MANAGING PEOPLE MANAGING TREES: Understanding Today's Environment for Natural Resource Management[1]

Mary Jo Lavin[2]

Forest Industry Lecturer

Forestry Program
Faculty of Agriculture and Forestry
The University of Alberta
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FOREST INDUSTRY LECTURE SERIES NO. 19

[1]Forest Industry Lecture presented at the University of Alberta, November 19, 1987
[2]Deputy Supervisor – Resource Protection and Services – Washington State Department of Natural Resources, Olympia, Washington.

THE FOREST INDUSTRY LECTURES

Forest industry in western Canada is cooperating with Alberta Forestry, Lands and Wildlife to provide funds to enrich the Forestry Program of the Faculty of Agriculture and Forestry at the University of Alberta through sponsorship of noteworthy speakers.

The Forest Industry Lecture Series was started during the 1976-77 term as a seminar course. The late Desmond I. Crossley and Maxwell T. MacLaggan presented the first series of lectures. The contribution of these two noted Canadian foresters is greatly appreciated.

Subsequent speakers in the series have visited for periods of up to a week, with all visits highlighted by a major public address. It has indeed been a pleasure to host such individuals as C. Ross Silversides, W. Gerald Burch, Gustaf Siren, Kenneth F.S. King, F.L.C. Reed, Gene Namkoong, Kenneth A. Amnon, John J. Munro, Peder Braathe, Vidar J. Nordin, Juhani Paivanen, Conor Boyd, John A. Marlow, Gordon Gullion, and Hugo Von Sydow. The subjects of their talks are listed at the end of this paper.

This paper contains Mary Jo Lavin's major public address given on 19 November 1987.

We would like to take this opportunity to express our thanks again to the sponsors of this 1987-88 program — we appreciate very much their willing and sustained support:

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MARY JO LAVIN

At the time of her talk, Mary Jo Lavin was Deputy Supervisor - Resource Protection and Services for the Washington State Department of Natural Resources, responsible for: Fire Control, Geology and Earth Resources, Forest Regulation and Assistance, Financial Services, Information Management and Employee Services, a position she held since 1981. Previous positions involved planning and management in Washington and Colorado. Within a few weeks of her presentation she was appointed Deputy Regional Forester, State and Private Forestry for the USDA Forest Service in Region 6 at Portland, Oregon.

Dr. Lavin was a member of the steering committee for the Society of American Foresters (SAF) national symposium: Women in Natural Resources, was a member of the Executive Council of the American Society for Public Administration (ASPA)'s Section on Natural Resource and Environmental Administration and chaired the Governor's Interagency Committee on the Status of Women from 1980-82. Currently, Lavin chairs the SAF's Human Resources Technical Working Group.

She has been recognized as a Woman of Achievement by the Washington State Federation of Business and Professional Women and holds an Outstanding Service Award from the Western Regional Environmental Council. She received a Ph.D. in Higher Education Administration from the University of Colorado, Boulder and is a graduate of the Program for Senior Executives offered at the Harvard John F. Kennedy School of Government.

INTRODUCTION

Thank you, Dr. Murphy and Faculty of Agriculture and Forestry, for your gracious welcome. Although this is not the first time you have invited someone from the State of Washington to lecture in the Forest Industry Lecture Series, this is the first time this someone from Washington State has visited either the Edmonton.

It is really a pleasure to be with you this afternoon. I welcome the opportunity to address this critical but sometimes overlooked aspect of natural resource management: the management of people, the human resource. I am looking forward to considering together, changes which have occurred in the forest industry in the past few years and which are still occurring. These changes--in operating conditions, in the work force and in the forestry profession itself--have resulted in a changed environment for natural resource management.

As natural resource professionals, we historically have factored into our management prescriptions the critical elements of soil, air and moisture. Today's complex environment requires attention to additional factors no less critical--at times even more so--than the natural components which we already consider. Dynamic social and political factors now combine with natural patterns to produce significantly different work conditions, a changing and diverse work force, as well as new and often conflicting professional requirements.

Our purpose this afternoon is twofold. We shall consider individually those changes which have occurred in work place, work force and profession with the intent to understand them as discrete components of the current environment for natural resource management. In addition, we shall focus on these three aspects as a composite of environmental change. We shall consider how in a different place, with a different group, by a different way, we must answer the most significant challenge facing the natural resource manager today: learning to manage the people who manage the trees.

IN A DIFFERENT PLACE: THE CHANGING CONDITIONS

Our first consideration this afternoon is "in a different place," the changing conditions in the natural, socioeconomic, and political environment in which today's natural resource professional operates. Even the tern "environment" has expanded from a strictly biological connotation to an interpretation which includes the full range of related social and political systems. It is this very relationship between biological and societal changes that make it increasingly difficult to distinguish between the causes and the effects in the changing work conditions.

Time was (and not so long ago) when the forest was viewed as a single-purpose, one-time use, natural asset. The focus was on logging a unit, not managing a renewable resource. Today, even emphasizing the forest as renewable is no longer adequate as a descriptor of the appropriate environment for growing trees. Three factors have resulted in major changes to the natural environment in which the resource manager operates today.

