industry will have to accelerate its public information efforts to bring about a better understanding of what is truly going on out there in our forests.

## **Cooperation and conscience**

The forest environment today is excellent. Through the Forest Practices Act, we have effectively provided for reforestation to secure a timber crop for subsequent generations. Industry operates forest lands for a profit. We don't need to apologize for that. We will continue to exercise good stewardship over these lands by providing

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"...we see environmental zealots attacking responsible forest activities with deliberately emotional campaigns."

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them with protection, by continuing our technological advances in the forest environment and in genetics, and by supporting vigorous research to provide us with a better data base to make better management decisions on these lands. Continuation of corporate conscience is crucial.

The COPE Program (Coastal Oregon Productivity Enhancement) is an excellent example of cooperative research. A consortium of academe, business, and local and federal government have all combined to begin a

comprehensive research program over the next decade on Oregon coastal lands. The program consists of "fundamental" COPE, which is research concentrating primarily on riparian zone management and regeneration-related practices; and "adaptive" COPE,

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"Industry's position should be to continue to support multiple use of these forest lands."

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which is supplementary on-the-ground investigation of applications of the research in various locations in the Coast Range.

During this decade we will develop useful techniques to enhance the productivity of these coastal lands, thereby providing better economic and social values for not only the Coast Range but for the entire state as well. Too often today we see the single-minded activity of one interest group or another. Industry's position should be to continue to support multiple use of these forest lands. Through multiple use we will improve the outputs of not only timber, but other values such as fish, wildlife, recreation, and water.

## **Balancing the benefits**

But we need to establish a dialogue to determine what the extent of some of these other outputs should be. Our current state forester, Jim Brown, uses an excellent analogy. He portrays a continuum of wildlife, for example, on a graph from zero to infinity, and poses the question, "where do we wish the outputs of wildlife as a product of forest management to repose on this

## The Forest Industry in Transition

continuum?" I have never heard that question addressed. It seems to me that the current opinion of many wildlife advocates is that there should be no limit to the output of wildlife at the expense of timber. The same could be said for fisheries. This seems inappropriate, particularly on private forest lands whose obvious dominant use is timber production.

A whole range of conflict was generated by Senate Bill 100, our land use bill, because it neglected to specify a

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"...we can have the best of both worlds."

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method of finding a balance between the competing uses of forestry Goal 4 and environmental Goal 5. Fortunately that conflict has been resolved by the passage of House Bill 3396. This bill does much to simplify regulation of private Oregon forest lands.

If we can successfully convey to the public, which loves our state's environmental quality, that we are responsible stewards of our forest lands and that our activities are complementary to the values they believe in, then we can have the best of both worlds. We somehow need to successfully explain that the short-term visual impacts of timber harvesting are soon replaced by vibrant, vigorous, great green success stories like the Tillamook Forest.

If there was ever an environmental holocaust, it was the series of fires at 6-year intervals in the Tillamook area that denuded some 355,000 acres between 1933 to 1951. Over 13 billion feet of timber were destroyed. If you want to see how management policies

can bring about a revitalization and a true economic miracle that is aesthetically acceptable, take a trip down the Wilson River highway or up the Trask River and see what has happened in terms of recovery of that terrible devastation. Compare that 24-year holocaust to the minor impact of harvesting 1 percent to 2 percent of our forest land base annually and you will begin to get some perspective of the minor impact that timber harvesting creates when viewed in a larger context.

I have spent a lot of time in the Siuslaw National Forest and what I see there is nothing like what is depicted by those who would have you believe that the National Forests are being pillaged for the benefit of the forest industry. I encourage you to travel some of the roads of the Siuslaw yourself and verify my observation. Oregon's public and private forests are in excellent shape. The restrictions on forest operations under our Forest Practices Act ensure that logging is conducted in a responsible manner and that a minimum of 150 trees per acre are reestablished after harvest.

Only about 1 percent of the permits for harvest result in infraction, and

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"Oregon's public and private forests are in excellent shape."

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most of these are minor. Work orders and restitution in those cases are imposed by the State Department of Forestry. As is true in any statistical sample, there is always someone who will make a mistake, but the procedure for remedying those errors is in place and is working.

## **A policy of the majority**

The future of the Pacific Northwest's economy will depend to a large extent on the adoption of wise public policy on our forest lands. You need to play an important role in shaping policy. Your understanding of the real world out there is crucial to your ability to provide input to the bureaucracy and to the political balance that brings about wise utilization of our forest resource. Only in that way can an

“It would be easy for industry to plead that everyone should subscribe to its point of view because we want to win, but that is unrealistic and selfish.”

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enlightened public participate in bringing about the best of both worlds in Oregon and the Northwest: a quality environment backed up by economic vitality.

Rapid change has accelerated in the last decade. As today's new crop of foresters, you need to play an active role in establishing sound forest policy based on thorough research and practical experience. The tools of the forest profession that you have learned at OSU will be fully useful only if you are successful in convincing the players in the political arena of the virtues of your point of view.

Policy issues of forest land will always reflect a variety of contentious points of view. I suggest that this is healthy to a point. It would be easy for industry to plead that everyone should subscribe to its point of view because we want to win, but that is unrealistic

and selfish. If industry wants its point of view to prevail, it should be willing to demonstrate its value based on facts, on science, on research, on evidence, and on careful scrutiny by the public of what is best for the majority of the public.

In the same way, the opposition should be called to account by the same standards. Let me give you a couple of examples of why I feel this way.

I find it somewhat bizarre to read a recent call to arms by the Sierra Club Legal Defense Fund. Let me read you an extract from this document, which begins:

Dear Fellow Citizen: America's forests are under seige. Even as I write this letter to you chain-saws and bulldozers are at work wiping out stand after stand of age old trees, creating massive forest clearcuts and miles and miles of new roads. Our national forests are complex fragile ecological systems which the United States Forest Service, according to law, is required to manage for multiple use. That is, the Service is supposed to balance the need for lumber with other needs, like the needs of wildlife and recreational needs of people like you and me.

