

By Jim Bowyer

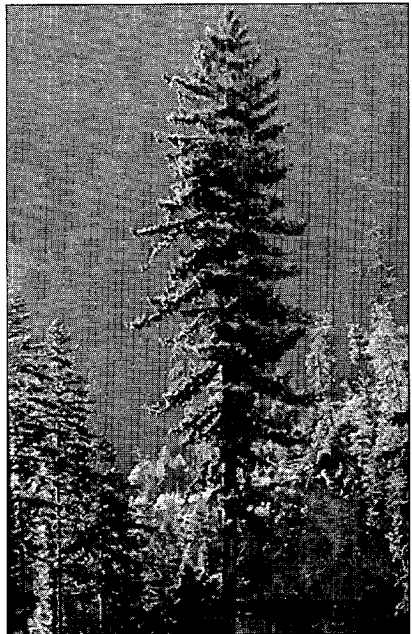
# Fact vs. Perception

**S**tanding timber volume in U.S. forests is increasing as net growth exceeds harvest year after year. Forests occupy an area over two-thirds the size of the area covered by forests in the early 1600s, and recent years have seen an increase in area coverage. Recovery of paper for recycling is increasing rapidly, with annual recovery now in excess of 40 percent of U.S. paper production. These are well-documented facts, and they attest to the great success of forestry and forest products technology development efforts since the 1920s. But who is aware of these and other truths about domestic forests and the products derived from them?

Recent surveys of college students across the United States have indicated an appalling level of misinformation about forests. Respondents consistently indicated that the environmental situation related to forests was worse than it really is (i.e., they underestimated paper recycling activity, the area of domestic forests compared to historical, the growth/harvest ratio in domestic forests, wildlife population trends, and so on).

The fact that many college students harbor significant misperceptions about forests and their management is certainly disturbing, but the results of subsequent surveys of employees of forest products firms are even more disturbing. Although this group appears to be better informed about forestry issues than the students who were surveyed, a surprising number of forest products industry employees were found to be substantially misinformed concerning U.S. forest conditions. In addition, knowledge of key aspects of the industry was found to be rather limited. For example, a survey of employees of a large paper mill revealed that only 15 percent accurately estimated the paper recycling rate nationally, and just under 50 percent estimated the recycling rate to be one-half or less of what it really is.





Today, about a third of the United States is forested, which is about 70 percent of the area that was forested in 1600.

Forest Products Society

### A Problem Revealed

Teaching in a university setting provides an avenue by which it is possible to gain insight into the knowledge, thought processes, and perceptions of people representing a cross section of society. College students today are quite frank, and classroom dynamics are such that little is accepted as fact without questioning, comment, and discussion. This is particularly true when courses are specifically designed to encourage and facilitate discussion. And so it was in the winter of 1991 when, at the University of Minnesota, I began a discussion of forests, forestry, and forest harvesting with a group of environmentally oriented but non-forestry students enrolled in a class entitled "Natural Resources As Raw Materials." What happened, in short, was that questions from a large segment of the class quickly became not only extraordinarily challenging, but in some cases outright hostile — a situation that I had not encountered in over 20 years of teaching.

Where were these students coming from? Why did the topic of forestry and forest harvesting trigger such strong emotions? Determined to find out, I devised a brief test designed to assess knowledge about domestic forests and other environmentally related matters. What I found was a pervasive pessimism, revealed by the fact that the students consistently indicated the environmental situation to be worse than it really is, and a shocking level of misinformation regarding forests, and domestic forests in particular.

