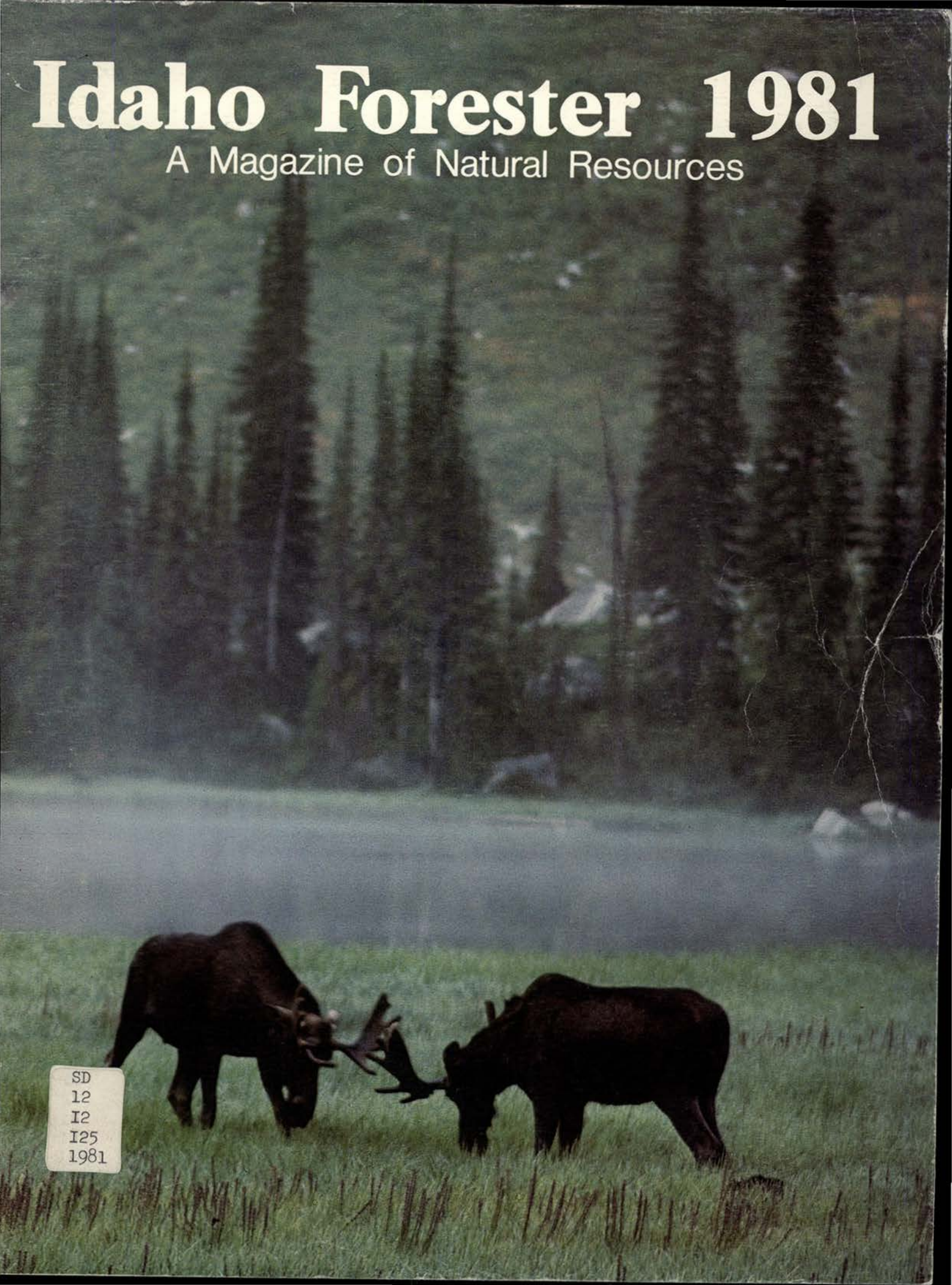


# Idaho Forester 1981

A Magazine of Natural Resources



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# Our Graduates Are Highly Trained in Renewable Natural Resources

## Fishery Resources

The fisheries biologist is knowledgeable about aquatic environments and aquatic organisms and can apply this knowledge to managing ponds, lakes, reservoirs and streams. Areas of expertise include aquatic pollution, fisheries management, population dynamics, limnology, and the behavior, culture, diseases, ecology and physiology of fish.

## Forest Products

The forest products graduate is well-grounded in all phases of forest business operations, including timber harvesting, logging-engineering, transport of goods to market, processing, computerized sawmill operations, manufacturing, marketing, and research and development for a variety of forest-related industries.

## Forest Resources

The modern forester is well versed in economic theory, skilled in computer technology and proficient in public communication, besides being knowledgeable in forest biology, natural history, forest protection (entomology, pathology, fire), reforestation, forest ecology, and silviculture.

## Range Resources

The range conservation graduate has a strong base in ecology and can assess land capabilities, develop land-use plans, rehabilitate mine spoils, perform soil surveys, administer grazing leases, appraise land values, study nutritive requirements of animals, and participate in research on use of natural resources.

## Wildland Recreation Management

The wildland recreation graduate is skilled in parks and recreation resources management, natural sciences, geography, land economics, conservation of natural resources, human behavior, public administration and communication, and has received specialized training in management/administration, interpretation/communication, or planning/design.

## Wildlife Resources

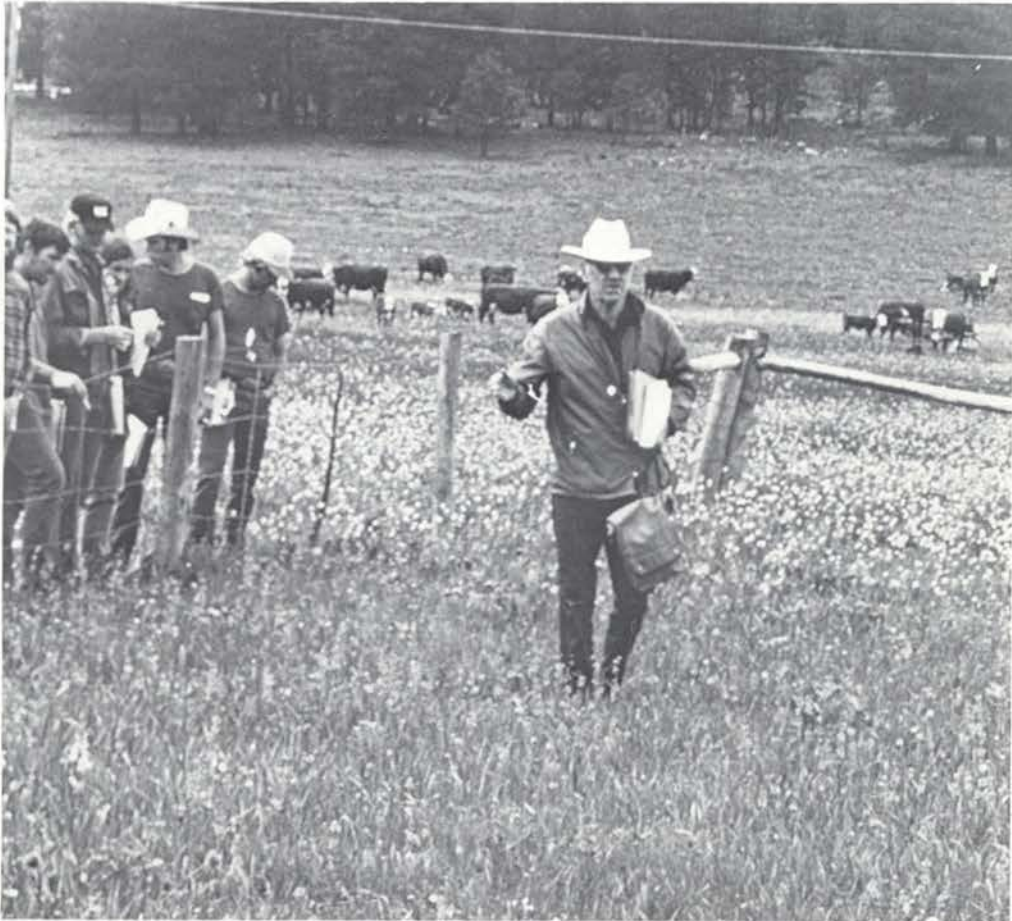
The modern wildlife graduate is interested in all species of wild animals and their roles as components of natural systems, and can gather data, conduct censuses, assess productivity, protect and improve habitat, study food habits, establish limits and seasons, control animal damage, protect endangered species, and enforce laws.

*If you plan to hire someone in these fields, please contact Lew Nelson, Placement Coordinator, College of Forestry, Wildlife and Range Sciences, University of Idaho, Moscow, Idaho 83843.*

**TO BORROW SEE  
OFFICE STAFF  
THIS FLOOR**



# DEDICATION



*Courtesy of Fred Johnson*

The 1981 edition of the "Idaho Forester" is dedicated to **Dr. Edwin W. Tisdale**, professor emeritus of Range Management, who retired from the College of Forestry, Wildlife and Range Sciences in March 1975. Dr. Tisdale has devoted his career to the improvement of our nation's rangelands and to quality instruction of our resource managers. He is still active in his profession—lecturing, conducting research, and holding office in range management societies.

# Editorial Contents

The turn of the decade finds the College of Forestry, Wildlife and Range Sciences focusing on broader views of natural resources management. Several events have helped expand our involvement in international wildland management. A growing awareness of the need for land managers in underdeveloped countries is of major importance. The cooperative program with the Chinese government is fully operative and the College is currently developing similar programs with other countries, some through U.S. AID.

A major factor in the international focus of the College is funding. As the federal and state legislatures continue to cut their budgets and our teaching funds, more support for academics and research is drawn from outside sources. The alternative is reductions in teaching, research, and graduate studies.

The establishment of an Institute for Resource Management by Robert Redford, as a cooperative program between the University of Idaho and Washington State University is another step in developing independent support. The Institute selected the best colleges of both universities, including FWR, and will provide funding for graduate studies and research in holistic resource management.

A rising concern among students and faculty is the quality of instruction. Both student input and faculty assessment of teaching skills are needed to realize the potential of each instructor. The College is working to improve teaching skills of its faculty and to instill communication skills into the students.

For two years now, the *Idaho Forester* has won first place in the Forestry Schools Publication contest sponsored by the Society of American Foresters. With communication being stressed by academia, industry, and government, it is hoped that all such publications will continue to improve in quality and in providing information about natural resources management.