Now that description of the Forest Service would appear to be biased toward the forest industry. I have to tell you that industry has a somewhat different view of the situation. We find it difficult to believe that the Forest Service is biased in our favor when the draft plans for Washington and Oregon reduce by some 25 percent the timber outputs for the next 10 years.

A misconception is being promoted that we are running out of old growth. At a recent meeting of the Audubon Society biennial convention in Bel-

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lingham, Brock Evans, vice president for national issues, called for "endless pressure, endlessly applied" to achieve maximum set-aside of old-growth forests in the next 5 years. He urged the 500,000-member society to give

**"We are never going to run out of old growth—until and unless it falls down at the end of its natural lifetime."**

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names to yet-unnamed areas of old-growth trees to heighten emotional tensions and to appeal proposed road and timber sales plans.

I would like to try to put into understandable terms the whole issue of old-growth preservation. First of all, under existing plans, less than 40 percent of Washington's and Oregon's National Forest lands are being managed for standard timber production, and 35 percent of the current land base is off limits to timber management activities. That is, in Washington and Oregon, over 6 million acres of National Forest lands containing standing sawtimber are presently off limits to logging under existing plans, and 4.5 million acres of forest land, containing over 50 billion board feet of timber, are permanently set aside in wilderness areas. Just let me repeat a couple of those numbers for your benefit: in wilderness areas alone, 4.5 million acres of forest land containing over 50 billion board feet of timber are presently set aside. We are never going to run out of old growth—until and unless it falls down at the end of its natural lifetime.

The Oregon State Department of Forestry estimates that 43 percent of all

timber harvest in Oregon is old-growth. It is imperative that we continue to harvest both second-growth and old-growth timber. If we continue to harvest old-growth timber in Oregon at the present rate, the currently available volume of old growth will not be exhausted for 125 years. It is also important to understand that over that period of time, the forest land base on which the old growth reposes will be slowly but surely replaced by vigorous second-growth growing stock which will be adding significant volumes of growth. It is not economically efficient to maintain an old-growth stand in perpetuity. It is a poor use of capital.

In the meantime, many of our mills are dependent on old growth and manufacture special products from it. Worldwide markets understand the virtues of the kind of product that can be made from old-growth timber. Many of the mills processing this type of wood depend on those special products for their existence. During the next several decades, there will be a transition

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**"It is not economically efficient to maintain an old-growth stand in perpetuity. It is a poor use of capital."**

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to other products. Let's recognize that we already have an adequate amount of old growth in preservation.

### Making the case

For every important issue there will always be strong feelings for and against. Our recent experience with

the confirmation hearings of Judge Bork for a Supreme Court position is a current example of an issue on which proponents and opponents spent millions of dollars and called in unprecedented political chips in the process. But in the final analysis, I would hope that policy decisions would be based on common sense and reason, so that when the emotion has died down, we are left with policies that serve the majority interest. That is the democratic process. That is the realistic backdrop against which your careers will be structured. The effectiveness of your participation in the structuring of public attitudes will profoundly affect your ability to practice your

chosen profession. It is no longer possible for today's foresters to practice only the technology of modern forest management. Without active involvement in the political process, without providing the public with a clear understanding of why utilization and intensive management is in fact good for the majority, we will deserve to be relegated to a system which deprives us of the benefits of the resources from the most productive forest lands of the world. We must make our case.

You should play a major role in shaping the future for the citizens of the Northwest. I wish you good luck in your endeavors.

# THE PEOPLE INGREDIENT IN TODAY'S FOREST INDUSTRY

by

W. B. Early

In most respects, the subjects to be dealt with in this paper are as applicable to any other industry as they are to the forest products industry. This makes it different from previous papers in the Starker Lecture series. The proper balance of commercial timber harvest with other competing uses and environmental concerns is an extremely vital issue. However, the majority of my predecessors in these Starker Lectures have dealt with the technical and political issues related to this balance, and so I thought it would be worthwhile to talk about the people element. The ways in which we challenge the people in our industry to achieve innovation, improved productivity, and good product quality are also important to the success of our industry. If we can do a better job of managing the people ingredient, we will have the opportunity to make the available wood resources go farther and to discover the means to serve our customers better.

Although I have spent 7 years in two universities, my comments are not academically oriented—they are based on my experience. That experience includes 8 years in several management positions at Weyerhaeuser Company and more than 15 years at JELD-WEN. Since unlike Weyerhaeuser Company, JELD-WEN is hardly a household byword, I will give you a little background on the company. JELD-WEN is a manufacturer and distributor of windows, doors, siding, molding, and millwork. For a relatively small company, we are quite well integrated vertically. Our two sawmills sell almost all their output to our millwork operations. A good portion of the waste from our manufacturing plants is utilized in our five composition wood products plants and most of the rest is used to produce steam and electricity. While most of our timber supply comes from government and private sources, we do have enough timberlands to know and understand the issues related to both public and private timber.



W. B. Early is Vice President of  
JELD-WEN Inc., Klamath Falls.

## Principles for people

JELD-WEN is a privately owned company that has, during its 27 years, been guided by some basic principles. These guiding ideas have evolved and been modified to respond to changing conditions, but many have survived almost from the beginning. I have found three common threads that tie the system together:

**Running your own business.** We come as close as we can to providing conditions for the managers and employees that are like being involved in



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your own business. It was interesting to learn while preparing for this paper that Weyerhaeuser Forest Products Company is working hard on developing a set of "ownership attitudes" that would permeate all aspects of the management approach (Ed Rogel, director of human resources, Weyerhaeuser Forest Products Company, interview, September 1, 1987). Instilling the idea of running your own business is a key to JELD-WEN's approach to managing the people element.