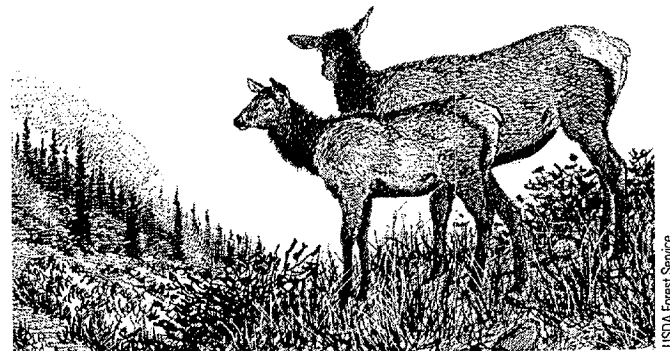
### Evidence Of A Wider Problem

Because of the unsettling results obtained from the test of that small group of University of Minnesota students, the matter was pursued further. A series of questions relating to U.S. and global forests, population growth, and raw materials consumption was administered to over 2,000 students at 11 major universities across the United States. Guidelines to cooperating faculty at these institutions specified that those completing questionnaires should not have been previously exposed to college-level courses dealing with either forestry or environmental issues. The survey did not employ scientific sampling. Some questionnaires were discarded after a review of prerequisites for courses in which the questionnaires were administered suggested that the guidelines had been violated; 1,982 questionnaires were tabulated. With the exception of one university, results were remarkably similar in all regions, and almost identical to those obtained in the original test of University of Minnesota students. Student perceptions of environmental conditions were consistently pessimistic and at wide variance with reality.

#### **Consider the following:**

✓ 65 percent indicated that forest harvest exceeds net growth in U.S. forests. [*The opposite has been true for all but several years over a timespan of six decades, and for over 40 years consecutively (4)*].

✓ 73 percent indicated agreement with the statement: "At current rates of deforestation, 40 percent of current forests in the United States will be lost by the middle of the next century." [*The most recent forest survey shows that the area covered by U.S. forests increased over the past decade by approximately 4.6 million*



USDA Forest Service

Browsing species, such as elk, thrive in managed second-growth forests, which is one reason why elk populations have increased.

acres. Looking over a longer time frame, only 3.3 percent of U.S. forestland has been converted to other uses over the past 30 years (4), with almost all conversion related to urban expansion and infrastructure development. Additional losses, if they occur, are likely to be small, because construction of new highways and water impoundment projects, the greatest causes of forest loss in modern times, has slowed markedly in comparison to earlier years (5)].

✓ 76 percent underestimated the percentage of area currently covered by U.S. forests compared to forest coverage in 1600. [U.S. forests today cover an area equal to about 70% of that covered by presettlement forests (3), but 76% of the respondents chose a percentage that was one-half or less of the actual percentage].

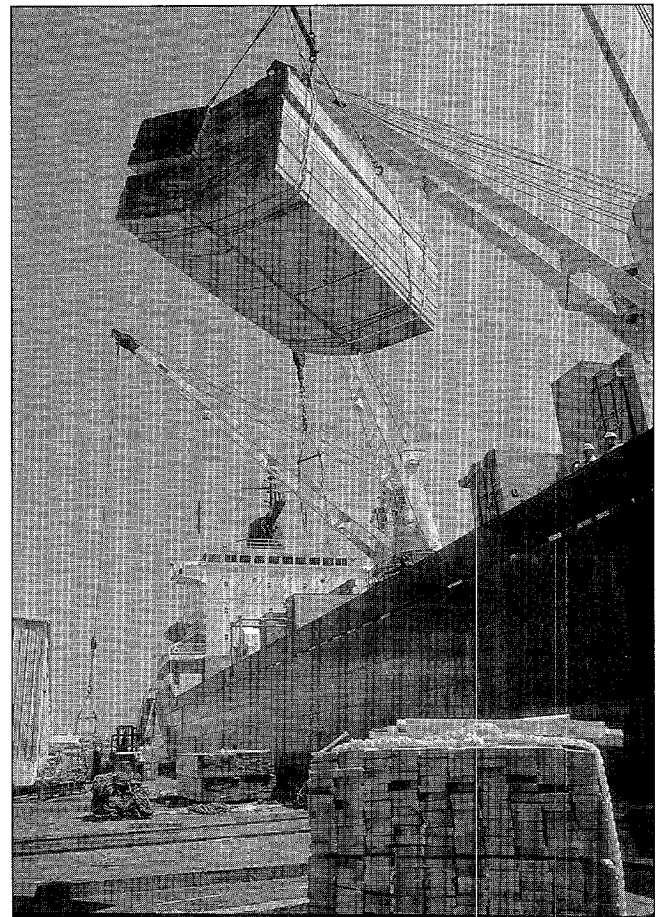
✓ 72 percent indicated as True the statement that populations of elk, pronghorn antelope, and wild turkey have declined significantly in the United States over the past 50 years. [Populations of these species in the United States have increased approximately 1,100, 1,050, and 1,900 percent, respectively, over the past 50 years (3)].