Kristine Jackson  
David Lubin

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Cover: Fighting bull moose at Three Links Lakes in the Selway-Craigs. Photo by Jeff Ellison.

# Our Staff



Front row: Joe Ulliman, faculty advisor; Kristine Jackson, co-editor; Mike Reynolds, alumni; Vicki Quevedo, sales.  
Back row: Dan Chisholm, publicity; Tina Bell; Mike Heath; Dave Lubin, co-editor; Eva Phillips, artwork.



Bob MacKenzie, photography; Doug Bradetich, business manager; Mike Little, photography; Christopher Herr; Cheri Tolosko, artwork; Chuck Harpham.

Not pictured: Guy Prouty, photography; Mike Simpson; Steve Snell.

# State of the College

by Dr. Ernest D. Ables



M. Little

## Financial Picture

During a time of double-digit inflation and cut-backs in state appropriated funds for higher education, there is a tendency to become preoccupied with bleak financial pictures. Indeed, financial concerns do drain a lot of our energies and we have been hurt by financial short-falls. We absorbed our share of reduced budgets by giving up capital outlay funds, teaching assistantships, some graduate assistantships, plus belt-tightening in all operations. Next year's state appropriated budget does not look any more promising and inflation seems determined to continue eroding the purchase power of the monies we do get.

However, every cloud has a silver lining. We are not as dependent upon appropriated funds as many academic units on campus. Approximately 70 percent of all monies coming into the College are from nonstate sources such as grants and contracts or federal programs. In the past we have often lamented the relatively low level of state support. In light of the present situation this dis-

parity doesn't seem so bad. In the immediate future outside funding will become relatively more important and the College more dependent upon grants and contracts. An example is a recent international strengthening grant for five years at \$100,000 per year. This grant will aid in paying salaries of some faculty. However, such programs require faculty commitment and are not complete substitutes for state appropriations. Continued declines in state appropriated funds for higher education will eventually hurt the quality of educational programs and could cause the elimination of some functions. We can't afford to dwell on such possibilities and must remain optimistic.

## Enrollment

Unlike many natural resources schools across the nation, we have not had a serious decline in enrollment. Since 1976 undergraduate numbers have been about constant at 600 students. During the last two years fall enrollments have been down six (6) percent. However, spring enrollments have increased by about the

same amount. This discrepancy is due to students working through the fall season and returning to class in the spring.

Our undergraduate student body continues to remain about one-half transfer students and one-half as students who began here as freshmen. One quarter of all undergraduates are women, a dramatic increase from 1970 when there were only four women students in the College.

In Fall 1980 we had 157 graduate students, 10 more than the previous year. Graduate student enrollment continues to be limited by the capacity of faculty to take on new students. Some departments are able to accept only a very small percent of those who apply.

Scholarships for both undergraduates and graduate students are increasing each year. Presently, we have 30 separate scholarships available to students. The outlook for more scholarships is very encouraging.

## Educational Programs

We will continue to provide a broad conceptual base for all of our educational programs. Concurrently we must prepare our students for the future by anticipating their needs through the remainder of this century. Future trends in public land management indicate a high degree of integration of resource values. The decision-making process whereby trade-offs are decided has also changed in recent years. Decisions are being made through interaction with other resource professionals. This means that the forester, wildlife manager, etc., must be more knowledgeable in his/her field and must be able to communicate well and defend any position taken. Political and social factors in recent years have tended to outrank biological considerations in public land management, and to a lesser degree in the private sector.

Educational programs have to be

*Teach me your mood, O patient stars!  
Who climb each night the ancient sky,  
Leaving on space no shade, no scars,  
No trace of age, no fear to die.*

Emerson, *The Poet*

modified in order to properly prepare future resource professionals. We are attempting to prepare our students for the future by keeping informed and by modifying curricula and course content to keep up with the times.

Just over one year ago the continuing education and employment functions of the College were combined into a single office. This merger has proven highly successful. In 1979 the College sponsored seven major continuing education activities; in 1980 there were 20 such programs. Among these were the four-week course in Continuing Education in Forest Ecology and Silviculture (CEFES) and a two-week Pilot Program on Continuing Education in Wildlife Ecology and Management. The ability of our College to respond to continuing education needs of resource professionals has been strengthened substantially.

College of FWR students continue to experience one of the very highest employment records in the nation. Again this past year, over 80 percent of forestry majors were employed in forestry related fields and the remainder were employed in nonforestry jobs. Part of our success in placing students lies in a coordinated college-wide employment program. The other part, of course, is the reputation and performance of our graduates.

During the spring semester of 1980, we had the honor of hosting the distinguished Weyerhaeuser Seminar Series. This program consisted of five two-day sessions plus a three-day tour of company facilities. Instruction was provided by top executives of the company, and the 32 senior and graduate student participants received valuable insights into operations and policies of the nation's largest forest products company.

On the international front, we are becoming increasingly active. In 1980, we had eleven Honduran students and thirteen Chinese scientists studying in the College. Six faculty taught in China last year and many others traveled in China and other countries. This summer we will

be teaching a six-week shortcourse on land-use planning for resource managers from foreign countries supported by USAID. Another article in this issue expands on our international efforts.

#### Facilities

The fund drive for the forestry annex has now reached 17 percent of the \$1.5 million goal. Total estimated cost of this new building is \$3 million, one-half of which must be raised from outside sources. We plan to increase fund-raising efforts in 1981 and already are negotiating for another \$250,000.

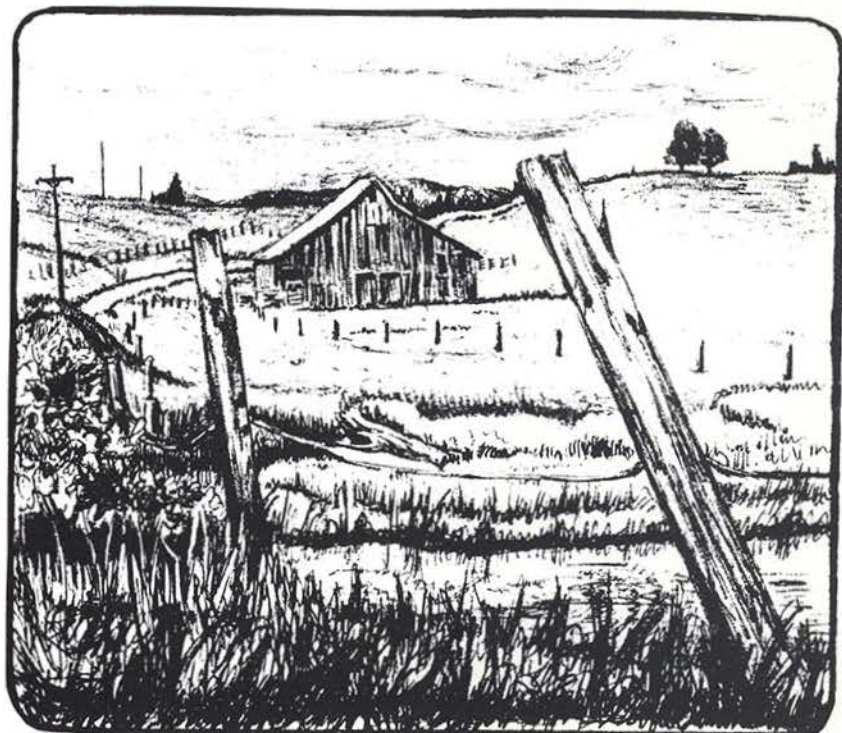
After an unusually heavy snow load demolished our McCall classroom building in the winter of 1979-80, a new, more strongly constructed facility has been completed. This building will be ready for use in 1981.

We have obtained an additional field facility—the old Clark Fork Ranger

Station in northern Idaho. This station will serve as a summer camp for Fishery Resources and as a year-round field headquarters for various research projects. It is very near the Scotsman Peak Wilderness Area and is handy for wilderness-related studies.

In the last year, tremendous progress has been made in developing the school's Experimental Forest as a model research-instruction-demonstration facility. The forest has been used for more instructional use than ever before. A major limitation to realizing the full potential of the forest is adequate all-weather access. Development of a road system and a detailed inventory are major objectives. John Ferry of Boise Cascade Corporation has agreed to head a drive to obtain \$100,000 in funds to assist in constructing a road system.

The forest nursery just east of Moscow is now fully operational with new greenhouses that are equipped to handle con-



tainerized seedlings. A new seedling delivery system that is more cost- and time-efficient has been developed to better serve customers.

### FWR Experiment Station and Research Activities

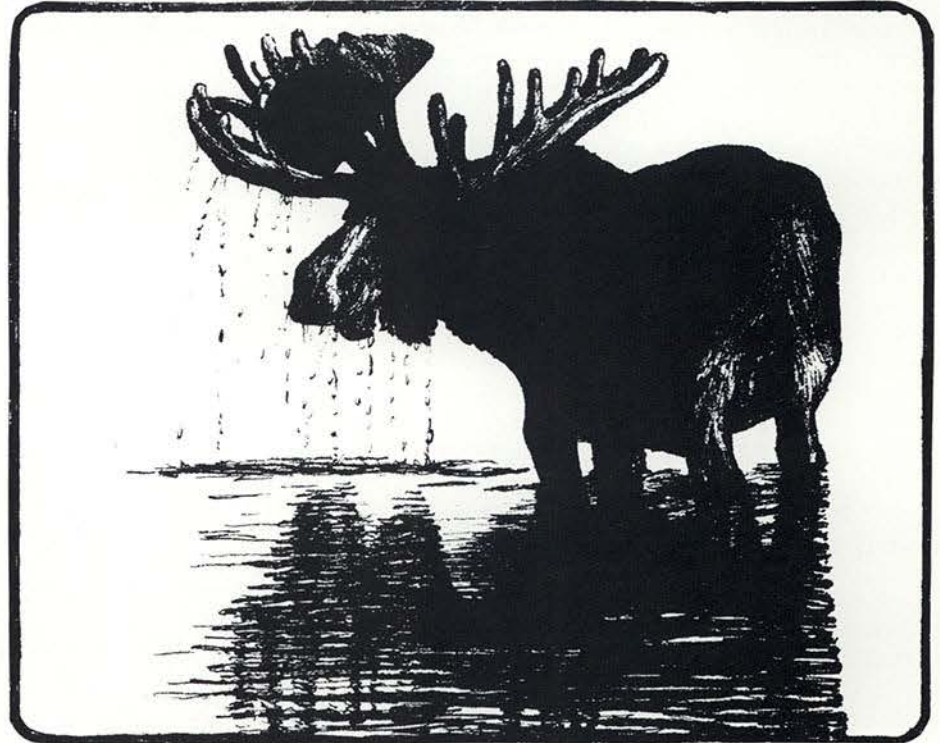
The Forest, Wildlife and Range Experiment Station through its research programs continues to provide the bulk of financial support to the College. During fiscal 1980, 71 agencies and other funding sources provided \$3,925,000 for research activities. Almost one-half of these monies were in the form of grants and contracts, which indicates the success of our faculty in competing for outside funds. The only change in research funding we anticipate is in sources of new monies. Through agencies such as AID, CID and UNIFOR we hope to obtain funds for international research and educational activities.