**A "hands-on" approach.** The "hands-on" concept at JELD-WEN applies at all levels of the organization. From the hourly employee through the working supervisor to the president of the company, it is a "hands-on" organization. This concept means that each of us does a variety of tasks that in other companies might be done by specialists. It means that our managers do a lot of things themselves that in other operations are done for them. It also means that it is essential for all our managers to stay close to what is happening in all the areas where they are accountable, from safety to quality; including productivity, housekeeping, inventory control, efficiencies, waste, costs, and return on investment.

**The Golden Rule.** It may seem a bit corny to some, but the treatment of others as we would wish to be treated ourselves is part of JELD-WEN's written policy. It affects our communications and our approach to dealing with others in many ways, which I think you will see as we proceed.

There are several different types of positions in an organization. Although our sales, technical, and administrative personnel are of great importance, we will be focusing in this paper primarily on the managers and hourly employees in the manufacturing sector. While I am influenced by my experience at JELD-WEN, the comments and observations herein are my own.

There are many ways to manage an organization effectively. The concepts I will be discussing are not all perfect but overall they have served us and our people well. It is my hope that these ideas will stimulate discussion that will be of value not only to others in the industry but to us as well, helping us to improve on what we are now doing.

### Freedom to take chances

Our focus will be first on management and then on our hourly employees. The idea of instilling a sense of ownership for all management per-

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**"The general manager of each operation is the key to the success or failure of the plant."**

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sonnel gets a big boost at JELD-WEN since all of our managers are owners. We don't rely solely on actual ownership, but structure a number of other factors to simulate "running your own business."

### The independent manager

Each plant operation is managed quite independently, with goals, reporting, and a monthly statement specific to the operation. The general manager of each operation is the key to the success or failure of the plant. The general manager is responsible for all functions at that plant. At almost all plants he does his own hiring and personnel management, the majority of his own purchasing, and is responsible for the operation's relationships in the community. Although the accounting and data processing func-

tions are largely centralized, the general manager is responsible for the office functions that provide the data for them.

Each plant has a maximum of three levels of management. Our first-line managers, whom we call group managers, are working supervisors. There is only one other level of management possible between the general manager and the group managers. In some plants there are coordinating group managers in that middle position, and in others there is a production manager. In a few of our smallest plants there are only two levels of management, so that the general manager has each of the three or four group managers reporting directly to him.

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**“If the quality in a certain area starts to deteriorate, the general manager will see it and know ...that something isn't right.”**

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I recently had an interesting conversation with a business associate whose company was going through the stage of growth that JELD-WEN went through a few years back. He was expressing his desire to give his managers the freedom to innovate and take some chances without running the risk of losing control. He asked me how JELD-WEN handles this situation. What follows is essentially my response to him:

**JELD-WEN has a set of corporate policies with guidelines and procedures for their implementation. Operation within these policies needs no consultation.**

**Each year goals are set** in each of the areas of the general manager's accountability. The general managers take different approaches in coming up with their proposed goals. Some work with their own managers and employees in building up their goals from the bottom; others do not. The proposed goals are then confirmed through discussion at the plant between the general manager and the vice president. They are later reviewed by the board of directors, but very few changes are made. The goals are essentially what the general manager and vice president have agreed upon.

**Results are measured** against the established goals. Certain key factors are reviewed each Monday in a telephone call among the sales vice president, the manufacturing vice president, and the general manager. Other results are reported and reviewed on a monthly or quarterly basis. Capital expenditures above a fairly modest level, and the addition of personnel above agreed-upon levels, are two areas requiring discussion before acting. Purchasing and other actions in the normal course of business are within the general manager's authority.

With this structure in place, a general manager is pretty much on his own. So long as the results are favorable or close to goal, things will proceed in a routine way. When problems begin to develop in a certain area, discussion will follow and assistance will be provided if necessary.

The general manager is typically on the plant floor 30 to 50 percent of the time. He needs to be there that much so that he knows what is happening by seeing it firsthand. If the quality in a certain area starts to deteriorate, the general manager will see it and know before he receives the weekly report on quality that something isn't right. While the general manager

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has an open door for any employee to come to him with a problem or complaint, some employees are reluctant to do this. When the general manager is frequently in the plant, that reluctant employee often will take the opportunity to talk to him.

The variety and flexibility inherent in the general manager's job makes it very much like running your own business. While the job imposes a lot of responsibility and challenge, it also gives significant rewards, not the least of which is the fun of doing a lot of different things.

### Part of the team

The group manager is very much the working supervisor. We think this is important for a number of reasons. First, it is the group manager's re-

"It is the group manager's job to do whatever is necessary . . . and if this means jumping on a forklift to bring them more stock, that's what he does."

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sponsibility to see to the training of new employees; therefore, he must know how to do all the jobs himself. Second, our manning levels are quite thin and we don't have a labor pool to draw from for temporary needs. The group manager must be able to step in and do a job when necessary for a short period of time. Finally, and probably most important, by being a working supervisor the group manager is a part of his team, not just the boss. It is the group manager's job to do whatever is necessary to help his people get their jobs done, and if this means

jumping on a forklift to bring them more stock, that's what he does. The group manager and the machine operators do a major portion of the maintenance and repair on the equipment for which they are responsible.

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"The rewards may be only moderate when things aren't going well but substantial when results are good."

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All this means that the group manager is on the plant floor 95 percent of the time. Work necessary to prepare for the next day or to prepare shift reports is done before and after the shift or on Saturdays. While the responsibility of each manager is to do whatever is necessary to get the job done, a typical work week is more like 50 hours plus, than 40.

### The rewards

JELD-WEN's approach to management compensation is a little different from most. As in any well-run business, the rewards may be only moderate when things aren't going well but substantial when results are good. Salaries are intended to provide a reasonable living but are not ordinarily at the high end of what is available in industry. However, there are several additional types of compensation based on results. These can add very significantly to total compensation.