The first of these factors, and a major cause of change to the natural resource environment, is the issue of urban encroachment. No longer is the forest isolated. To the contrary, it now has been "invaded" by suburban development. Demographic changes have resulted in movement from the cities to what previously have been undeveloped forest locations. While it is true that the Provincial Forestry Department of Ontario currently is relocating from the Toronto environs to the less populous Sault Ste. Marie, most of us are denied the opportunity to move the forest when the people come. Urban encroachment is a complicating reality when fighting fire or trying to regulate forest practices. The very appearance of the forest changes with each structure added and concern for cumulative effects takes on increasing significance and complexity. At times it must seem to the long-term forester that someone has opened the gates of the forest and let all the people in, or that the forester, by accident, has wandered onto the stage on opening night of a production which includes a cast of thousands**.**

A second factor that has moved the forest out of majestic isolation into the heated controversy of international politics is the effect on the natural environment of acid rain as well as insect and disease invasions. I am certain that I am at great risk of scientific as well as political censure by classifying acid rain with other aspects of pest management, but marked changes in the appearance and health of forests result from industrial as well as biological "fallout." The emphasis on the forest as "renewable" and the increased appreciation for the benefits of long-range planning make these causes of change to the natural environment increasingly significant. These causes acknowledge no border, respect no boundary. They change the natural environment and affect its sociopolitical environment with equal vigor.

A third cause of change in today's natural environment is the demand to broaden the forest from a single-purpose emphasis. The long-term "bottom line" allows--and encourages--today's emphasis on interim multiple use. The public, which has has become increasingly visible and articulate about the use and management of our forests, demands access to and through forested lands, both private and public. The typical work environment has changed from the remote forest to the urban recreation site, a natural heritage preserve or a politician's platform. Today's natural resource professional is caught with increasing frequency in the middle of an environmental juggling act trying to give equal attention to conflicting use requirements. Not uncommon is the pressure experienced by a forester trying to manage a preserved plant community as a natural area close to an urban development, maintaining the delicate ecological balance without alerting anyone to its actual location or presence. The natural environment is changed both visibly and philosophically with the addition of the people and activities which indicate multiple use.

Today many of the same foresters who selected an active career that would allow work in the outdoors away from people and paperwork find themselves exclaiming, "I was just cutting a tree. Who called a public hearing?" Not only the natural environment has changed noticeably, but also the sociopolitical environment in which natural resources are produced and marketed has been altered substantively. The worksite has moved from the forester's pickup to the corporate representative's boardroom. In the public, as well as private, sector short-term versus long-term profits are argued just as vigorously as the benefits of planned versus natural regeneration. The

rate of growth is calculated carefully, often to ensure an adequate return to investors who live in cities hundreds of miles away from the forested site.

Forest industry employment is a small percentage of the total employment population of both Canada and the Uniited States. As shown in Figure 1, only 2 percent of the Canadian and 1 percent of the American total employed population work in forestry, paper and pulp production, or wood industries. The two countries demonstrate a greater difference in the proportion of forest industry jobs held by women and men.

Small percentages notwithstanding, the public is highly interested and demands active participation in the management of natural resources. Increased public awareness and public involvement have bridged the distance from meeting house to forest. The changing environment forces today's natural resource professional to face complex decisions under the spotlight of high visibility. Meetings with diverse community groups are the rule rather than the exception. Resources, even those on private land, are viewed as a critical part of the public's responsibility and a significant portion of its general assets. The once isolated forester now has become the environmental steward who is found just as frequently at a public hearing as in the woods.

The final aspect of change to the sociopolitical environment we shall consider this afternoon is the change in the concept of "community." Characteristic of the forest invaded by urban encroachment are "spot communities" that have sprung up within computing distance of major metropolitan areas. These developments lack the community identity found in rural settlements. Known also as "bedroom communities," they provide housing for individuals who leave these homes and the surrounding forests for a major portion of each day as they travel to work and school. The urban dweller who has relocated to the forest quite often lacks any appreciation for the natural environment, often chosen for appearance only. The forest simply provides a setting for a dwelling rather than a valued and appreciated resource. In fact, the concept of trees as a renewable resource is not acknowledged by the homeowner who removes the trees as if discarding furniture--simply for a change of appearance.