One of the thrusts of the Experiment Station is to build and/or strengthen selected disciplinary fields. An example is the existing Inland Empire Tree Improvement Cooperative with emphasis on forest tree genetics. New areas being developed include a forest tree nutrition cooperative, and a research-instructional program in forest regeneration.

In addition to the annual report, *Focus*, the Experiment Station publishes a newsletter for alumni and a quarterly report, *Synthesis*, that is an update on current activities. The purpose of all of these publications is to inform alumni and friends on what is happening in the College and in the FWR Experiment Station.

### Departmentalization

In the 1979 *Idaho Forester*, I reported on the change to a departmental structure within the College and speculated on the consequences of this venture. Now, after one and one-half years of full departmentalization, we have had time to evaluate the new structure. It seems to be



working well and has produced only minor confusion, chiefly in shifting responsibility for various activities from the Dean's Office to the departmental offices. These rough spots are being smoothed out. Our main concern is ensuring that our philosophy of interdisciplinary cooperation and integrated approach to resource management does not suffer.

### New Directions and Challenges for the 80's

We must be sensitive to the winds of change, yet not be blown around in a haphazard manner. The decade of the 80's will present many challenges to which we must respond. Tight budgets and diminishing financial support for higher education mean that we must use our monies as wisely as possible. We will perhaps have to rely even more heavily on nonstate appropriated funds to support college programs. International activities such as the recent strengthening grant represent steps in this direction. However,

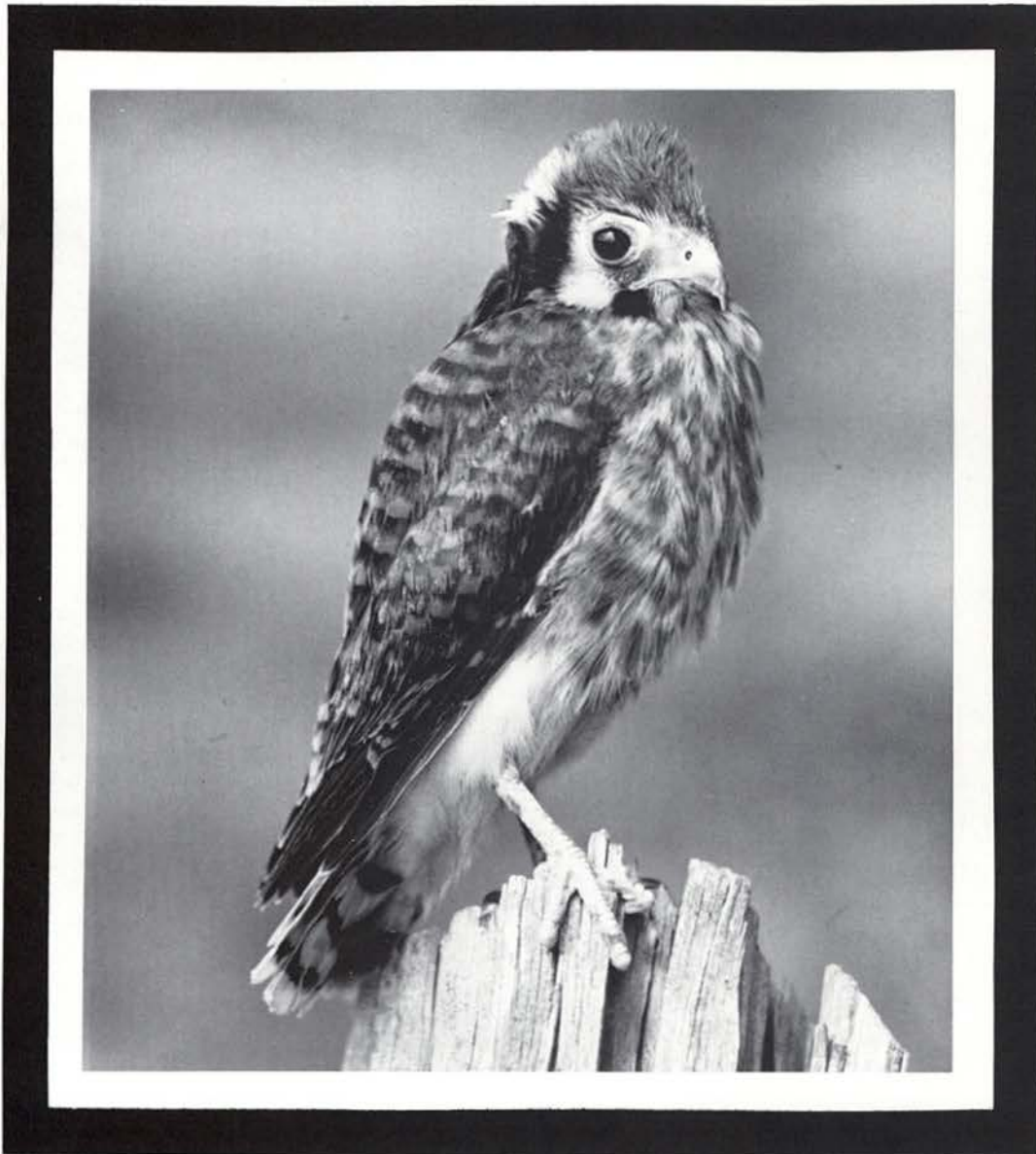
our international involvements are not just in response to a new source of funds. Natural resource management is taking on more of a world-wide perspective with each succeeding year. Nations are realizing that their natural resources have impacts beyond their political or geographic borders. Proper management, or the lack thereof, in one country will influence many others. This can be seen easily in the case of timber products, forest regeneration, migratory wildlife, or park and recreation development. Our faculty must gain the necessary expertise in international resource management so that our students may have the opportunity to prepare themselves for the next decade.



*Dr. Ernest Ables is associate dean of the College of Forestry, Wildlife and Range Sciences.*



# Feature Articles



*R. Myers*

# Mount St. Helens:

## *Its Impacts on Natural Resources*

by Eva Phillips

Those of us who were in Moscow in May 1980, and after, know what an inconvenience volcanic ash can be. But for the timber producers, the wildlife, and the fish of the Pacific Northwest, the eruption of Mt. St. Helens presented more than just an inconvenient situation.

Since the May 18th eruption, many estimates have been given concerning the effects on natural resources. The following is a summary of these impacts.

### Wildlife

Losses in Idaho and Oregon were minimal, but Washington state lost approximately 70,000 game animals as a result of the eruption and ashfall, according to the Washington Department of Game (WDG). Colonies of some species of bats unique to the area may have been completely killed off, and an entire herd of mountain goats in the adjacent Mt. Margaret Wilderness Area perished as well.

John Marshall, University of Idaho student and photographer for *National Geographic Magazine*, explained that the mountain goats were affected more than deer and elk. "They have nowhere to be reintroduced from," he said, "and they don't wander much."

On the other hand, deer and elk are having an easier time adjusting to the changes of their environment. Marshall, who was at Mt. St. Helens on May 19 and 25, June 30, and later in September to photograph for *National Geographic*, saw deer and elk tracks on the ash-covered ground. Marshall commented that the blast area itself may not be sustaining populations of deer and elk, but that the animals are using the border areas within one mile of the standing timber.

Bill Ruediger of the U.S. Forest Service agreed that the deer and elk will return to the area rather quickly, especially around the edges of the blast zone where

there is adequate cover. "The blasts should eventually help enhance populations of many creatures," he said. "It is just a regenerative process."<sup>1</sup>

The ash also killed a large percentage of insects, which in turn disrupted the food chains of many species of birds. Jon Gilstrom of the WDG believes this condition is only temporary. "Insects are the most adaptive creatures on earth," he said. It is hoped that the insects will make a rapid comeback and enhance the bird populations of the area.

There are reports, of varying degrees, concerning the volcano's effects on birds. Many birds abandoned their nests and the young suffocated under the ash, but scientists believe that most birds will reestablish themselves eventually. One possible exception, the spotted owl, classified as "threatened" in Oregon and being considered for the "threatened" designation in Washington, may have suffered irreparable harm. The spotted owl is dependent on old growth timber stands. The state's largest stand of such trees was destroyed by the blast.<sup>1</sup>

The volcano has altered the entire balance of wildlife in the immediate area. But Marshall explained that the only truly lifeless spots are in the pyroclastic flow areas; everywhere else they have at least found soil organisms. Some fish, amphibians, and snakes, sheltered by the ground or water, have survived better where larger mammals did not, he said.

It seems that the volcano is providing us with a chance to see for ourselves the regeneration process in an area made suddenly barren of its wildlife.

### Fisheries

Between 10-12 million fish were killed as a result of the volcano, according to Allen Bonenko. About 66,000 of these were wild salmon in the Toutle River, and, in addition, the entire 1979 chinook and coho salmon brood stocks were lost. It is hoped that salmon cut off from

their spawning streams will find new habitat in which to spawn. Some salmon have successfully navigated through the silty Cowlitz River, while others are heading up the Kalama River instead.<sup>1</sup>

John Marshall explained that fish which survived the original blast may have died over the winter due to depleted oxygen supplies caused by large inputs of organic matter in the lakes.

Similarly, according to John Stockbridge of the WDB, the water volume and temperatures may remain disrupted and cause the rivers of the area to be unsuitable for salmon and steelhead.

### Timber Products

Perhaps the area of greatest economic concern is timber products. Many acres of timber were felled by the eruption, including 23,136 acres of national forest land and 15,890 acres of private land.