In all plants that have been operated by JELD-WEN for a period of time, we have established an incentive for all managers under the general manager, based on the efficiency of the activities being managed. Standards are established for as many of

the functions as are readily measurable. Actual production is measured against the standards, and an efficiency report is issued for each operation, for each department, and for the plant overall. If the efficiencies are above a certain level, the managers receive a monthly efficiency incentive bonus. In some plants, the incentive is calculated for each group manager on the basis of the efficiencies of the operation he or she supervises. In other plants, the plant's total efficiency is used to determine an equal incentive for each group manager. The choice between these two approaches belongs to the general manager. Those who have chosen the individual incentive have done so on the theory that it has the best potential to maximize results because it ties the reward more directly to individual effort. On the other hand, the approach of the plan offering equal incentive for all, based on overall results, is grounded in the theory that it better stimulates teamwork. Both approaches have worked well. Although results have averaged slightly higher where individual results were used, the differences have not been very significant.

Managers also have the opportunity to earn an annual bonus based on profitability. The factors that affect the annual bonuses are the profitability of the individual plant, the profitability of the whole company, and the level of responsibility and contribution of the individual manager.

While each plant operation is relatively independent of the others, there are interrelationships between them. Some plants contribute to the results at other plants and to the overall results. One plant's contribution to the overall operation may go well beyond its own profitability. To reflect this type of contribution to the total, a portion of the annual bonus is based on the profitability of the whole corporation. This, along with the fact that stock owner-

ship is in the company as a whole, helps to provide a good balance at each plant between maximizing its individual plant results and doing what is best for the company as a whole.

The final and most important part of management compensation is stock ownership. There are several different ways a manager can acquire stock. First, all or any portion of the annual bonus a manager earns can be used to purchase stock. Second, there is a salary reduction plan where up to 10 percent of salary can be voluntarily set aside to make pretax purchases of stock. Finally, the pension plan is based on JELD-WEN stock in an ESOP (Employee Stock Ownership Plan). A percentage of all compensation, including salary and bonuses, is paid by the company into the individual's ESOP account, giving the individual a retirement account equal not only to the percentage contributed but to the potential growth in the value of the stock as well. These last two methods of acquiring stock are applicable to clerical and other salaried personnel as well as to managers.

Because the stock of JELD-WEN has grown steadily and significantly over the years, it has been a very important part of the compensation package. While continued growth is in no way guaranteed, all reasonable expectations are that stock will continue to be very important to our owner-managers.

### **Educating management**

Since early in the company's history it has been recognized that a capable group of well-trained managers is essential to success. As the growth of the company has snowballed, the importance of a constant flow of managers has grown accordingly. JELD-WEN has a 2-year training program for its managers in both study and on-the-job skills. We seek the best people available both from the ranks of our hourly

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employees and from college graduates that may be from outside the company. Managers from these two sources tend to have somewhat different perspectives, both of which are valuable to the company. The college-educated trainees are normally prepared for first-line supervision in a plant, and the very large majority make their careers in production management. However, because of our policy of filling management jobs from within the company whenever possible, the majority of other, non-production management jobs are filled by people who have started out through the management training program.

### The versatile employee

Flexibility and versatility are key ingredients in most of the hourly jobs in our plants, just as they are in the management jobs. Here, also, we avoid specialists. Rather than having a few experts that set up our machines for each run, each machine has its own operator who does his or her own set-

**"Holding the employee accountable for quality, maintenance, and production makes for a more interesting and challenging job."**

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up. The operator does the routine maintenance and repairs most breakdowns with the help of the group manager. While a machine operator may not have the mechanical skill of a millwright, he knows his machine better than anyone else and can handle these problems very well. Likewise, we espouse the idea that the people who control quality are the operators and

group managers who are producing the product. Rather than having quality control specialists on whom the production people can shove off this responsibility, we make control of quality the operator's responsibility. Holding the employee accountable for quality, maintenance, and production makes for a more interesting and challenging job.

### Keeping in touch

We try to develop a high level of trust between our employees and their managers and vice versa. There are some important symbols of this attitude. There are no time clocks in any of JELD-WEN's plants, and there are no fences around any of them. In our dealings with our people we assume that they are worthy of our trust, and this is the way we work with them unless or until something is done to discourage that approach.

Frequent open communications between employees and managers are encouraged. At each plant the general manager meets monthly with all employees in small groups. We discuss what has happened and what is expected to happen in the near future. Problems and opportunities are discussed, and the variety of subjects is wide-ranging.

Each group manager has a variety of organized communications with his or her people on a daily or weekly basis. Key results of machine efficiencies and waste factors are posted daily so that operators can see their results and compare them with those of others.

Each new employee receives a copy of *You and JELD-WEN*, a booklet that explains the responsibilities and benefits of the job. We think this is an important communication and we test each new employee on his or her knowledge of its contents.

Another essential ingredient of our communications effort is the annual performance evaluation. Every employee in the company receives one. We look at the jobs done well along with the opportunities for improvement. For each such opportunity we try to agree on specific actions that will be taken to accomplish the improvement. Each employee is asked to evaluate his or her own performance and then the manager supplements

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"In our dealings with our people we assume that they are worthy of our trust."

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that evaluation as needed. We also ask each employee to evaluate the "well-dones" and the opportunities for improvements for his or her boss. This really is intended to be a two-way discussion. It is an occasion at least once a year for a 15- to 30-minute, or more, one-on-one discussion of how things are going.

### **Incentives to excellence**

There are rewards for excellence of performance by the hourly employees. All job promotions are handled through a job bidding system based primarily on performance rather than seniority. At many of our plants, we have an incentive pay system for hourly employees. While this is not in effect at all plants, we are working in that direction.

Where incentives are in effect, they are based on the efficiency of production; the actual production is compared to the standard, and the ex-

tent to which 100 percent is exceeded increases pay by an equal percentage. In the plants where incentive jobs are in effect, not all jobs are incentive jobs. I have had concerns about the effect of this on people in non-incentive jobs. It appears that these concerns were largely misplaced. Since we have a job bidding system, there is an opportunity to compete for the incentive jobs. Not all employees are interested in them. Those jobs where significant incentives are available are pretty intense, with total effort being exerted towards maximizing efficiency. Not everyone wants that degree of intensity, even with the significant rewards.