✓ 94 percent underestimated the percent of annual U.S. paper production that is produced from recycled paper. Some 71 percent, in fact, estimated U.S. recycled paper production to be less than one-half of what it really is, and 45 percent of respondents estimated it to be one-fifth or less of actual. [Recovery of wastepaper for domestic recycling and export totaled more than 38.6 million tons in 1994, amounting to 40.3 percent of domestic production. Of the paper recovered, 30.0 million tons were recycled in U.S. paper mills and 8.6 million tons were exported. This translates to a U.S. wastepaper utilization rate of 32.9 percent (1)].

✓ 80 percent indicated as True the following statement: "More extensive recycling of paper could reduce harvesting of forests in the United States by 60 percent or more." [A recent study indicates that although recycling will help to significantly slow the growth in demand for virgin fiber, there is little likelihood that recycling is likely to reduce the demand for virgin fiber below current levels (2)].

✓ 50 percent indicated a belief that the United States is a net exporter of most raw materials used by industry today. [The United States is a net importer of every category of industrial raw material — metals, cements, petroleum (the basis for most plastics), and wood — and in many cases by a substantial margin].

✓ 78 percent indicated agreement with the statement: "The world is rapidly running out of many important minerals." [Although the reserves of several



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Is the United States a net importer or net exporter of wood?

important ingredients of high-performance alloys appear to be in danger of depletion, it is generally not true that the world is running out of minerals. Because the earth's crust is composed of a vast array of minerals, the world will likely never "run out" of most of them. Further, in recent decades, known reserves of metallic ores have generally increased, and ore prices have, in general, declined].

✓ 64 percent chose building materials other than wood when asked what building materials can be produced with the least impact on the environment. The good news is that 33 percent (more than selected any other single material) chose wood. However, 27, 21, 8, 6, and 2 percent chose brick, concrete, aluminum, plastic, and steel, respectively. [Environmental life-cycle analyses to date have indicated that wood can be produced with significantly lower impacts on the environment than any other currently available material. Thus far, studies have focused on energy consumption and associated manufacturing discharges linked to extraction, conversion, and use of various materials].

How many more people share the views of the students who were surveyed? If these views are widely held, then this would seem to represent a significant problem for the forest products industry. These results, for example, clearly show why many of the students in my class were outwardly hostile to anyone talking about harvesting forests. A large segment of them believe the forest products industry is in the process of deforesting the United States. If you believed that to be true would you favor the harvesting of forests? Probably not! Further, if you believed that little or no paper was being recycled at present and that an increase in paper recycling could dramatically reduce the need for forest harvesting, would you be likely to support legislative mandates requiring paper recycling? Probably so.

Some might view the responses that indicate a perception that the world is on the brink of running out of metallic ores as positive for the forest products industry because it is competing materials that utilize minerals. Viewed from another perspective, however, even these perceptions represent a problem. People who believe the world is on the brink of running out of raw materials are likely to take positions that would otherwise be viewed as radical. Should the United States and the world take steps to drastically inhibit mining, drilling, and forest harvesting activity? It is not such a radical idea if you believe that next week is likely to mark the last shovelful of ore. In short, inaccurate information is likely to benefit no one.

Since completing the survey of college students across the nation, I have continued to annually survey students in my own classes. Results from year to year are very similar to the earlier findings. In addition, other misperceptions have come to light. An "ah-ha" moment occurred a little less than a year ago while discussing forest management with a group of non-forestry students. In response to a student's question, I innocently posed a question back to the class — how long, on average, does a tree live? The most common answers ranged from several thousand years to "until the tree is cut down!" Since then, I have asked the same question of many others, collegians and non-students alike, with similar results. I am led to wonder whether it is possible to have a rational discussion about forests and their management with someone who believes that trees will live forever if not cut down.