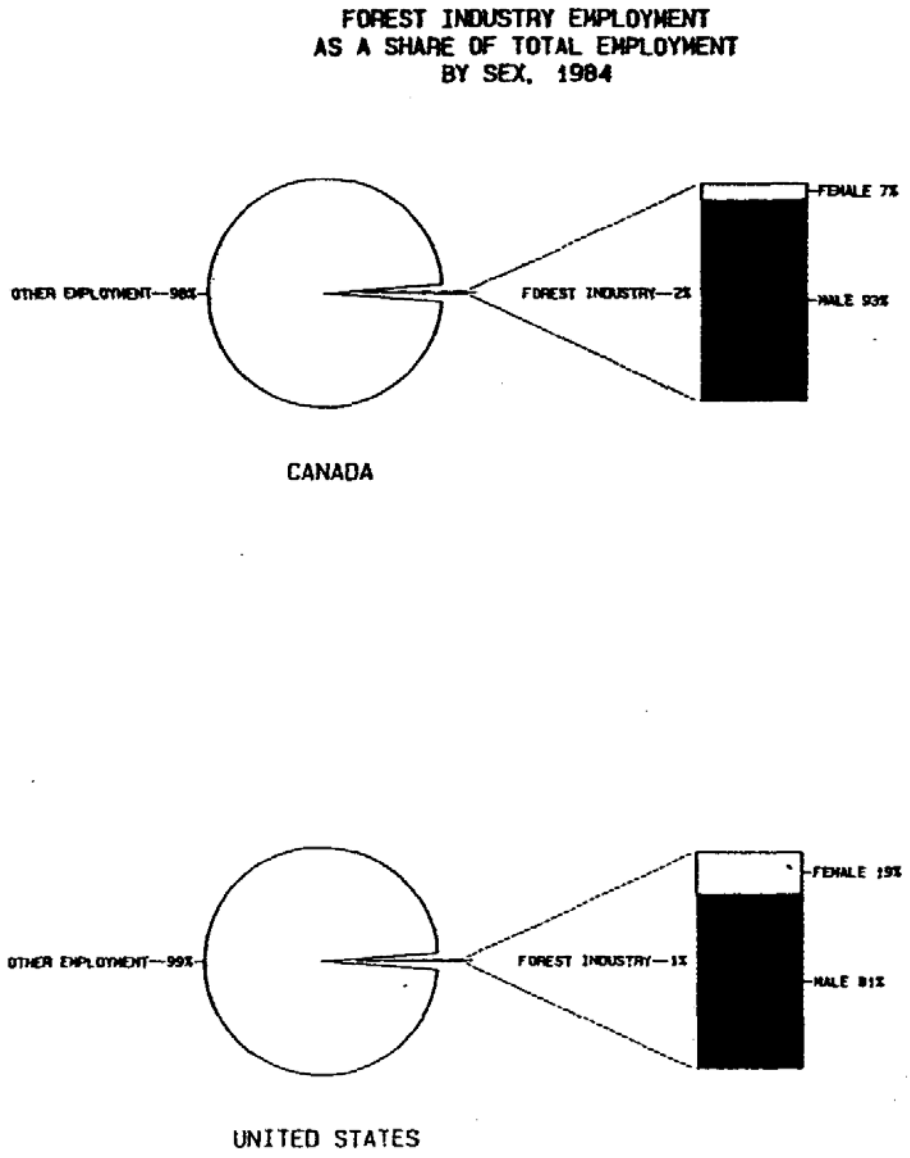

Figure 1. Forest Industry Employment as a Share of Total Employment, by Sex, 1984.

WITH A DIFFERENT GROUP: THE EMERGING WORK FORCE

The second issue we shall consider this afternoon is how the changed natural resource management environment operates "with a different group"--the emerging work force. Recent economic fluctuations have caused major industrial restructuring, eliminating thousands of jobs and making a lasting change in the composition of the forest industry work force. Facing the natural resource rofessional today, either as a member or manager of this work force, is the challenge to build a dynamic team appropriate to meeting critical needs the reflect variety in both work focus and composition.

Ensuring the appropriate staff for meeting sometimes conflicting demands has given rise to two ongoing controversies: the benefits of a generalist versus those of a specialist; and the hiring of technicians versus the use of graduate foresters. The challenge is to assess which skills are most needed in today's natural resource environment and which work focus is more appropriate for the specific situation.

With respect to the generalist versus specialist, until a few years ago, the all-purpose forester or generalist was the preferred alternative. Forest management required several specialties--all included in the basic forestry curriculum. As USDA Forest Service Chief, Dale Robertson, noted in the 31 July 1987 issue of The Friday Newsletter, Gifford Pinchot originally described a forester as "someone who could combine something of a naturalist with a good deal of a businessman, someone who needed sound judgment and technical ability." The basic forestry curriculum included these essentials: forest economics, logging road layout and design, and basic surveying. Sound judgment was an assumed characteristic of anyone who self-selected to be a forester.

Today, at a time when knowledge demands have increased in both number and complexity, the specialist often provides the most critical assistance for the natural resource manager. Specific knowledge of hydrology and soil stability are critical to testimony in court cases. Even traditional firefighting techniques have escalated to **a** level of technology which requires the presence of on-site fire behaviorists and information officers. The challenge resulting from the choice between generalists and specialists is ensuring the availability of special expertise when required while at the same time providing the application of good forestry management on an ongoing basis.