Weyerhaeuser Company is attempting to salvage as much of the felled timber as possible before it rots or is destroyed. According to John Marshall, most of the timber is in good shape. Some of the trees were uprooted at the base, though others were broken and splintered. The U.S. Forest Service is also salvaging the timber, leaving patches of standing snags to be used by the birds.

A U.S. Forest Service bulletin reports that in lightly damaged areas, it is expected that large broods of bark beetles will develop in spring and summer of 1981 and 1982 and further injure the Douglas-fir trees. Following this period, the beetles may fly into surrounding green stands and attack healthy trees. Numbers of ambrosia beetles are also expected to continue to increase in the flattened and flood-damaged timber throughout the same period, but probably will not be a threat to surrounding healthy trees.<sup>2</sup>

In the areas that were clearcut before the eruption, the vegetative understory is already making a comeback. The vegeta-

*Anything worth knowing is incomprehensible by the human mind.*

W. Allen



C. Knowles

J. Ellison

tion in these areas is adapted to open conditions with sun and temperature extremes, Marshall pointed out. When he was at Mt. St. Helens on June 30, 1980, Marshall saw grasses and avalanche lilies growing. It seems that in the higher elevations, patches of snow present at the time of the eruption protected some plants from the ash. The fact that some greenery could be seen in the area so soon after the blast holds promise for those concerned with the regeneration of forests.

### Recreation

Mt. St. Helens and the Spirit Lake recreation area were once very popular with tourists and recreationists. The changes in the area have been many, but tourism is one thing that has not been halted by the volcano. Thousands of people are flocking to see the damage and two new visitors' centers have been established. The centers are U.S. Forest Service trailers equipped with seismo-

graphs, maps, brochures, and information about the volcano.

Cleanup and rehabilitation work is being done on the Olympic and Wenatchee national forests to accommodate visitors who would have used the Mt. St. Helens and Spirit Lake areas, but it seems that the volcano will be attracting many tourists itself.

Many areas, including the Goat Rocks Wilderness, are now accessible. All of the Packwood Ranger District and parts of the Mt. Adams and Wind River Ranger districts are open to the general public.

As devastating as the volcanic eruption was, it has, no doubt, provided us with an opportunity that could not have been created any other way. Because of its impacts, we are able to witness for ourselves the slow process of natural succession on a large-scale basis.



<sup>1</sup> Bonenko, Allen. "After the Blast," National Wildlife Magazine, Vol. 18, No. 6. October-November, 1980, 36-39.

<sup>2</sup> "Mount St. Helens Volcano," Gifford Pinchot National Forest Bulletin, USDA Forest Service, Pacific Northwest Region, 8-11.

*Eva Phillips is a senior in Interdisciplinary Studies—Forestry and Communications.*

R. Myers

# The Sagebrush Rebellion

by Cheri Tolosko

That all-too-familiar phrase, "The Sagebrush Rebellion," is now evolving rapidly into one of the most controversial debates of our time. At first glance, it exhibits the conflict between two traditional contenders: anti-Rebellion conservationists who protest it as "a land grab and a get-rich-quick scheme" and pro-Rebellion resource development supporters who see it as possible means to relieve our country's economic and energy burdens. Needless to say, much of the sensationalism has clouded the basic reasonings at the heart of the issue. It will be worthwhile to take an in-depth look at the Rebellion by relating some of the events that may have triggered it.

The Sagebrush Rebellion first made its debut in the 1930's, though without the grandiose title or vast public attention it now has. Back then, it was a case of resentful western ranchers speaking out against the eastern-oriented politics that had dominated western progress since the turn of the century.

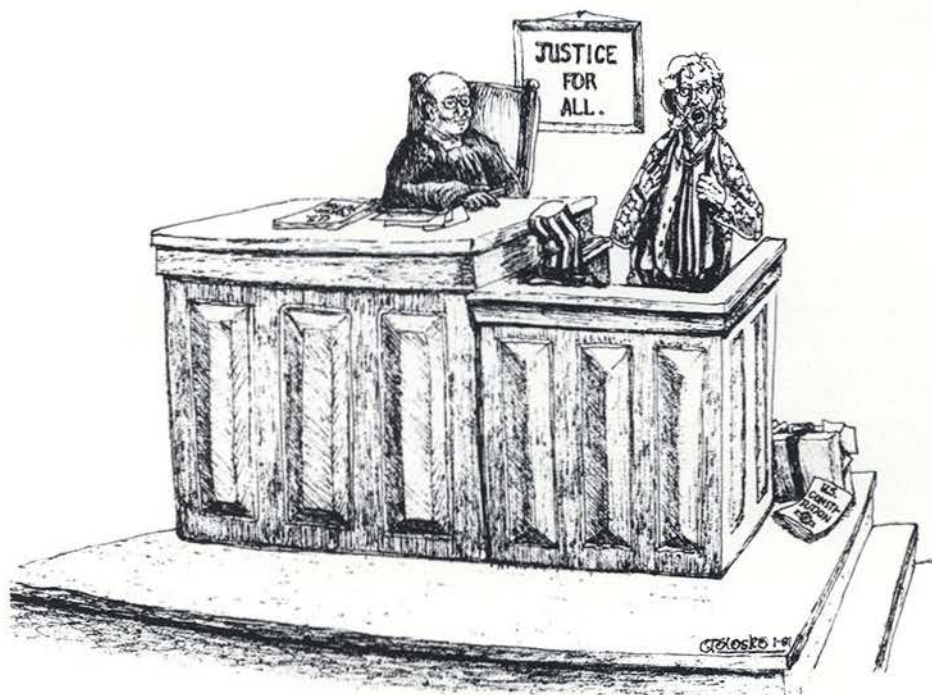
Anger had been mounting over several decades with Bureau of Land Management and U.S. Forest Service inconsistencies in establishing grazing regulations and fees on federal rangeland leases. These were the unreserved and unappropriated lands that had not yet been settled due to their dry and untillable conditions. To an extent, certain management weaknesses were condoned by the fact that small grazing operations were expanding too quickly into complex industries. But with a lack of personnel, proper funding, and the necessary sensitivities, the overall federal attitude became one of negligence toward range conditions and little or no concrete action to change existing policies.

By the early 1930's, the resulting "overgrazing issue" led Congress to pass the Taylor Grazing Act in 1934, which provided for the "orderly use, improvement, and development of public rangelands pending final disposal." Apparently, Congress took into account that some of

these lands were allocated for future private ownership under the Homestead Act of 1862 and the numerous land disposal acts. For the ranchers, the sudden "over-regulations" implemented by the

who were less eager to lose precious wild-life habitat for the sake of the economy.

Since that time, the BLM, in particular, has been attempting to revise its



Act meant livestock cutbacks and the curtailment of what conservationists criticized as "abusive rangeland practices."

While many of these cattlemen and woolgrowers wanted more cooperation with federal management agencies, others wanted a more final arrangement. During the 1940's rebellion, state legislators were demanding title to and control of federal lands on which ranchers had prospered and grown accustomed to, many for nearly half a century. The states maintained they had the "right" to regulate the lands within their borders because they were better suited to deal with local land problems. This would have meant a transfer of public land from federal to state jurisdiction with the intent of selling into private ownership and hopefully boosting productivity. But the request backfired, for it also caught the attention of concerned conservationists

policies toward more consistency and adaptability nationwide. This includes proposals for livestock adjustments (both increases and decreases) and a reduced grazing season to slow down forage deterioration. Unfortunately, they have failed to remedy the mounting frustrations of ranchers who claim some of these efforts still ignore their individual situations.

Other evidence of federal management weaknesses came with the success of a lawsuit against the BLM in 1975. Dr. Lee Sharp, professor of range sciences at the University of Idaho, views this as the actual precursor to the present Sagebrush Rebellion. The Natural Resources Defense Council charged that the BLM prepared an impact statement that was insufficient to meet the strict requirements of the National Environmental Policy Act. The BLM was then forced to recognize its

*"Let no one say, and say it to your shame, that all was beauty here, until you came."*

deficiencies in monitoring range conditions affected by the decisions made. This further augmented the debate about ownership.

Then in 1976, the U.S. made a daring change. The Homestead Act and other specified land disposal acts were repealed by Congress with the passage of the Federal Land Policy and Management Act (FLPMA). It declared these lands would be retained in federal ownership.

For conservationists, this act was of notable importance because it ensured the safekeeping of public land. FLPMA directed the limiting functions of federal agencies and officers, the costs of grazing fees, and the distribution of revenues for management improvements and other designations. The Act also recommended that state and local governments be given a more active "partnership role" in land-use planning decisions.

To many state legislators, FLPMA was perceived as a roadblock in their debate with the "states' rights" side of the issue. In 1979, the Nevada Legislature reacted by passing a bill that would give them sovereignty over the unappropriated lands within the state. Other western states were expected to follow suit. (Idaho passed a similar bill on February 10, 1981.) One of the vehicles used to support the bill's credence is a lawsuit against the U.S. in which Nevada claims it was not admitted into the Union "on equal footing with existing [eastern] states," a provision of the Admissions Bill in the U.S. Constitution. But whether or not this equal footing doctrine refers to political rights or land masses has yet to be clarified. William Meiners, a spokesman representing western views of anti-state ownership, concedes that "states' rights are not involved," and that the equal footing doctrine "is no more than a stalking horse to gain public attention and a sympathetic ear." In opposition, Vern Ravenscroft, president of Sagebrush Rebellion, Inc., asks, "Have the states been treated equally in their applications to land laws, compliance with

their various admission acts, and the benefits of land grants which vary widely? For instance, Florida received ten times as great a land grant as Idaho."

These two conflicting statements represent the urgent need to carefully analyze and resolve the many complicated matters regarding present land policies and a possible transfer of federal land to state ownership. Among the important questions are:

1. Despite the fact that state lands are operated at an overwhelming profit compared to federal land agencies' annual deficits, can the states absorb the future financial burden of managing millions of additional acres without drastic increases in the sale of timber, recreation user fees, and grazing fees? What compensatory funding programs will be established?

2. State ownership poses a possible threat of selling off pieces of public land to private investors and resource developers. What will the environmental impacts be with respect to watersheds, wildlife, and recreation?

3. More to the point, what will the advantages and disadvantages be?

Without a doubt, the only immediate solution to the Sagebrush Rebellion is coordinated decision-making involving both federal and state representatives. This will require their concerted effort to achieve better communications and a genuine partnership sensitive to the diverse national and local interests of *the people*. Dr. Lee Sharp summed this up by saying, "Coordinated planning is essential—because we're dealing with ecosystems, which don't recognize administrative boundaries."