### **Profiting from productivity**

Weyerhaeuser Company has been involved over the last year or so in several incentive systems. The most widely publicized of those programs is the profit-sharing plan that was adopted in 1986 along with rollbacks in wages and fringes. While the results of this program are not all in, several facts are interesting (James Bradbury, director of labor planning, Weyerhaeuser Forest Products, interview September 1, 1987). All but one plant has received some profit-sharing, and the average recovery has been about \$1 per hour.

The plan is geared to profitability rather than to productivity, although Weyerhaeuser has also had in effect some incentive programs based on productivity. While the productivity has improved in the plants that are involved in profit-sharing, the improvement has not been as substantial as it has in those operations where the incentive was tied directly to productivity. This fact might lead one to conclude that the most effective incentive is tied to what the hourly worker can affect most directly. However, there are some other favorable results from the profit-based incentive. Employees under these programs at Weyerhaeuser

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have taken a broader view of their jobs than just producing more with what they have to work with. They have tended to look more broadly at innovations to improve profitability. They have shown a cost consciousness and a customer awareness not normally shown. So there appear to be advan-

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"[Employees] have shown a cost consciousness and a customer awareness not normally shown."

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tages to both kinds of incentives—those based on profits and those based on productivity.

### The value of a good idea

JELD-WEN has a suggestion award system designed to encourage ideas and innovation on the part of our employees. Each idea submitted is carefully evaluated. If a suggestion is adopted and proves to be valuable, a monetary award is paid to the employee. The majority of suggestions involve relatively simple ideas and result in awards of \$100 or less, but a fair number are more significant, and awards of several hundred or even several thousand dollars are not uncommon.

Wages and benefits are evaluated each year during the fourth quarter. Surveys are conducted to compare our program to those of our competition. Our objective is to have a total program equal to or better than the competition. Since we are in a number of different businesses with different levels of competitive rates, our rate structure reflects these competitive facts. We don't try to copy anyone's package, because we have some benefits and

incentives that are different. While in some years we gave increases less than some of the larger companies in different but related wood products businesses, we have continued to be able to give increases in some years in which freezes or rollbacks were occurring elsewhere. One concept that has been spreading in the industry lately is having the employees share at least a minor percentage of their medical expenses so that they will have an interest in the size of those costs.

### Not just for employees

We think that education is assuming an ever-increasing importance in our society today. JELD-WEN has a number of programs to support education of our employees, their children, and the communities in which we operate. We have a course reimbursement program that reimburses half the cost of tuition and books to an employee who success-

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"We don't try to copy anyone's package, because we have some benefits and incentives that are different."

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fully completes a course. The subject for the course does not need to be directly job-related.

We sponsor several scholarship programs. The sons and daughters of all employees who have been with the company for 3 years or more can receive a \$1,000 scholarship for their freshman year. This is not a competition. All sons and daughters going to an accredited college can receive one. Further, we provide one or more similar scholarships at a college in each community where we have a plant.

The recipients of these community scholarships are selected by the college from among graduating seniors in the community's high schools.

### **An interest in results**

Two years ago in these Starker Lectures my good friend, Charlie Bingham, pointed out that almost half the recent changes in ownership in the forest products industry result in transfer from a large business to a much smaller one (C.W. Bingham, 1985 Starker Lecture). Many of these changes were employee buyouts. If the idea of ownership attitudes is worthwhile, you would expect these ventures to be generally successful. Although I don't have statistics for support, I know that many employee buyouts are not successful. Ownership attributes must obviously be combined with management skill for a business to succeed. Even the individual proprietor doesn't always stay close to the business. Most of

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"I know that many employee buyouts are not successful. Ownership attributes must obviously be combined with management skill for a business to succeed."

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us have seen businesses small enough to be managed by the individual owner, who instead chooses to turn things over to others. Such situations almost inevitably end in disappointment.

A business that provides its managers with ownership opportunities, and otherwise is structured so that its people have a real interest in results, is starting on the right track. If com-

bined with a "hands-on" approach that keeps all managers from top to bottom close to the work they are managing, then the chances for success are greatly enhanced. Management excellence is essential to prosperity in the forest products industry of the future. With a raw material supply that is both changing in character and diminishing in many areas, we need innovation

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"We need people who understand how to reduce waste and maximize yield and are stimulated to do so."

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to develop products from the available resources that can fill market needs. We need people who understand how to reduce waste and maximize yield and are stimulated to do so.

I hope that the ideas I have presented may be of some interest and that they may generate some useful discussion. Both JELD-WEN and I are honored by the opportunity to meet with the students and faculty of OSU.

I would like to close with words of encouragement for the Forest Products program at Oregon State. Our company has hired 14 of our 39 management trainees in the last 6 years from Oregon State, and many of them have either majored or minored in forest products. They are well trained and have been welcome and productive additions to our management team. I understand that enrollment in Forest Products has declined in recent years. This is distressing. If better communication about the program is likely to increase interest in it, I would certainly encourage such an effort.



# MULTIPLE-USE FORESTRY: MOVING FROM PLATITUDES TO REALITY

by

Jack Ward Thomas

My comments represent my own personal views and do not pretend to reflect any position or policy of the Forest Service. My training and experience are largely in the field of wildlife biology. Therefore, my discussion and illustrations deal largely with wildlife. I think, however, that my comments are generally applicable to multiple-use forest management.

## A dream defined

"Multiple use" is a good description for an idealized vision of forest management that has fallen on bad times. I have heard the concept of multiple-use forest management described as "an ethically loaded ambiguity", "a platitudinous flight of fancy", "a legal mandate to manipulate", and an "excuse for multiple abuse". Part of the trouble is that multiple use is so nebulously defined that it, like beauty, lies in the eye of

the beholder. As one fellow, when asked to define the term, said in frustration, "I can't describe it in words, but I know it when I see it."