In meeting critical needs, it is also essential that we look closely at the availability of technical knowledge while increasing the professional composition of our staff. In the past few years we have seen a gradual transition from the "how" emphasis of the forest technician to the "why" focus of the professional forester. Organizations vary as they look to the composition that best meets their particular needs. Figure 2 illustrates how state forestry organizations divide the four classification categories by percentages: The challenge is to maintain a balance among these classifications to reflect the appropriate emphases.

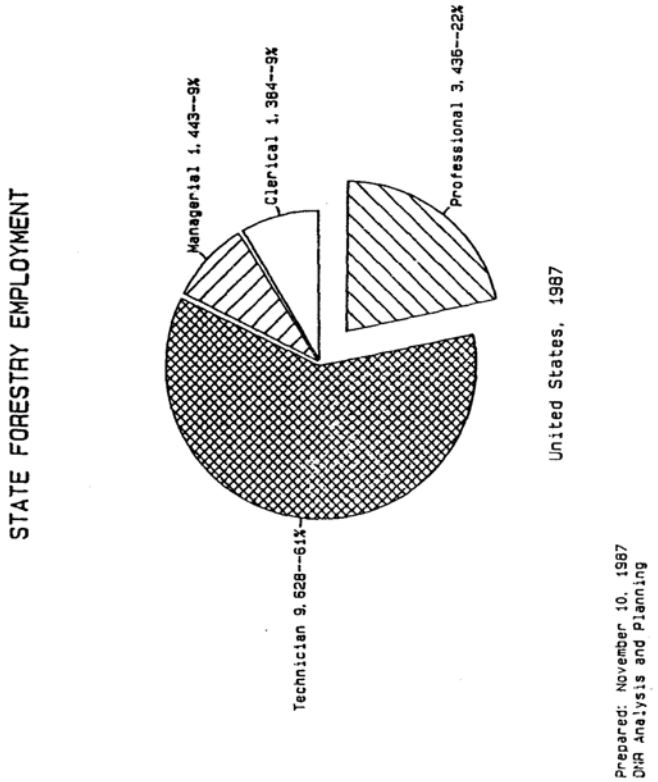

Figure 2. State Forestry Employment.

In a time of reduced dollars some organizations, in a cost-saving move, try to increase the number of technicians because they cost less. In a time of high unemployment the four-year forestry school graduate is often willing to accept any position to enter "the system"; and the organization is all too willing to take advantage of the job market surplus by filling their technical positions with four-year graduates. Both organizational practices should be viewed honestly for what they are: exploitation.

The challenge we face in utilizing a diverse work force is to recognize the diversity of not only available staff but also types of activities. Certain forest management activities require technical skill; others require a strong theoretical knowledge base. The practice of hiring only technicians weakens the organization's ability to make theoretically sound site-specific decisions, and counts too **heavily** on experience alone to develop a sound base of forestry knowledge. On the other hand, hiring four-year graduate foresters to perform technical activities leads to eventual job dissatisfaction with a related reduction in productivity. The objective is to respond to a diverse need with a diverse work force.

A consideration of the varied composition of today's natural resource work force requires an assessment of both the general employment factors as well as a review of the social characteristics which the staff composition reflects. The number of forest industry employees and total forestry undergraduate enrollments continues to drop while the demand for the natural resource continues to grow. We must learn--and perhaps this is the greatest challenge we face today as a profession--to value and utilize to its fullest the human resource needed to manage and produce the natural resource.

Figure 3 provides a comparison between forest industry employment in the Province of Alberta and the state of Washington. The total number of forestry employees is comparable despite the three-year difference in the age of the statistics and the variance between each nation in proportion of employees to the total forest industry. As one might anticipate, paper and pulp production, which is less labor intensive and more mechanized, has fewer employees than the lumber/wood products industry. Figure 4 broadens this comparison to a national perspective.

Building a dynamic work team in any of the three sectors of the forest industry requires combining the experience of long-term employees who have withstood and survived the major cutbacks of a few years ago with the enthusiasm of newly graduated professionals. The challenge is to re-assign and, when