*My thanks to Bill Meiners and Vern Ravenscroft for their views, and especially to Dr. Sharp for his patient assistance and advice.*

*Cheryl Tolosko is a sophomore in Wildlife Resources.*



C. Hollenbaugh

# The People's Republic of China: *U of I Cooperative Program*

by Dean John H. Ehrenreich

As you may be aware, the College of Forestry, Wildlife and Range Sciences has been involved in an exchange program with the Ministry of Forestry of the People's Republic of China for some two years now.

During these two years, we have been visited by two Ministers of Forestry—Luo Yuchuan, former minister, and Yong Wentao, current minister appointed last fall. The college has hosted 15 Chinese natural resources scholars studying a spectrum of FWR disciplines. Eleven FWR personnel—as well as University of Idaho President Richard Gibb—have traveled to China to teach, advise, and observe.

Obviously, our relationship with the Chinese Ministry of Forestry is active and fairly extensive.

Now, let me anticipate two questions.

First, *How* did we get involved in this relationship?

Second, *Why* did we and the Chinese get involved in this relationship?

For the first—the college is fortunate to count among its distinguished professors emeriti Dr. Chi-Wu Wang. As a young botanist in his native China, Dr. Wang combed the most inaccessible and isolated parts of China, searching out, collecting, and identifying forest flora. A book resulting from his research was for many years *the* definitive text in forest botany. It is still used for teaching in Chinese forestry institutions. In consequence, Dr. Wang holds a high reputation among Chinese botanists and foresters.

When the Chinese tentatively moved toward “normalization” in late 1978, the Ministry of Forestry contacted the University of Idaho and Dr. Wang, inviting him to Nanjing to lecture on forest genetics.

Dr. Wang accepted. During his stay in China, he arranged a working visit for UI President Richard Gibb and me. While in China during June 1979, President Gibb and I conferred with then Minister of Forestry Luo Yuchuan. Our discussions, congenial and creative, germinated the present People's Republic of China-University of Idaho (PRC-UI) Cooperative Program.

The first step in what was as yet a tentative program was taken when Professors Hsiung Wenyue, Ma Ji, Chang Peikuo, and Fang Yuching arrived at UI that fall to study forest tree improvement and remote sensing.

A second step was taken when representatives of forest industries from Idaho and other Northwest states offered to fund the Minister's visit to the United States. Minister Luo accepted. During his visit to UI from April 30 to May 4, FWR faculty members and I conferred with him and an accompanying group of

Chinese forest scientists and administrators, concluding that the program thus far was most satisfactory to both parties. Consequently, prior to the Minister's departure, we agreed upon and formulated a “Memorandum of Understanding for the PRC-UI Cooperative Program.” Primarily the memorandum is a brief document affirming the desire of both parties to continue and strengthen the program.

That, in a nutshell, is the program's inception.

To the second question. Why did FWR and the Chinese Ministry of Forestry involve themselves in the program?

First, let me address the question from the Chinese point-of-view.

China spent 30 years in isolation from developments of the “outside world.” During a 10-year “Cultural Revolution,” higher education was essentially dis-



*Simple child of nature  
Spreading out its brittle leaves  
To propagate its own*

Jill Wyatt

mantled and professors and students alike banished to factories and farms. After this period, forestry practices, education, and research lay in shambles.

Since the cessation of the "Cultural Revolution" in 1976, forestry colleges and research institutes have been re-established; teachers, scientists, and students have returned to classrooms and laboratories. Their advances have been most impressive. But, as Minister Luo himself said, "... Compared with the advanced countries in forestry, China still has a long way to go."

Where does China want to go? China's forestry goals are ambitious, and, considering a billion-member population, necessary. Today, forest land accounts for only 12.7 percent of China's land mass. The Ministry of Forestry intends to boost that to 20 percent by the turn of the century. Chinese foresters are also creating a revegetation/reforestation project called, aptly enough, the "Green Great Wall." When completed, this system of tree belts and shrub cover will stretch some 2500 kilometers across northern China. In the meantime, the Chinese are committed to modernizing all aspects of forestry, from timber harvest to wood utilization technology.

The Ministry of Forestry has formulated its plans; it has the full support of the government of the People's Republic of China.

But it lacks sufficient numbers of well-trained, well-educated forestry scientists and technicians.

Though China's three major forestry institutions—in Beijing, Nanjing, and Harbin—share some 3600 students, fewer than 100 are pursuing postgraduate studies. Or, to broaden the perspective a bit, over the last quarter-century, these colleges graduated 22,000 foresters; only about 165 took postgraduate degrees. China's major forestry problem was vividly exemplified by the thinning ranks of aging professors we met at the forestry

colleges.

If the Chinese are to accomplish their forestry goals, postgraduate education must be gained from the "outside world" for perhaps the next 10 or 20 years.

I'm pleased the Ministry of Forestry views FWR at the UI as a primary source for that education.


Finally, why is FWR involved?

We're obviously not in it for the money, nor do we expect a *quid pro quo* relative to forestry knowledge and technology. I should add, however, that in some areas, Chinese research offers unique potential value to the "outside world." Ongoing research in medicinal uses of forest flora is extremely interesting. Some of their wood specimen collections are unsurpassed anywhere. Particularly intriguing to "outside world" scientists is the huge forest flora genetic pool developed over literally hundreds of years of Chinese genetic research. Western scientists have only recently ventured into this field; we can learn much here from the Chinese.

Obviously, for FWR scientists, the cooperative program presents unique opportunities for internationally significant scientific investigation and experience to be shared with other scientists and with FWR's students.

The possibility exists, also, that our relationship with the Ministry of Forestry may, in the future, play a significant role in opening a new market for Northwest forest products. Like all of us, the Chinese prefer to deal with those they know, those they have come to trust. And through the cooperative program, FWR has been able to bring together many representatives of Northwest forest products industry and Chinese forestry officials.

But more subjectively, and perhaps more importantly, natural resources development and management can no longer be considered parochial concerns.

We—of all countries and continents—are literally "in this together." Thus, I wholeheartedly endorse the concluding statement of the "Memorandum of Understanding for the PRC-UI Cooperative Program": "The primary objective of our cooperation is . . . fostering understanding and friendship through cooperative research and learning among foresters who have mutual interest in the scientific management, utilization, conservation, and improvement of the world's natural resources and living environments." 

*Dr. John Ehrenreich is Dean of the College of Forestry, Wildlife and Range Sciences.*



# May the Forest Be with You:

## *The 1980 SAF Convention*

by Cynthia Fleming

The faculty and students of FWR received national recognition from the Society of American Foresters (SAF) for their contribution to the October 1980 National Convention held in Spokane, Washington. Members of the University of Idaho Student chapter of SAF participated as the host university along with assistance from Washington State University and Spokane Community College.

Dr. Charles Hatch was chosen by the SAF National Committee to oversee all student activities. Under his advisement, Joan Graves, a senior in Forest Resources Management, was selected to chair the Student Involvement Committee for the Spokane gathering of forestry professionals, technicians, and students.

All planning and execution of student activities at the 1980 SAF Convention was conducted by students. This was the second year in which one hundred percent of the program was carried out by students. As many as 28 individuals from UI donated their time to help make the convention a great success. Also, the 1980 Convention experienced the highest attendance of student members, at just under 300.

The convention theme was "Land-Use Allocation: Processes, People, Politics, Professionals." Prominent persons from all aspects of professional forestry and natural resources management spoke on a wide variety of topics relating to land-use allocation, specifically forested land.

The University of Idaho was especially proud to have some of its finest professors invited to participate. John H. Ehrenreich, Dean of FWR, acted as the moderator for the presentation "Wood for Energy," an emerging issue in land-use allocation.

Charles (Charley) McKetta informed the convention participants on the "Effect of Taxes," which influence the process of land-use allocation.



S. Hieb

E. Lee Medema spoke to the Silvicultural Working Group on the "Economic Analysis of Silvicultural Alternatives" and how these choices are evaluated in the northern Rocky Mountain region.

Those in attendance were honored by a visit from the Delegation of Forestry from the People's Republic of China on their recent tour of the United States. Other foreign speakers and guests pro-

vided a look into the future of "world forestry" and the alternatives which the third world land managers must decide among.

Conventions aren't always all talk and no action. There was plenty of action taking place in the "Fun Run." A two-mile course was laid out in the vicinity of the convention center for all those interested in a sunny morning walk-run-jog. Finishers of the race were awarded T-shirts commemorating the event. "May the Forest Be With You" read the front, and "The Inland Empire Stricks Back" was written on the back.

Washington State University was responsible for arranging the very informative Student Employment Forum. Spokane Community College, under the direction of Paul Haas and Becky McPheeters, provided housing for the visiting students during the convention and developed the "Student's Guide to Spokane" for those unfamiliar with the city and its hospitality.

Joan Graves began planning early in the spring by meeting with the SAF National Committee members to coor-



M. Little



*Sun and shadow  
Wind and rain  
In and out the window  
Like a moth before the flame.*

Jerry Garcia, *Box of Rain*

dinate the arrangements for the student activities. She was able to take time throughout the summer to keep in touch with the SAF National Office in Washington, D.C., as well as to solicit materials from private and public agencies in the way of literature, door prizes, and future employment possibilities.

Fall semester began with less than two months to go before the convention. Joan enlisted students from the Associated Foresters Club to act as committee chairpersons in charge of such things as housing, transportation, refreshments, and the student tour.

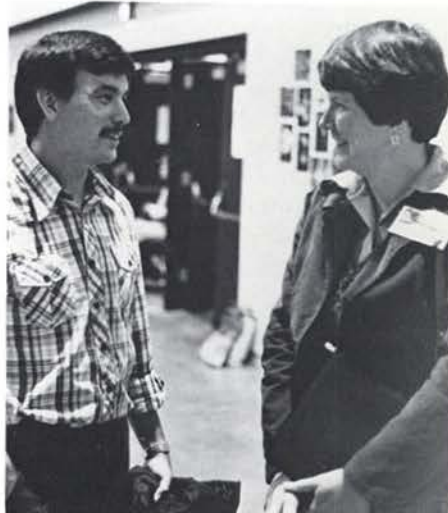
Many students signed up to aid in pre-convention planning, and they also provided invaluable assistance in preparation and execution of the convention activities. I volunteered to help Joan in any way I could and found myself appointed co-chairperson of the Student Involvement Committee, with duties ranging from secretary to chauffeur.