Multiple use is, simultaneously, a requirement of law, a dream, a philosophy, and a promissory note to the American people for how their National Forests will be managed. The concept of multiple use for the management of the National Forests of the United States is unique in the world. It

"Multiple use is...a requirement of law, a dream, a philosophy, and a promissory note..."

is a dream typical of the American people at their best—bold, risky, controversial, capable of great consequences. We are indeed striving to do something no one has done before.

## The tightening of the screw

The Multiple Use-Sustained Yield Act of 1960 (MU-SY) (USDA Forest Service 1983) gave the Forest Service a legal mandate to continue the existing agency policies of multiple use and sustained yield. The Act is brief and, superficially, quite straightforward: "The national forests are established and shall be administered for outdoor recreation, range, timber, watershed,



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## Multiple-Use Forestry: Moving From Platitudes To Reality

and wildlife and fish purposes" and there will be development and administration of "...the renewable surface resources...for multiple use and sustained-yield..."

I will show that the Forest Service, in response to increasingly rigorous mandates of law and because of the personal conviction of most of its employees, is making uneven but steady progress in turning multiple-use forest management from platitude to reality.

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"This assumption was based on rather simplistic articles of faith, such as that old growth is a biological desert, that deer and elk love clearcuts..."

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But the definitions of multiple use and sustained yield are a hairsplitter's dream. They make MU-SY more an exercise in philosophical guidance than a clearly defined management direction. Consider its definitions of multiple use and sustained yield:

...management of all...renewable surface resources...so...they are utilized...in the combination that will best meet the needs of the American people: making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that same land will be used for less than all of the resources; and harmonious and coordinated management of the various

resources, each with the other, without impairment of the productivity of the land, with considerations being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output...

Sustained yield of the several products and services means the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources...without impairment of the productivity of the land.

It is obvious why MU-SY is considered more a statement of philosophy than a blueprint for action. There are only two definitive statements in MU-SY: that multiple use and sustained yield are policies of Congress, and that they will be achieved "...without impairment of the productivity of the land."

## Conserving diversity

Between 1960 and 1970, "multiple use" was, in practice, more or less what the Forest Service said it was. The National Environmental Policy Act of 1969 (NEPA) (USDA Forest Service 1983) required examination of the environmental consequences of proposed federally funded activities, and thus revealed more clearly than before the interactions and tradeoffs involved in multiple-use management. Until that time, multiple-use products were too often assumed to be an automatic outcome of "good" forest management practices. Viewed in hindsight, this assumption was based on rather simplistic articles of faith, such as that old growth is a biological desert, that deer and elk love clearcuts, that "wildlife" is limited to those species that support sport hunting, that roads improve

access for hunters and do not influence wildlife, that good timber management equals good wildlife management, and so on. In short, if wildlife, recreation, timber, livestock, and water of some kind all come from the managed forest to some degree, there is multiple use.

The Endangered Species Act of 1973 (ESA) (USDA Forest Service 1983) essentially declared the government of the United States to be firmly opposed to the extinction of species—both plant and animal—and provided direction on how endangered species were to be identified and preserved. Key among those provisions, so far as National Forest management was concerned, was the requirement "...to provide a means whereby the ecosystems upon which endangered species and threatened species may be conserved..." This was, though it was probably not so recognized at the time, the first incorporation into law of a goal for the retention of diversity. As a matter of course, the ESA has come to bear most significantly on management of federally owned land, where all management actions are federal actions and subject to the provisions of the ESA and the NEPA.

## Computers to do the counting

The 1960's and early 1970's produced a national fascination with the development of ways to bring predictability and order to the management of corporations and government. Emerging technology in the form of computers made feasible the handling of huge amounts of data. The developing field of operations research lent mathematical respectability to the relationships between interacting variables. The desire to bring order and predictability to the vagaries of human existence is, seemingly, as old as tribal man. The incantations of the witch doctor, and the care and feeding of megabytes of

data to be processed through the innards of a computer, via the road maps of operations research, are both manifestations of that desire.

If it was so successful in improving the efficiency of business and government (e.g., the Department of Defense), could not operations research be extended to the management of renewable natural resources? In fact, planners have since realized that biological systems are much more complex than engineering or manufacturing systems, and that the understanding of these systems is rudimentary. Yet there is still pressure to make more complex and far-reaching plans than reliable data bases will allow (Thomas 1986).

The Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) (USDA Forest Service 1983) required the Forest Service to perform periodic assessments of the status of the nation's renewable natural resources. This required

a comprehensive assessment of present and anticipated use, demand for, and supply of renewable natural resources from...public and private forests and rangelands, through analysis of environmental and economic impacts, coordination of multiple-use and sustained-yield opportunities...and public participation in development of the program.

The Forest Service was further required to present to Congress an array of management and research programs to achieve various levels of National Forest management. Details of the RPA deal much more specifically with timber harvest and management, and their economic implications, than with range, water, wildlife, and recreation, which were assumed also to come under the headings of multiple use and

sustained yield. The law thus reinforced the Forest Service's habit of referring to forest resources as being in two categories: "timber" and "other"—with "timber" predominating.

Nevertheless, the RPA moved the Forest Service farther down the path toward multiple-use management by stating what actions were required to achieve it. There were instructions to

evaluate objectives for the major...programs in order that multiple-use and sustained-yield relationships among and within the renewable resources can be determined...and...state national goals that recognize the interdependence within the renewable resources...

There were instructions to

insure consideration of the economic and environmental aspects of various systems of renewable resource management, including the related systems of silviculture and protection of forest resources, to provide for outdoor recreation (including wilderness), range, timber, watershed, wildlife, and fish...

and to

provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives, and within the multiple-use objectives of a land management plan adopted pursuant to this section, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species...

There is, admittedly, much wiggle room in the RPA. But the legal man-

date to make multiple use a reality was more emphatic and more specific.