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**Is it possible  
to discuss  
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### **A Look Within**

The U.S. forest products industry employs in excess of 1.4 million people. These people, in turn, have immediate families that magnify this number by a factor of two or more. The conclusion is inescapable that effective mobilization of even a portion of this

group could provide an effective and ongoing vehicle for countering ignorance and misperception. With encouragement and even minimal support from employers, coupled with the self-confidence that knowledge can provide, it is likely that a number of those working in the industry would give freely of their time to help set the record straight; there are, in fact, numerous examples today of employers working very effectively with individual employees and dedicated employee organizations to do just that. Even those not involved in an organized way can and could play a role in combating misperception — an informed comment to a neighbor or dinner guest, the right words to the truck driver at the loading dock, an appropriate response to the question of a retail customer — the little things that on

a daily and continuing basis could make a significant difference.

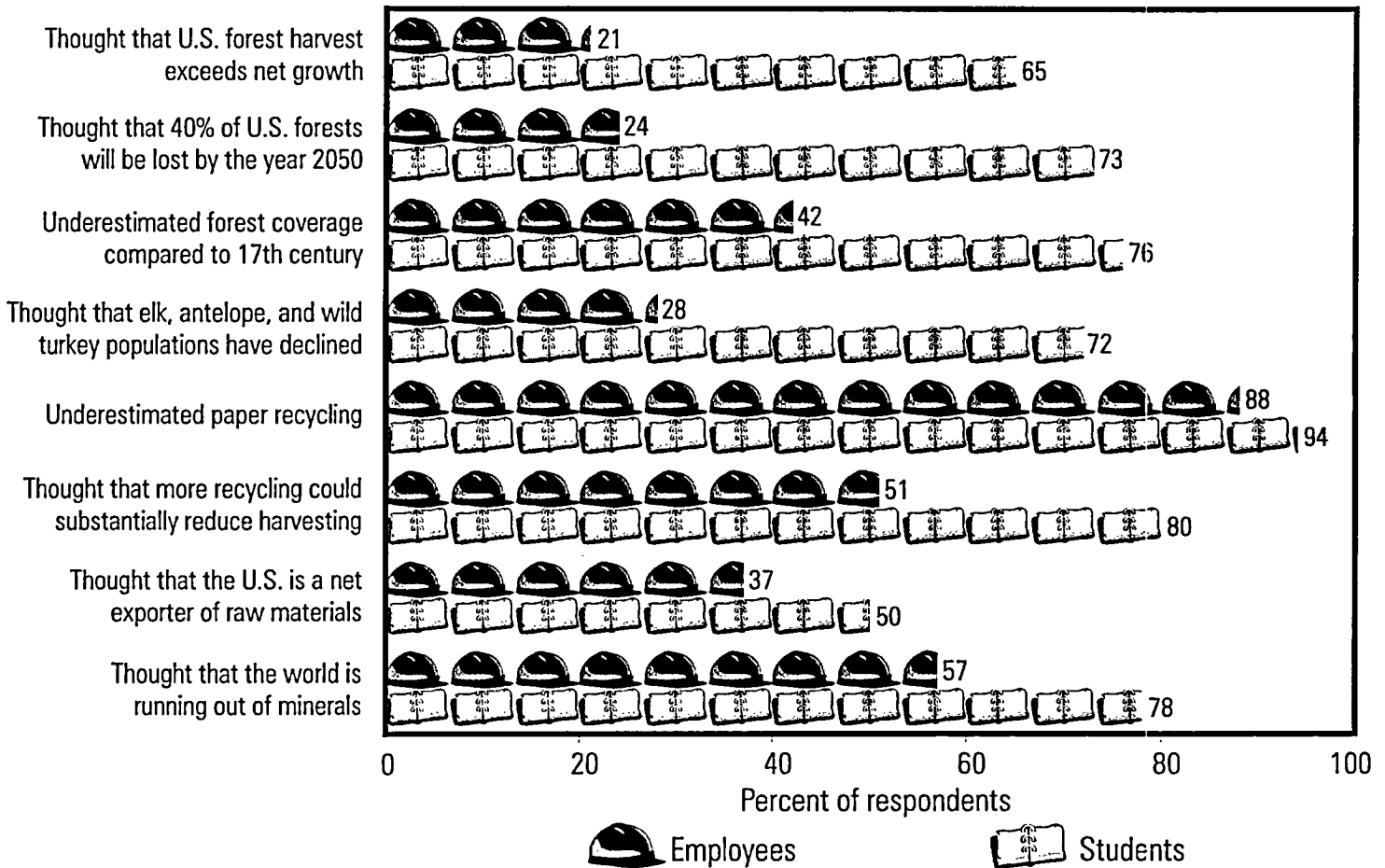
If employees are to be a positive force in combating ignorance and misperception it goes without saying that the employees themselves must be well informed. With this in mind, beginning in 1993 and continuing through the summer of 1995, a number of the same questionnaires used with student groups were administered to employees of forest products firms. Those completing questionnaires have included people in manufacturing, sales, and distribution, and in industries ranging from wholesale and retail lumber and building products distribution yards, to lumber producers, to millwork and other secondary products producers, to paper manufacturers. To date, 1,121 employees of forest products manufacturing and distribution firms have completed questionnaires. The results are surprising.