UI students were very involved in running the convention activities. These included the Student Hospitality Center. Designed as a lounge for students, the center provided registration, information packets, tour sign-ups, door prizes, and

refreshments, as well as an informal atmosphere where delegates and students could meet, relax, and share ideas and information.

The highlight of the convention for the students was the student tour completely designed and executed by UI forestry students. The tour to the Deception Creek Experimental Forest was a tremendous success. Located 20 miles east of Coeur d'Alene in the beautiful northern Rocky Mountains, Deception Creek is managed by the USDA Inter-mountain Forest and Range Experiment Station. There was much discussion after students were shown the various management practices of even- and uneven-aged management, habitat typing, nutrition cycling, and genetic experiments. The four student planners and tour guides for this tour were Bob Broden, Henriette King, Jeff Buhr, and Maryanne Staubach.

During the convention, many students found themselves busy behind the scenes. Dave Hobbins and Leon Clausen were seen operating audio-visual equipment. Over in the Student Hospitality Center, Dave Bolender, Andy Alexson, and Mike Danisiewicz traded their registration assignments with Patti Hiram, Beth



Wilson, and Carrie Gaines for lifting boxes and setting up displays. Karen Papke and I manned the central communications center, while Kris Jackson, Ann Riggins, Darcy Aldrich, Joan Heinen, and others ran errands and filled in where needed.

Students drove buses, served refreshments, and carried messages; everywhere you looked, students were doing their part to keep the convention running smoothly. Eric Verner, Mike Merigliano, and Chuck Harpham were involved in convention operations, as were Diane Wilson, Dave Van Natter, Andy Brewer, and Bill Crane. Even Roque Nally donated his time at the registration desk throughout the convention.

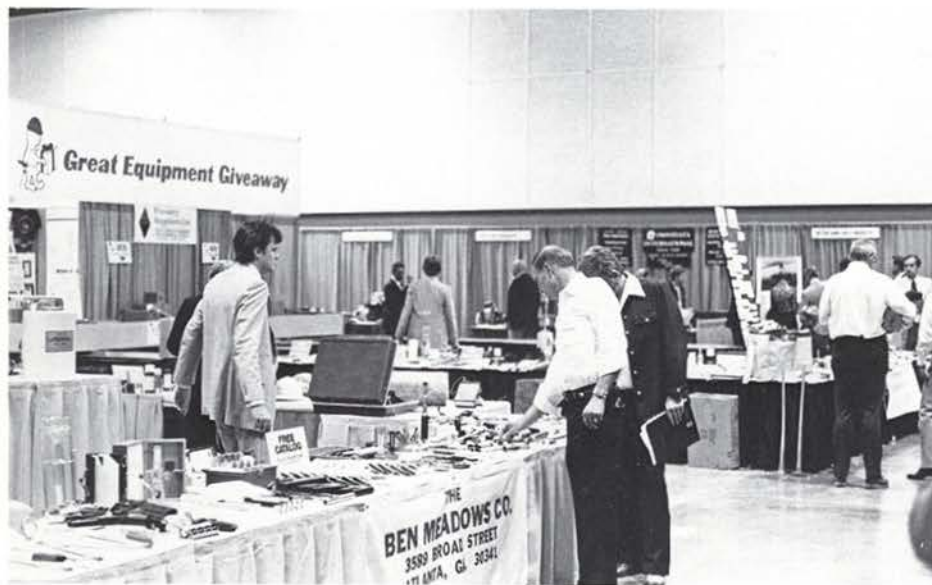
The *Idaho Forester* was also honored at the convention for winning the SAF Student Publications Contest for the second year in a row.

As Co-Chairperson of the Student Involvement Committee, I want to extend a special thanks to everyone who donated time and energy and helped make the 1980 SAF National Convention a "tremendous" success.

May the forest be with you.



*Cynthia Fleming is a senior in Forest Resources Management.*



# Recent Developments in Seedlings for Reforestation

by D. Nelson Jeffers



Courtesy of Weyerhaeuser Co.

Two million Douglas-fir seedlings growing in 4 cubic inch containers at Rochester, Washington.

The forests of the United States are slowly losing their wild, wind-tossed, rugged cast. New forests are replacing old. Moving out of the valleys and flowing upward over the hills of the South and Mid-west, they climb the Rockies, dodge and turn around the peaks, then flow downward to the Pacific beaches.

These man-made forests are expensive, very expensive in fact. In the urgency to reforest, all foresters—federal, state, and private—are confronted with the ever present risk of over-investment. Their central concern involves maintaining an efficient balance between planted seedling survival and the costs of both growing and planting the seedling.

In the past twenty years startling gains have occurred both in increasing seedling survival and in labor reduction. Survival rates in many areas have risen by at least 20 percent and planting labor requirements have diminished in some areas by as much as 40 percent. Significant improvements have been made in the quality of seedlings grown in the bareroot nursery,

but certainly the most intriguing development has been the growing of seedlings in individual, tubular containers under cover in greenhouses.

About thirty years ago, the Scandinavians began moving their nurseries northward into the boreal forests where growing seasons are short and temperatures are lower. To cope with these obstacles to growing seedlings rapidly in the open bareroot nursery, they began to experiment with erecting protective structures over the nurseries. This step of creating an artificial environment led to growing the seedlings in an artificial growing medium and then to growing the seedlings in containers.

Shortly afterwards, the Canadians became intrigued with the idea of the container-grown seedling because it appeared to offer a solution to a third problem: the shortage of labor for planting trees. The sparse population of the northern forests into which their logging operations were moving made it difficult to expand their planting opera-

tions. Containerized seedlings seemed to offer the solution to the labor problem because a planting tool or machine could be designed around a container. Conceivably, this would increase the planting rate per man hour and improve survival rates of the seedlings.

Since this first interest, myriads of container shapes, sizes, and construction materials have evolved. The development has been rapid but not without disappointing results. The first concept of containerization assumed that the container would be planted with the seedling. Slots in the side of the container would allow the roots rapid egress and the container would split open as the seedling grew. Where ample rainfall occurred during the planting and early growing season, this approach was moderately successful, but in most areas this moisture is not available, and it was soon found that the seedling roots could not make soil contact before the seedling died. Today all systems but one include the removal of the container prior to planting the seedlings.

Another fundamental problem was identified as the seedling grew in the container. The roots which grew outward from the taproot would continue to grow horizontally around the container wall. This formed a spiral root system. Several years after planting the diameter of the spiraled roots had increased to the point where the tree root system was being strangled. It appears that this is a problem primarily in the pines; however, it is not a desirable pattern. Containers were designed with slight vertical ridges in their interior walls which successfully stopped any significant spiralling. One major container design overcame the problem by molding the containers in a rectangular form. In either system the roots are directed toward the opening in the bottom of the container where they stop their extension when they come in contact with the air.

Today the majority of the seedlings are grown in either cylindrical or rectangular containers which range in length from about four inches to nine inches, are from one to two and one-half inches in top diameter, and have a capacity ranging from two to ten cubic inches. There are larger containers for special applications. A recent development is being tested which incorporates a new container shape and a tool designed to rapidly inject the container into the ground, significantly reducing planting labor requirements. The container has sufficient openings in the side so that the seedling roots come in contact with the soil, thus preventing seedling desiccation before the roots begin to grow.

Facilities in which the container seedlings are being grown vary widely in size, conformation, covering materials, and the sophistication of the environmental control systems. One successful operation is located in a mine tunnel where temperature and humidity are constant, but the light is all artificial.

Light quality and intensity and day length are critical to the successful production of seedlings grown in greenhouses. The greater the difference in latitude and elevation between the location of the greenhouse and the source of the seed, the greater the need to add or reduce light through the use of artificial light or shading.

As information appeared in the literature about the use of containerized seedlings, foresters rushed to incorporate them into their plantations. The performance of the seedlings was often disappointing. The majority of the failures could be credited to a lack of sufficient understanding of the physiological processes involved in greenhouse-grown seedlings. Today some nurserymen are producing consistently good seedlings; others have yet to learn the idiosyncracies of the process.

Containerized seedlings suffer in competition with the bareroot seedlings.

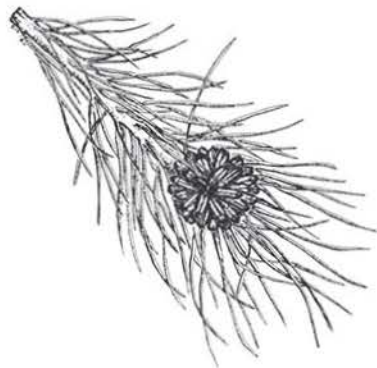


Containerized seedlings: (Left) Noble fir from 2.5 cubic inch cell. (Right) Douglas-fir from 10 cubic inch cell. Both seedlings are one year old.

The containerized cost is higher and bareroot quality is improving rapidly. Today many foresters are becoming much more sophisticated in exercising the options available in the two types of seedlings by carefully evaluating the stresses present in each reforestation area and selecting a seedling type for its total economic advantage. Containerized seedlings are proving superior in rocky soils and in droughty sites. They do not do well in areas of heavy rodent or animal damage or where competing vegetation is excessive.

Containerized seedling production centers have been developed west of the Cascade Mountains where the winter and summer weather requires the least energy used either in heating or cooling. From these facilities, seedlings are now being shipped into the northern Rockies, into the Southwest and Alaska, even into the Midwest and the East.

*D. Nelson Jeffers is currently the Seedling Marketing Manager for Weyerhaeuser Company. A graduate of UI College of Forestry, Wildlife and Range Science, he was the 1939 editor-in-chief of the Idaho Forester.*



# Wildland Fire Management:

## *Economics Violates the Inner Temple*

by Charley McKetta

"Don't smoke in the forest or Smokey Bear will crush your butt" hasn't always been a joke. Complete fire protection was long the holy grail of forestry. It's time we quit looking for things that don't exist.

In the first half of our century the fire extinction quest even suppressed objective research on the actual role of fire in forest ecosystems, since results threatened a sacred mission. Missionary zeal is subsidizing. The most recent generation of forest managers recognizes fire's beneficial uses: as a silvicultural tool, in habitat management, for risk reduction, and for controlling urban sprawl in southern California.

In wildfire suppression, however, the 10-10 policy remained an iron-clad dogma until recently. It meant, spare no expense to have *all* fires controlled by 10 a.m. and out before 10 acres burned. In 1977 the skeptical Gale report<sup>1</sup> noted that in successive five-year periods under 10-10, the number of fires and acres burned increased 24 percent, but cost jumped by 57 percent in excess of inflation.