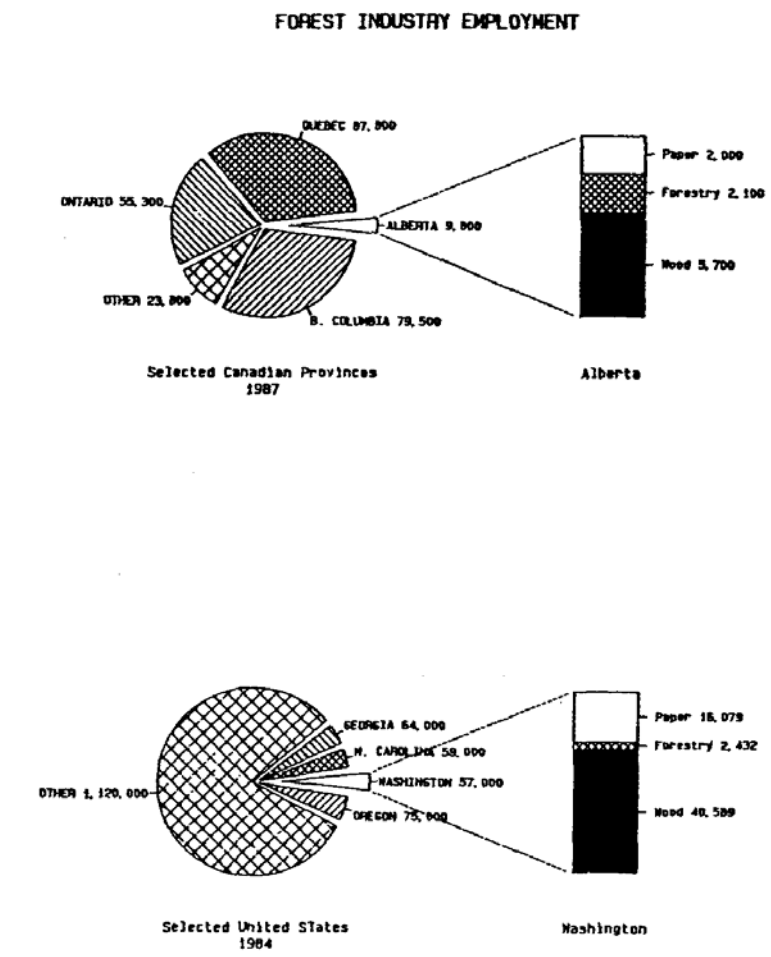

Figure 3. Forest Industry Employment.

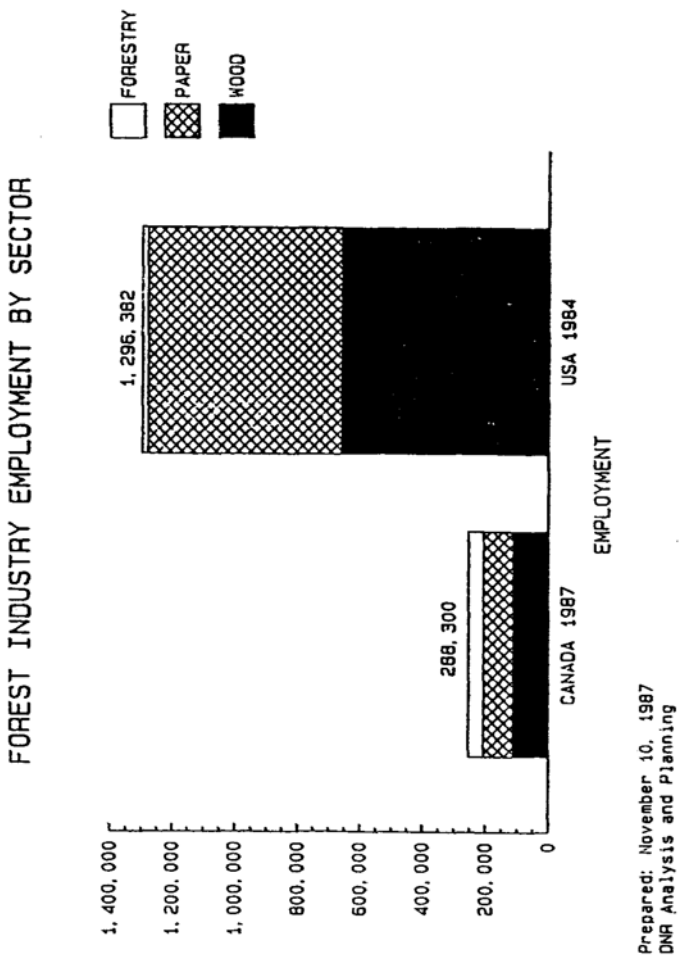

Figure 4. Forest Industry Employment by Sector.

necessary, retrain existing staff to maintain the intellectual excitement and professional satisfaction critical to increased productivity. The object is to build a dynamic team with sufficient bench strength of experience and enthusiasm to field an appropriate combination for any social or economic change.

Unlike American football, where the current trend is for the coaching staff to give long distance play direction, in natural resource management it is the person on the line, on the specific site, who calls the play. The critical challenge is to maximize the varied experience, the individual perspectives of organization history, and the diverse academic background while using a consistent theoretical base for site-specific decisions.

A critical factor in utilizing a diverse work force is the full incorporation into the organization of employees who reflect a changing external society. What comes to mind for many people when we talk about societal composition are the number of women and minorities in the work force. It is interesting to note in statistics from the federal Departments of Labor and Commerce that the percentage of women in the total United States labor force increased by 10 percent in the period between 1965 and 1986 to a total of 44 percent. The proportion of women employed by the pulp and paper industry has changed little from the 22 percent recorded in 1960 to the 23 percent noted in 1984. The percentage of women among sawmill workers, however, has increased from 7 percent in 1960 to 15 percent in 1984.