## **Refining the prescription**

The National Forest Management Act of 1976 (NFMA) (USDA Forest Service 1983) followed 2 years behind the RPA. This legislation grew out of the controversy over timber management practices, primarily clearcutting on the Monongahela National Forest in West Virginia and clearcutting and terracing on the Bitterroot National Forest in Montana. Court decisions on cases arising from these controversies made it obvious that clarifi-

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"There is, admittedly, much wiggle room in the RPA."

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cation was needed in legislation—primarily in the Organic Administration Act of 1897 (USDA Forest Service 1983)—governing National Forest management. The NFMA (which was called the Humphrey bill) won out over a more prescriptive piece of legislation known as the Randolph bill. Environmental groups, in general, supported the Randolph bill. Professional resource management societies, including the Wildlife Society and the Society of American Foresters, supported what became the NFMA. The support of the Wildlife Society was based on the assumption that NFMA gave professional resource managers more leeway, while assuring increased attention to other products of multiple-use forest management, particularly wildlife. The NFMA, while it incorpo-

rated many of the points in the RPA, provided more specific instructions to the Forest Service on how to accomplish multiple-use management. Unfortunately, these commands were essentially delivered in the form of instructions about or constraints on timber management—again feeding the perception that timber received more emphasis than "other" resources.

Fortunately, however, management instructions on multiple use came more specifically in regulations issued pursuant to NFMA. These regulations were dramatically influenced by the NFMA's requirement for a committee of scientists to be appointed by the Secretary of Agriculture, none of whom were to be employees of the Forest Service. These scientists were to "provide scientific and technical advice and counsel on proposed guidelines and procedures to assure that an effective interdisciplinary approach is proposed and adopted..."

### **An array of experts**

The die for multiple-use forest management, so far as laws and regulations were concerned, was again more clearly cast than before. Not only were multiple-use requirements more clearly spelled out, but there were prescribed planning procedures that ensured an open approach to arriving at alternative management schemes. Costs and benefits of each alternative were to be analyzed by looking at the mixture of the various uses and the inherent relationships between them.

During this same period (1960-1976), the makeup of the professional ranks of the Forest Service was changing dramatically. Many of its new employees came from fields other than forestry and range management. Wildlife biologists, soils scientists, hydrologists, social scientists, recreationists, economists, ecologists, and planners

were employed in increasing numbers. The infusion of other disciplines, with their diversity of background and philosophy, has not come without conflict. But as these differences have fit into the Forest Service's changing philosophy, an accommodation has gradually emerged. The broadening of its professional makeup is both a reflection of the Forest Service's broadening land management mission and a cause of that mission's continuing progress.

This trend has continued through to the present. Many of those hired in the 1960's and 1970's have reached positions of power and influence in the Forest Service. Considering the demographics of the Forest Service's work force and the pressures for enhanced multiple-use forest management, the trend seems likely to continue. Furthermore, most of the forestry and range schools began to place more emphasis on the need for multiple-use forest and range management and the means of achieving it. As the songster-philosopher, Bob Dylan, said, "The times, they are a-changin'." Indeed.

### **Face to face with reality**

The period from 1976 to 1987 can be identified as a time of trial and tribulation in the National Forest planning process. This decade marked the end of innocence in management of renewable natural resources. What came out loud and clear in forest plan after forest plan was the stark reality, as one ecologist (who could as well have been an economist) so clearly put it, that "everything is hooked to everything else" (Commoner 1971). There is no such thing as a free lunch. If there were left any true believers in such articles of faith as "good forestry is good wildlife management," and "forestry is just like growing a crop of corn," most of them fell from grace during this period.

Multiple-use benefits adequate to satisfy all consumer demands were no longer assumed to flow automatically from the cornucopia of properly managed forests. It became obvious that such things don't just happen—they have to be made to happen within the limitations of the ecosystem and the financial resources available. Real multiple-use management was not

“Multiple use benefits...were no longer assumed to flow automatically from the cornucopia of properly managed forests.”

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easy, and it was not cheap. The reckoning included not only the direct management costs, but such things as more specialists with more skills, the cost of delays in timber harvest, and the constraints on other resources, such as reservation of some old-growth in the name of diversity.

It was during this period that the multiple-use philosophy began to move from a dream into a reality. The platitudes died. The necessity to face things as they were produced the arenas of conflict that exist today. Interest groups championed their particular points of view. Some amateurs participated, but the professionals have come more and more to the fore. The tools of their conflict, often, are sophisticated analyses of insufficient data—nebulous best-guesses that, unencumbered by qualifying statements, have taken on a false aura of precision.

Today these gladiators, toughened by the preliminary skirmishes, are

trained to a fine edge. They enter the arena for the “finals” cheered on by crowds who make up their booster clubs. The ploys and techniques are many and increasingly sophisticated.

For these gladiators, however, there will be no final victories. There will be no single gladiator standing with a foot on the neck of the other, looking to a Caesar for a signal of life or death. Rather, they fight for points. The decisions, given round by round, are always compromises. The gladiators always survive to do battle another day.

There is no question that there will be multiple-use management. The question is what tradeoffs will be made, and how. For example, it has been estimated that of the approximately 424,000 elk in the United States, 93 percent reside, for all or part of the year, on National Forests. Obviously, the future of elk and elk hunting depends on how these forests are managed. Most of the

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elk range will be managed for multiple use, since only about one-tenth of the occupied range is in wilderness areas. The future survival of elk and elk hunting will be a conscious product of multiple-use management (Thomas and Sirmon 1985a and 1985b).

## **Changes in the influence game**

Plans for each National Forest are now reaching their final stages for the next 10-year planning cycle. The management alternatives identified as "preferred" frequently predict some reduction in traditional timber harvest or livestock grazing levels in order to meet wildlife, water, and recreation goals, or in response to environmental constraints. It is clear from the trade-offs described that multiple use means changes in long-dominant timber and grazing programs.