✓ 21 percent indicated that forest harvesting in the United States exceeds net growth (vs. 65% for the students).

✓ 24 percent accepted as True the statement "... 40 percent of U.S. forests will be lost by the middle of the next century" (vs. 73% for students).

✓ 42 percent underestimated the area covered by U.S. forests compared to forest coverage in presettle-

Figure 1. – Summary of student and forest products industry employee responses to survey questions.



ment times, by one half or less of what it actually is (vs. 76% for students).

✓ 28 percent accepted as True the statement: “Populations of elk, pronghorn antelope, and wild turkey have declined significantly over the past 50 years” (vs. 72% for students).

✓ 88 percent underestimated the percentage of paper recycled in the United States, and 56 percent estimated paper recycling to be one-half or less of what it actually is. (Of those employed in the paper industry, 85% underestimated the percentage of paper recycled, and 49% underestimated the extent of recycling by one-half or more) (vs. 94% and 71% for students).

✓ 51 percent indicated a belief that more extensive recycling of paper could reduce harvesting of forests in the United States by 60 percent or more. (Of those employed in paper manufacturing, 47% indicated agreement with this statement) (vs. 80% for students).

✓ 37 percent indicated a belief that the United States is a net exporter of most raw materials used by industry today (vs. 50% for students).

✓ 57 percent agreed with the statement: “The world is rapidly running out of many important minerals” (vs. 78% for students).

✓ 31 percent, when asked to select the material that can be produced with the least impact on the environment, selected materials other than wood. As with the students, the good news associated with this question is that more people selected wood than any other material. Of the almost one-third that indicated something other than wood, 10, 10, 2, 7, and 2 percent chose brick, concrete, aluminum, plastic, and steel, respectively, (vs. students: 64% chose material other than wood; 27%, 21%, 8%, 6%, and 2% chose brick, concrete, aluminum, plastic and steel, respectively).

In other words, a sizable percentage of those surveyed — people who get up and go to work every day in the forest products industry — harbor gross misperceptions about the industry they work for. At the very least, these people are not in a position to counter misinformation. In addition, at least some, and perhaps many of these employees must find it hard to go to work, believing what they do for a living is leading



Southern Forest Products Association

A 9-minute video program called House is the pilot project in a series targeted at elementary students. This lively, entertaining video follows the adventures of a tree as it becomes a multitude of wood products for a family's new home; later the scene switches back to the forest where the next generation of trees has been planted to provide products for the future. This project was underwritten through a cooperative arrangement between WWPA, APA - The Engineered Wood Association, American Forest & Paper Association, and Southern Forest Products Association.