As illustrated in Figure 5, 1984 employment statistics from both Canada and the United States show an almost equal proportion of women to total employed population. In the forest industry; the percentage of women employed differs between our two countries by 12 percent; in both countries fewer than 20 percent of the total forest industry employees are women. Even these statistics, however, tell us about only total percentages. They do not tell us how women and minorities are employed, whether they are employed in a professional capacity, or whether they are employed in support services to field professionals. It is important that within each of our own organizations we work to ensure that women and minorities are both hired and fully incorporated at all levels.

This emphasis is short-sighted, however, if we limit it to only women and minorities. We must look at other criteria as well in reflecting social change. We must remember that our organization is best served when it has a variety of knowledge and expertise to draw on. We must focus on including not only both sexes and the cultural heritage of many races, but incorporate varied perspectives reflected by different age groups and by graduates of different academic institutions. It is a laughing matter in some organizations that affirmative action means hiring someone who comes from a different four-year institution than the majority of the professional staff. The reality is that the organization is short-changed if the theoretical base is never challenged by different forest management philosophies.

BY A DIFFERENT WAY: THE EVOLVING PROFESSION

The final aspect of the natural resource management environment we shall consider this afternoon is how we, as today's professional, must travel "by a different way." Not too long ago, within the memory of many here, the natural resource professional was a forester who sold timber and fought fires and built the roads needed to do both activities. He (and foresters were all "he's" at that time) had graduated from a forestry program that was just beginning to emphasize planning in road construction and replanting.

Today, I see a new generation of natural resource professionals. Reduced dollars, increased public awareness and broader participation in resource management are all issues that have resulted in major changes to our profession. Our work environment has changed drastically from the remoteness of an isolated forest to the highly visible public forum. Our work force reflects the diversity and change of a volatile society. And our profession has evolved from a biological science to a management discipline, requiring a combination of natural resource knowledge with new professional skills.

The first requirement of today's natural resource professional is to be soundly grounded in forestry

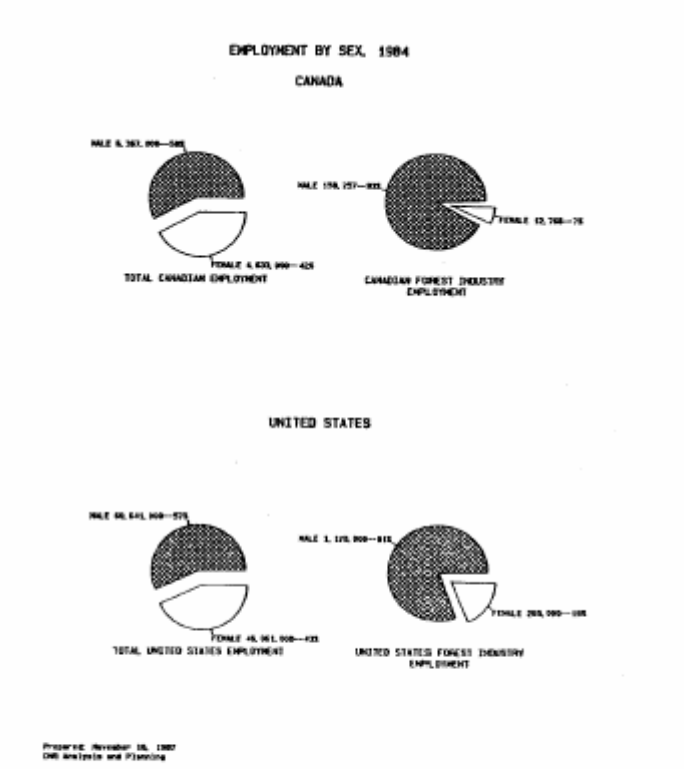

Figure 5. Employment by Sex, 1984 (Canada).

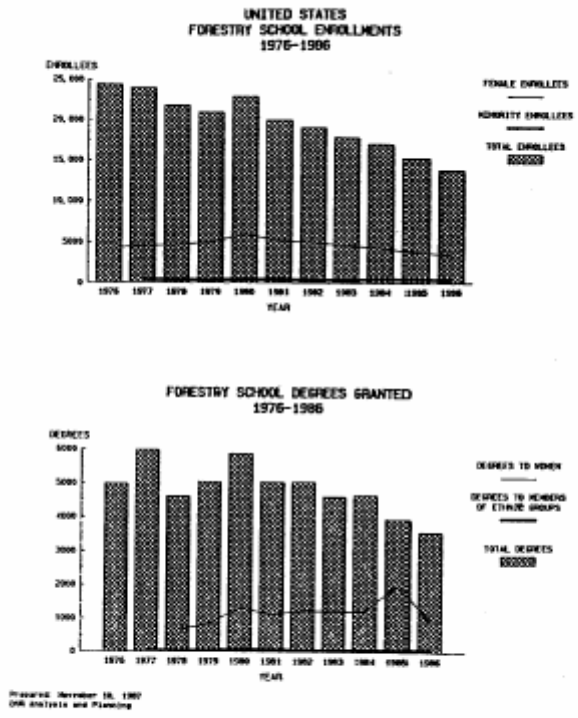

Figure 6. United States Forestry School Enrollments 1976-1986 and Forestry School Degrees Granted 1976-1986.

fundamentals. The challenge for those already in the profession, especially those who have been in the profession for a long time, is to continue to change and grow with the profession. The long-time forester strengthens the profession by providing a sense of history, that complements the professional enthusiasm of the recent graduate.