Because of their long-standing and economically significant relationship with the National Forests, timber and grazing interests have a thorough understanding of the processes—legal, political, and bureaucratic—that determine management action. They have long been well organized and represented by well qualified and skilled advocates. Advocates for the other multiple uses are in the process of developing similar skills in influencing forest management. This has altered the game, and probably the outcome, quite significantly.

The continuous planning operations have more fully revealed the options for forest management, the costs and benefits of each option, and the interactions among the multiple uses. The process, in keeping with the law, has involved a determined effort to obtain public participation and comment. This, too, has made it likely that management of the National Forests will never be the same. The new coalitions and interest groups that entered the planning arena will not disband with the culmination of this round. They will continue to make sure that there is follow-through on the plans, to seek legislative remedies for perceived inadequacies, to exert their influence on management as a matter

of routine, and to prepare for the next round of planning.

## **Critics—or constituents?**

A number of groups, particularly those interested in wildlife, fish, water, and recreation, and those labeled as "environmentalist," have become more effective in influencing federal land management. They will become even more effective as they mature into constituencies of the land management agencies. A constituency is defined as "any group of supporters." This does not mean that constituencies do not criticize or chastise—they do. But they criticize and chastise after establishing a track record as supporters.

These groups can become constituencies (some already have), and when they do, the fiscal and political support for more effective multiple-use forest management will be much stronger than the kind that evolves from criticism alone. Multiple-use forest management requires more than criticism and castigation. It requires resources in people and money. These are tough times economically, but there are reasons to believe that the increasing pressure for a more balanced multiple-use forest management program will produce results.

## **The smell of money**

User fees for recreation, including hunting and fishing, have great potential for radically changing the multiple-use picture. It is the nature of our society that "money talks and talk walks." In other words, an activity that produces revenue is valued more than one that does not. This is largely why timber and grazing concerns have historically received more management emphasis than such other multiple uses as recreation and wild-

life. Products that produce revenues are considered commodities. Those that do not—no matter how praised or glorified in advertising—are considered amenities. The value of commodities is computed in cold hard cash, and the value of amenities in “shadow prices” or “willingness to pay.” Real dollars weigh more in the balance.

But this disparity could change quickly with the imposition of federal user fees at even modest levels. Suddenly, receipts from recreation, including hunting and fishing, could rival or exceed receipts from timber harvest and grazing, except in those Western national forests with tremendous timber-growing potential. Would user fees encourage better balanced multiple-use forest and range management? I think so.

To have the most influence, user fees must be federally imposed. Receipts must flow into federal coffers to exert the most influence on the cost-benefit analyses. Furthermore, it should be remembered that one-quarter of timber and grazing receipts accrue to the counties for roads and schools. If other revenues from multiple-use management are not similarly distributed, it is reasonable to expect that state and county governments and school boards would resist any management plan that reduced their revenues by reducing timber or grazing receipts while enhancing recreational opportunities (Thomas 1985).

The recent recession in the wood products industry, with its attendant layoffs, reductions in wages, and loss of jobs because of more efficient technology and management, shocked affected communities into recognizing the need for diversification of their local economies. The rural and isolated nature of many of these communities makes diversification difficult and, in many cases, unlikely. Enhanced multiple-use forest management has the potential

for contributing to diversification without shifting the reliance on natural resources. However, unless land use fees are associated with enhanced recreation, it is unlikely that communities would benefit from an increased emphasis on recreation at the expense of grazing and timber programs.

User fees are an idea well suited to the times. We obviously need money to pay for desired government programs. But we are reluctant to increase tax rates or impose new taxes. That leaves user fees, service fees, and a few other politically acceptable sources of funds.

The Forest Service and Congress have come under increasing pressure to provide better balanced multiple-use management programs. But these will be achieved slowly or not at all without

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“The value of commodities in computed in cold hard cash...real dollars weight more in the balance.”

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additional revenues to support increased attention to multiple uses beyond timber and grazing. (Interestingly enough, public land grazing interests are apparently losing public support and influence. Some believe this is directly tied to declining grazing fees, which are criticized as being very low compared to comparable leases on private or other public lands.) User fees for recreation could provide the resources and the constituency for multiple-use management programs.

It is becoming clearer to advocacy groups of the various multiple-use



products that the revenues and the jobs generated by a particular use are significant attributes in the eyes of the Forest Service and Congress. The leaders of the "environmental" groups will discern that the uses that carry the most revenue are the ones that carry the most weight in the land use planning process. At some point, it may become obvious that an advocacy

"User fees are an idea well suited to the times."

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group's long-term interest is better served by paying fees than by resisting the institution of them.

## Legislating diversity

The trend toward enhanced multiple-use forest management may also be reinforced and accelerated by additional legislation. It seems likely that the next piece of legislation that could have a dramatic bearing on multiple-use management will deal with preservation of "diversity" of plant and animal life, plant communities, and ecosystems. The issue and the concept are poorly defined, but increasingly discussed. New fields of scientific inquiry, such as conservation biology and landscape ecology, have joined with old-line ecologists and wildlife biologists in expressing concern over diversity in managed forests. Some ecologists and environmentalists perceive that the current forest plans have not dealt satisfactorily with this issue. Teams are now at work in land management agencies, private organizations, and Congress debating the feasibility and potential content of such

legislation. How such a complex ecological concept might be embodied in land use law is an interesting question.

A tide of support has been building for many years to make multiple-use forest management a reality. Its impetus is derived from several sources—legislation, increasing skills within the Forest Service, public pressure, land use planning, and the increasing sophistication of the public in the political arena. The tide is still building.

Multiple use—with the attendant baggage imposed by various laws concerning endangered species, diversity, clean water, planning, and accounting for interactions—is a uniquely American dream. It could prove an impossible dream. But it is a worthy ambition that we as a nation seem determined to try. To a modest extent we are succeeding. And I believe we are just getting started.

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