Increasing costs with decreasing benefits triggered Congress to cut fire control appropriation by 25 percent two consecutive years. In 1979 Smokey's parents announced to the forestry profession that fire control is dead—long live fire management!

This policy shift has hidden economic implications. Previous fire organizations measured efficiency by cost effectiveness, i.e., what is the cheapest way to achieve established goals? Now, a maximization of net benefits will be used to evaluate the goal itself. This requires that the value of protected resources be recognized and a realization that value changes on charred lands are sometimes positive.

We're smart enough to know that all fires shouldn't rage unchecked, and it's finally dawning on us that it's foolish to

throw everything we've got at all fires everywhere. An economic approach to fire management planning suggests that for a given fire behavior in a resource type, additional control efforts will cost more. While increased effort results in less total fire damage, each addition to effort tends to be less productive than previous efforts.

As the graph indicates, minimizing damage would be a high effort proposition (Figure 1). A risk-free forest becomes undesirable due to the infinite costs of achieving it. The optimal fire management organization is the one that provides only enough effort to minimize the sum of cost *and* resource value changes.

An ongoing USFS Riverside Lab study<sup>2</sup> will identify this optimal size and composition of efforts for a range of resource, fire behavior and ownership categories nationwide. The question is far more complex than the graph implies. The project contains ten separate modeling activities: fuel treatment, prevention, detection, initial attack, large fire suppression, fire occurrence, fire behavior, fire effects, resource valuation, and a cost module.

At Idaho we are contributing to the cost module by valuing alternative fire management techniques and constructing the effort-to-cost relationships.<sup>3</sup> There are many of these curves. Fire management effort can expand proportionally by using more of the same techniques or by changing the mix of forces used. "Should I use more ground pounders in flame-proof suits or send in a bomber full of Firetrol?"

The first phase pinpoints the true cost of doing business. In the past, fire managers frequently confused a fire fighter's direct wages with his economic cost. Your average hotshot crew person might gross \$6/hour, but the true cost of using her is six bits over \$30. All of a sudden an inter-regional crew becomes a \$5,000/day suppression tool. Retardant is not a cheap alternative either. That stuff is \$1.80/gallon delivered, with a 1200 gallon minimum.

By now you should start to imagine that there might be cases where the cost of fire protection exceed the value of what is being protected. We already suspect that there are instances where benign neglect is a rational strategy, and maybe



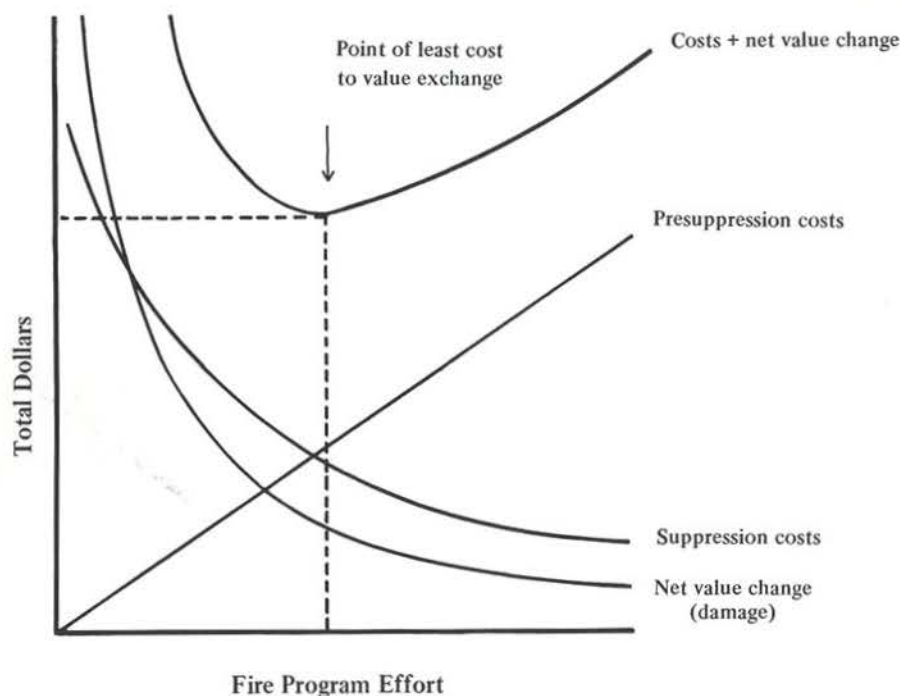


Figure 1. Approach to Fire Program Optimization

one in which you issue every hiker a box of Diamond International's finest is not out of the question.

The Heinlein<sup>4</sup> in me conjurs up a white-frosted fire technician who sits down some morning, plugs in a global fire and weather forecast for the season and summons a couple air tankers sunnyside up, a short stack of hotshot crews, and a side order of smoke jumpers just by pressing a button. Realistically, some of the near term changes we can expect as a result of this analysis are:

1. Available protection dollars and how they are appropriated will change. While the fire control blank check will continue to receive close fiscal scrutiny, future budget requests will be well-documented using this model and will be economically defensible.

2. Fire control organization structures will change from the size, technique mixes and degree of centralization they now have. Internal agency fire funding will be

distributed using a criterion of net benefits rather than administrative equality.

3. There will be increasing uniformity and cooperation between fire management organizations. The extreme differences between state and federal fire expenditure philosophies should begin to close. Professionals are starting to see the writing on the wall, but no new analytical system is a panacea. The enormity of this project's scope means that many planning details will still be resolved locally.

Implementation of an economic approach to fire is sure to encounter stiff resistance—even repugnance from the public. Under economic plans there will probably be more acres burned, an illusion of more damage, more smoke, and more snuffed-out Bambies. The fire season of 1979 witnessed several instances where expensive controls were politically forced on low-damage fires.

Smokey and Walt Disney, for all their faults, did accomplish a superb public brainwashing.

Fact, logic, and analysis have a spectacularly impotent record in challenging these popular articles of faith. In fire management, our bets will be hedged for a long time hence.



<sup>1</sup> Robert D. Gale, "Evaluation of fire management activities on the national forests." Policy Analysis Staff Report, USDA Forest Serv., Washington, DC, Nov., 1977. 127 pp.

<sup>2</sup> Thomas J. Mills, Project Leader. "Fire management planning and economics—general research mission", USDA Forest Serv., Riverside Fire Laboratory, Riverside, CA, Jan. 1979. 27 pp.

<sup>3</sup> Charles W. McKetta, Project Director. "Allocation of forest fire management costs module study plan," Univ. of Idaho Forest, Wildlife and Range Exp. Sta., Moscow, Dec. 1979. 22 pp.

<sup>4</sup> Robert A. Heinlein. (1907- ) Prolific spaced-out master of science fiction, author of *Stranger in a Strange Land*, *The Past through Tomorrow*, *Time Enough for Love* and 38 other books still in print.

*Dr. Charles McKetta is assistant professor of Forest Products.*

*If a man walks in the woods for love of them half of each day, he is in danger of being regarded as a loafer. But if he spends his day as a spectator, shearing off those woods and making the earth bald before her time, he is esteemed an industrious and enterprising citizen.*

Henry David Thoreau

# Giardiasis or Backpackers' Disease

by Richard H. Schultz

*Giardia lamblia* is a protozoan parasite found throughout the world. It is capable of infesting man primarily via his ingestion of the cyst stage of the organism. On entering the body, *Giardia* may develop into the trophozoite (adult stage), causing Giardiasis. The adult organism affects the small intestine and may cause a variety of symptoms with varying degrees of severity.

In the 1950's *Giardia* was thought to cause occasional problems of diarrhea in children. But because its appearance was so common and because most adults lacked clinical symptoms, most doctors considered it to be nonpathogenic.<sup>1</sup> However, the results of studies performed in the past twenty years have shown the organism to be pathogenic to humans.<sup>2</sup> It has been found to be the most common intestinal parasite in the United States.<sup>3</sup> It is also estimated that three to seven percent of the adult population in the United States harbors the organism.<sup>4</sup>

During the five-year period 1972 to 1977, *Giardia lamblia* was the most commonly identified pathogen in waterborne outbreaks in the United States. There were twenty such outbreaks reported which involved some 6,833 cases of disease. The majority of the outbreaks have been associated with mountainous areas, for example, New England, the Rocky Mountains, and the Pacific Northwest.<sup>5</sup> Though most of the reported illness is associated with outbreaks of the disease, the majority of morbidity is the result of individual exposure to untreated water supplies (mountain streams) which harbor the parasite.

It is assumed that the majority of mountain streams have been contaminated by infected humans and/or their dogs defecating near the water. Rain subsequently washes some of the cysts from the feces into the water where they may survive for approximately two months. During this time, the cysts may be consumed by humans drinking from the



stream or by a variety of wildlife also found capable of being infected and subsequently disseminating the organism to other streams or introducing more cysts into the same stream. Beaver appear to be an important reservoir of the disease.<sup>6</sup> The beaver is continually exposed to the water environment, may be infected by *Giardia* for at least three months, and defecates directly into the stream. Other animals found harboring the organism include: coyotes, cattle, and house cats.<sup>7</sup> Though all these animals may play a role in the spread and maintenance of the disease in waters, man remains the primary source of dissemination of the parasite.

Reports of illness due to *Giardia lamblia* have been steadily increasing in Idaho over the past five years (1976 - 22 cases; 1977 - 49 cases; 1978 - 55 cases; 1979 - 88 cases; 1980 - 97 cases). These reports are thought to represent only a small percentage of the true morbidity associated with the parasite.

The classic symptoms of Giardiasis may include varying degrees of diarrhea, gas, abdominal cramps, fatigue, weight loss, bloating, fever, vomiting and nausea.

Symptoms usually appear within one to four weeks of exposure and, if left untreated, may last weeks to months.

As the most common means of acquiring the disease is through drinking contaminated water, adequate treatment of such should prevent the disease. However, a great deal of controversy exists over what "adequate" treatment of such raw water actually is.

A number of chemical substances have been used to inactivate the cyst stage of the organism with mixed results depending on water turbidity, temperature, and length of time the water is treated before use. The present recommendation for those drinking water from streams, rivers, or lakes is to bring such water to a rolling boil prior to consumption.<sup>8</sup> Boiling will kill any *Giardia* cysts or other parasites and bacteria which may be in the water.