Figure 6 illustrates the enrollment picture for the decade between 1976 and 1986 in American schools of forestry. The disparity between the number of enrollments in one given year and the number of graduates in subsequent years suggests a significant issue. Figure 7 makes a more graphic comparison between forestry enrollments and degrees granted in a single year in both Canada and the United States. The number of degrees granted in 1984 seems small enough to find employment given the total number employed by the forest industry during the same year, but the industry's low rate of turnover reduces the actual available openings. Clearly, one way, although not necessarily the most effective, of increasing the number of women and minorities employed in natural resource management is to increase the number of women and minorities completing degrees in the natural resource sciences.

Whether a new graduate or a long-time employee, the first requirement of today's resource professional is to be technologically advanced. We have moved from a time when theories were proposed to a time when they actually can be field tested. F.X. Schumacher was never able to prove his mensuration theories. Today, the computer is able to show that some of Schumacher's theories were correct and some were in error, and it is able to produce these calculations in a short time. One single calculation for the allowable cut, which in the past took six to nine months, now is performed rapidly by the computer. Surveying, which was done originally by transit and chain, now is performed much more accurately by electronically sophisticated equipment. Our field engineers now are able to evaluate the economic feasibility of road design options without a single spade of dirt being turned. And our inventory, although still confirmed by ground cruises, now is approximated closely by photographs beamed from a satellite.

The new natural resource professional also must be a silvicultural leader familiar with the management techniques required by an urban, as well as rural forest. Pests and disease must be combated by environmentally safe prescriptions and methods. Trees must be grown and harvested to meet strict export requirements, as well as fiscal demands. In addition to computer literacy and silvicultural knowledge, the natural resource professional of today must be an innovator and change agent, able not only to distinguish what are the best and most effective innovations, but also to implement the new technology within the organization.

In 1984 the Washington State Department of Natural Resources, in conjunction with the University of Washington, began a program of study intended to provide each manager responsible for making site-specific decisions with a consistent theoretical base in forestry. This knowledge, combined with policies of the Forest Land Management Program plan and agency operating guidelines, was

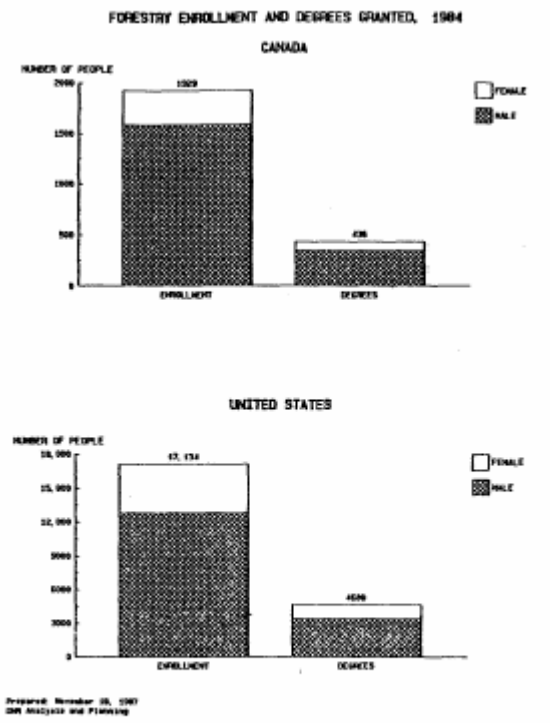

Figure 7. Forestry Enrollment and Degrees Granted 1984.

intended to ensure that the prescriptions developed by all staff would withstand technical and legal challenge. The academic background and work experience of the selected employees varied greatly. Figure 8 portrays the range of educational levels of the participants as well as the percentage of each academic grouping in comparison with the total enrollment. Figure 9 details the participating employees' years of tenure with the agency. Cost per person for the four-week program equaled $1,935 and included tuition, application fee, food, lodging and books, plus a portion of the university's curriculum development and program coordination charges. The results of the program were assessed by the participants and their supervisors. Evaluations administered upon completion and also nine months later provide fitting testimony to the program's success in demonstrated competence. This program is but one way to address the need to ensure consistency and competence for staff regardless of tenure in a profession that is changing rapidly.

As an evolving profession, natural resource management requires strong professional skills in general management as well as sociopolitical expertise. Effective management of the human resource, both external public and internal staff, is critical to successful management of the natural resource. Site-specific prescriptions should not be limited to only the field operations but should be applied to the particular worksite and to the individual employee as well.

Natural resource management now has moved into arenas formerly reserved for the social sciences. Today's natural resource professional must be a skilled negotiator, charismatic motivator, and a clear communicator. Skills formerly reserved for the state department are now required of the forestry organization's local representative. Members of community committees are most often sophisticated practitioners of group dynamics. And the representative from the natural resource organization who meets with them must match, if not exceed, these community leaders.