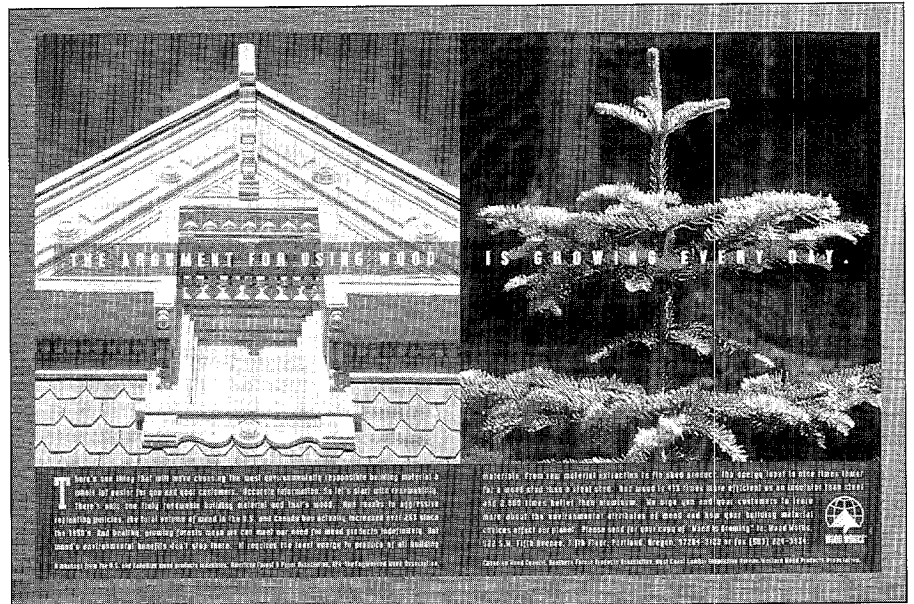
to deforestation of the nation. Can these people market forest products with conviction? Might not such people themselves be a source of misinformation, both within and outside of the industry?

Student and forest products industry employee responses are summarized in **Figure 1**.

## What To Do?

Were this article being written as recently as 3 or 4 years ago the answer to a "what next" question would have warranted a desperate call to action. Fortunately, significant strides have been made in recent years in developing accurate, high quality educational materials and programs regarding forests, forestry, and the use of wood in society. A complete list of organizations involved would fill many pages, but here are examples of ones that have made especially notable efforts on a nationwide scale to call public attention to accurate information regarding forests and to promote critical thinking regarding forests and forestry: the Temperate Forest Foundation, Evergreen Foundation, Western Wood Products Association, Southern Forest Products Association, North American Wholesale Lumber Association, Forest Products Society, Society of American Foresters, and the Project Learning Tree Program of the American Forest & Paper Association. Several large, integrated firms have also mounted substantial advertising efforts focused on environmental issues. One of the most prolific national-scope organizations is the Temperate Forest Foundation, a group that, more than any other, has acted to fill the need for accurate, attractively packaged information. Over a period of only several years, this foundation has developed an array of informational materials, including videos (several of which have earned prestigious "Telly" awards), an interactive CD-ROM, exhibits, and a printed Eco-Link series that addresses critical issues. These efforts have been linked with an aggressive and

This advertisement is one of several produced by the Western Wood Products Association as part of the Wood Works™ campaign that promotes the environmental benefits of wood products.



Western Wood Products Association

highly successful program to get these materials into the hands of those who can use them.

At the regional and local level, a great number of groups today operate public information/education programs related to forests and forestry. A premier example of a regional program is that of the Oregon Forest Resources Institute (OFRI). OFRI is engaged in a wide spectrum of activity and has extensively utilized feedback from focus groups in developing high quality informational materials: radio spots, television ads, and printed educational pieces. OFRI has also sponsored media tours and public presentations on various topics across the state of Oregon, and has worked cooperatively with the Evergreen Foundation to produce follow-up literature.

Many more examples of highly effective local and regional organizations could be given. Using just one state, Minnesota, as an example, players in forestry-

oriented public education include the Minnesota Department of Natural Resources, Minnesota Wood Promotion Council, Minnesota Forest Industries, Inc., Northwestern Lumbermen's Association, University of Minnesota College of Natural Resources/Minnesota Extension Service, Minnesota Women In Timber, and a network of Minnesota Environmental Learning Centers.

A number of individual companies, small and large, are also actively involved in education programs, most notably, Potlatch Corporation, whose encouragement and support of employee initiatives has resulted in a substantial and highly effective educational effort on the part of employees. There are volunteer organizations of Potlatch employees in all the states where Potlatch has operations. These employees sponsor internal education programs for other Potlatch employees so they have accurate, up-to-date information about forests and forest management. They also take

### The Author's Experience With the Media

In early 1993, the Forest Products Society conducted a media tour focused on the environmental aspects of wood products production and use. This was a follow-up to the international conference "Wood Product Demand and the Environment" held in Vancouver, British Columbia. At that time, I was president-elect of the Society and served as the principal spokesperson on the media tour. It was, among other things, a tremendous learning experience.

A great deal of preparation went into the effort, including development of a media kit that contained a series of coordinated news releases quoting a number of Society members who could be contacted by the media in the future. Development of the kit and preparation for face-to-face media contacts was done under the guidance of a professional public relations firm. As part of the contract, Executive Vice President Art Brauner and I received training on developing and delivering key messages, the do's and don'ts of dealing with the media, and what to do if confronted with a hostile interviewer.

All the preparations came in handy during meetings with key individuals of 16 national media organizations located in New York, Boston, and Washington, D.C. A representative of the public relations firm participated in the meetings, kept the tour on schedule, and also provided briefings of what to expect in upcoming interviews (most often in the cab on the way to the next stop), as well as critiques of previous interviews. Some of the organizations visited were: *Environment Week*, *Hearst Newspapers*, *Cox Newspapers*, *The New York Times*, the *Boston Globe*, *The Financial Times of London*, *Nation's Business*, *Good Housekeeping*, *Fortune*, and *Newsweek*. Several live and taped radio interviews rounded out the tour.

Some interviews went very well, while others went, well, not so well. But the learning curve was steep, and my ability to anticipate questions, to get in desired points regardless of the question asked, and to deal with highly skeptical interviewers quickly improved. Then, about the time that I felt I could handle anything thrown at me, I would be served up a slider—and the learning process would go forward again.

Among the insights gained from this media tour was that the vast majority of environmental reporters are well informed and quite receptive to a different point of view. While questions are challenging, particularly early in an interview as credibility is being assessed, they do not tend to be hostile (with a few notable exceptions). The bottomline: If you have a timely and credible message and are well prepared you will find that people will listen.

Did the media print all those news releases? A number of trade magazines and small market newspapers did. As for the major media, they tend to want to write their own stories and merely use information that is provided to them as background. We did see evidence of our message in a number of items published following the media tour. Moreover, follow-up calls came for months thereafter, (we still get them, in fact) asking for the Forest Products Society view on various issues.

There was a certain percentage of respondents to the surveys described in the accompanying article who *did* have accurate information regarding the issues addressed. They probably received this information from many different sources. We need to get the information out there any way we can and hope that it reaches its mark. This media tour simply explored a new avenue for the Society to educate the public about forests and the products derived from them.



Western Wood Products Association

People who work in the forest products industry are all potential ambassadors who can spread accurate information regarding the environmental situation related to forests.

the forest stewardship message to the schools by producing videos and other educational materials, and by visiting classrooms. They lead mill tours for students, develop and staff booths at county and state fairs, participate in parades and various civic events, and sponsor other outreach efforts aimed at the general public. The company provides support by funding a coordinator, providing a modest budget, and covering the salaries of employees who are involved in programs during work hours.

Obviously, a great deal is going on today to bring scientifically based information about forests and forestry to the attention of the public.

### **But is it enough?**

#### **Consider the following:**

✓ Misperceptions on the part of college students may reflect longstanding biases developed early in life. Greater attention to youth education may be in order.

✓ University-level environmental education should include a focus on factual information. Thinking and problem-solving skills are obviously extremely important to develop in a college setting, but a knowledge of what is true and what is not true is important as well.

✓ Unless corrected in the course of formal education, a high level of misinformation relative to forests and the environment is likely to skew the professional judgment of students once they enter the workforce.

✓ Ongoing programs to ensure that employees of the forest products industry are well informed regarding forests and forestry issues may be an effective strategy for reducing the level of societal misperceptions generally. Conversely, inattention to uninformed or misinformed employees may serve to magnify negative public perceptions.

What is true and what is perceived to be true — in a perfect world these would be one in the same. In the real world, they are not. It is critical that the forest products community recognize this and develop a sustained commitment to support educational efforts that can close the gap between the facts and public perceptions regarding forests and their management.

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