As already noted, the profession of natural resource management has moved from a biological science to a management competency. Jeff Luke from the University of Oregon in Eugene, calls for a "catalytic leader" in management "who engages in strategic thinking and facilitates the development of a shared mission and collaborative goal." The natural resource manager of today must be fiscally competent to make the complex investment decisions that have become a daily part of the job. Because of the increased frequency of lawsuits, the natural resource manager must have at least a rudimentary knowledge of legal procedure and of government regulations which affect management activities. The legislative halls

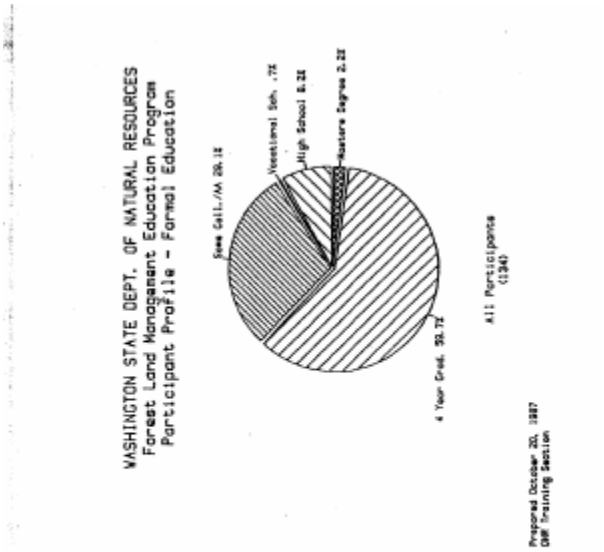

Figure 8. Washington State Department of Natural Resources Forest Land Management Education Program Participant Profile - Formal Education.

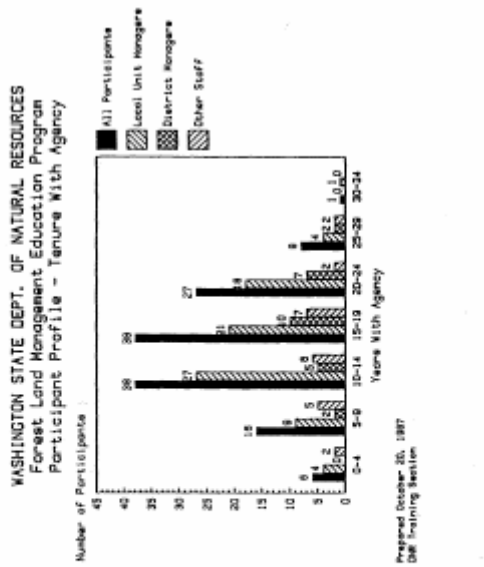

Figure 9. Washington State Department of Natural Resources Forest Land Management Education Program Participant Profile - Tenure with Agency.

have become the new forest arena. In addition, short-term and long-term planning skills, which always have been part of the forester's tool-box, are now critical daily instruments of stewardship.

CONCLUSION

When I first began to consider the present environment for natural resource management, I felt that the critical question was: "How can I see the forest if people keep getting in the way?" I have concluded that the new professional question is slightly different, and the challenge even greater: "How can we manage the forest if we don't understand the people who manage the trees?"

A few years ago, as a new member of the executive management team of the Washington State Department of Natural Resources, I was addressing the field staff at one of our regional offices. I made what I thought was a significant analogy between the work environment we provide for employees and the natural environment we encourage for our trees. I talked about the importance of ensuring the proper amount of work space for staff just as we are careful to allow, through precommercial thinning, enough growth space for the Douglas fir. I was really warming to my topic when a very senior seasonal crew supervisor stood up in the back of the room, hooked his thumbs in his bright red suspenders and cleared his throat. I had the good sense to pause. I knew I was in big trouble as soon as he addressed me as "lady" and not by my first name. "Lady," he repeated, (and I quote him exactly) "I ain't no damn tree."

At the risk of having all of you stand up and snap your suspenders, I am going to repeat my people-tree analogy, but with a significant distinction. People are an important resource--but they are not trees. The old logger who insisted he was not a tree was confirming, loud and clear, his significance as an individual. Trees are spoken of in the plural, as parts of the forest. People are not trees. Each person requires--deserves--attention and respect as an individual.

Last year, the Society of American Foresters recognized the importance of people management as a technical focus by establishing the Human Resources Working Group which I have the privilege of chairing. I now challenge each of you to acknowledge, with your professional colleagues in the United States, that effective management of the human resource is critical to productive management

of the natural resource. The title of these comments, "Managing People Managing Trees," sums up today's most critical need in natural resource management. People are not trees--but, in today's complex world of forestry, they may be our most important resource.

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17. Northern Forest Management for Wildlife. Gordon W. Gullion. October 16, 1986.
18. From NSR to Intensive Forest Management. Hugo von Sydow. March 12, 1987.
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