The disease, though usually not life threatening, is certainly an inconvenience for the afflicted individual. The most common complication of the disease is dehydration, a problem easily addressed by the city dweller with copious fluids

*The quality of a person increases by the square of the distance from the car and the cube of the elevation.*

Anonymous Backpacker

available, but one more difficult for the backpacker or forester to deal with when isolated from pure liquids.

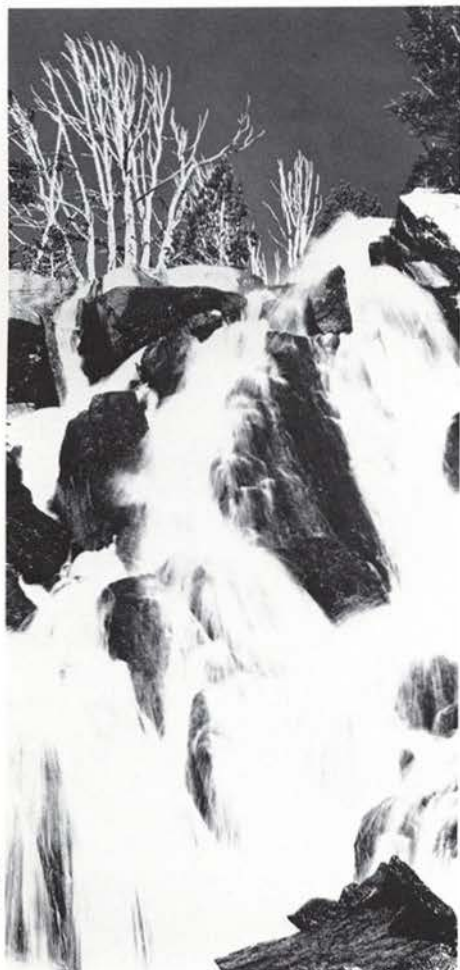
The bottom line is, "beware of the cool, fresh mountain streams," for within may lie the source of much diarrhea.

*Richard H. Schultz is the supervisor of Communicable Disease Control for the Idaho Department of Health and Welfare.*

#### FOOTNOTES FOR SCHULTZ' ARTICLE

<sup>1</sup> Robert C. Rendtorff. 1977. The experimental transmission of *Giardia lamblia* among volunteer subjects. EPA-600/9-79-001. June 1979, pp. 64-81.

*Continued on page 42*



J. Ellison

by Edwin E. Krumpe, Acting Head,  
Department of Wildland Recreation  
Management

I guess I should say that I have several dominant impressions of my bout with giardiasis—all of them bad. Like waking up in a student infirmary bed and not knowing how I got there; like having diarrhea and vomiting so severely that I became dehydrated and lost ten pounds' body weight in two days' time; like reporting to a doctor when I first felt sick and being misdiagnosed and given aspirin and a recommendation of bed rest. And to top it all off, I was a graduate student at Colorado State University, and semester finals were only two weeks away. Recovery, once diagnosed, took almost a month.

One of the frightening things about the disease is its difficulty in detection. I had been on a float trip down the Green River in Utah with twelve other companions. When I first experienced the symptoms of weakness and diarrhea, I checked with the others and all were perfectly healthy. After all, we had carried jugs of clean water, hadn't we? Well, not exactly. I later learned that one "friend" had drawn a bucket of drinking water directly from the river to make us orange juice. Why only I caught the disease I'll never know. I also found out that only a stool sample will allow positive identification, and even this will give negative results if the disease has gone into temporary remission.

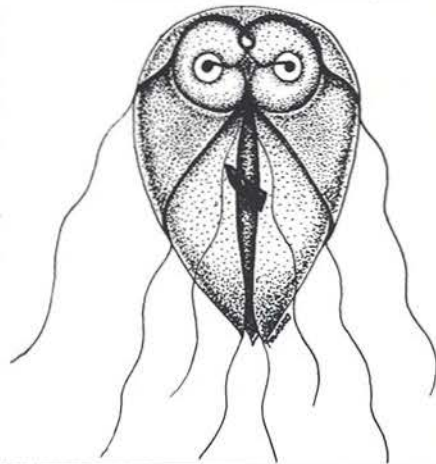
Another frightening aspect of the disease is that unlike common dysentery, giardiasis will not just run its course and then go away. Your body just cannot beat it back on its own. It may subside, but it will proliferate later and keep coming back.

Finally, I think that perhaps the most frightening aspect is the swiftness with which it strikes and the total weakness with which it debilitates its victims. I honestly believe that if it struck when a person was far in the backcountry, that the weakness and severe dehydration could quickly lead to tragedy. It's not a pleasant thought. It has made me be a little more cautious in the backcountry. I only hope that by sharing my experience, it may help someone else avoid the disease or at least seek its early diagnosis.

by Leon Neuenschwander

"A cool drink from the Salmon on a hot summer day. Later—I become weak and tired, and a few weeks later I thought I had an ulcer; it was that bad. Then the pain went away, but returned a month later, only with more severity. Each successive attack was more intense. My arthritis worsened, my memory was failing, and the cramping was tremendous. Three and one-half months later the doctor gave the correct diagnosis—Giardiasis. After two months of treatment and then another three months, the symptoms had virtually disappeared and my memory was restored."

*Giardia Lamblia Intestinalis*



# Gathering Your Own Firewood: A Way To Save On Your Utility Bills?

by Don Hanley, Extension Forester

## Introduction

The question is often asked, "How far can a person drive to gather firewood and still save money on his utility bills?" In order to answer this question one must consider the economic value of firewood. I will define the economic value of wood as that value of wood which will produce an equivalent amount of heat as from conventional sources. In other words, if you used a cord of wood to heat your home for one month, it would be worth the money you saved on heating oil, natural gas, electricity, or propane. This article will also equate the value of wood to the maximum miles that you could drive to gather the wood and break even.

## Heat Content of Wood

Table 1 lists the heat content of a cord of wood and the yield for 10 percent and 40 percent efficiency classes for the common species collected in northern Idaho. Efficiency is defined as that portion of the heat content that your wood burning unit can capture. An open fireplace has about a 10 percent efficiency and an airtight stove has about a 40 percent efficiency. Heat yield is then defined as the gross heat times efficiency expressed in millions of BTUs (MMBTU). It can readily be seen that 90 percent of the heat content of wood is lost if burned in a low efficiency open fireplace. This fact will be very important when we consider economic value.

## Economic Value of Wood

The economic value of cordwood will be determined by equating the heat yield of the wood with an equal amount of heat produced by conventional sources. Table 2 displays the break-even dollar value of a cord of wood based on burning efficiencies and November, 1980, utility rates in Moscow. This dollar value can be interpreted as the amount of money that you could pay for the wood if purchased,



J. Bahr

or the amount of money that you could spend obtaining the wood yourself in order to break even.

Obviously, if you spend more money buying or gathering wood than is indicated in this table, you would be better off economically to purchase commercial fuel. If you buy or gather wood for less than this amount, you are saving money. Please note how beneficial it is to burn wood in an efficient wood burner.

## Maximum Break-Even Mileages

If you purchase wood, your total costs should be what you pay the vendor plus any maintenance and depreciation on your wood burning unit. However, if you cut your own firewood from a forested area in Idaho, your costs will essentially be maintenance and depreciation of your wood burning unit plus transportation and chain saw costs. This article assumes that gathering firewood

Table 1. Fuelwood heat values and yields of commonly used wood in northern Idaho.

	Species				
	Douglas-fir	Engelmann spruce	Grand fir	Pines (lodgepole, ponderosa white)	Western larch
Gross heat content (MMBTU/cord)	22.73	15.27	17.40	18.07	25.83
Heat yield (MMBTU/cord) 10% efficiency (Open fireplace)	2.27	1.53	1.74	1.81	2.58
Heat yield (MMBTU/cord) 40% efficiency (Air tight stove)	9.09	6.11	6.96	7.23	10.33



for home use is a recreational activity, and as such, the value of your time to collect the wood is not included.

### Cordwood Costs

Contrary to popular opinion, cordwood obtained from a National Forest is *not* free. In fact there are some real out-of-pocket expenses. These are separated into fixed and variable (transportation) costs:

#### Fixed Costs:

Some typical fixed costs per cord are:

1. Wood burning unit—\$700 fireplace insert (maximum life = 20 years @ 5 cords per year). Therefore  $\$700 \div 100$  cords = \$7/cord.

2. Chain saw—\$300 saw, less \$50 salvage, plus \$150 maintenance, repairs and personal protective clothing (10 year life @ 5 cords per year). Therefore,  $\$400 \div 50$  cords = \$8/cord.

Chain saw fuel—\$ .59 gasoline/cord  
.40 fuel mix/cord  
.35 bar oil/cord  
\$1.44 cord



J. Buhr

Table 2. Break-even values (BEV) in dollars of a cord of wood by species, and wood burning efficiency class for traditional heat sources available in Moscow.

	Species				
	Douglas-fir	Engelmann spruce	Grand fir	Pines (lodgepole, ponderosa white)	Western larch
Efficiency	10%/40%	10%/40%	10%/40%	10%/40%	10%/40%
Fuel type	Dollars/cord				
No. 2 heating oil	22/86	15/58	17/66	18/73	25/98
Natural gas	13/54	9/36	10/41	11/45	15/61
Electricity	13/52	9/35	10/40	11/44	15/59
Propane	23/93	16/62	18/71	20/79	26/105

Total fixed costs = \$16.44/cord or \$9.44 if an existing fireplace is used.

#### Variable or Transportation Costs:

The transportation costs are the variable costs to obtain the wood. Because of the many sizes and associated costs of vehicles, I will use four common vehicle types for comparison purposes:

Truck A	Import-size pickup Capacity = 0.4 cord Total cost/mile/cord = \$0.45
Truck B	Four-wheel drive 3/4 ton full size pickup Capacity = 0.75 cord Total cost/mile/cord = \$0.40
Truck C	Two-wheel drive 3/4 ton full size pickup Capacity - 0.75 cord Total cost/mile/cord - \$0.32

Truck D

14-foot rental truck  
Capacity - 1 1/2 cords  
Total cost/mile/cord = \$24/day + 0.26/mile/cord

The cost/mile/cord values were figured by the formula:  $\text{cost/mile/cord} = \text{cost/mile} \div \text{capacity}$  for Trucks A,B,C. Truck D is figured on the basis of a local rental plus mileage.

#### How to Minimize Costs

The only way to significantly reduce the costs of gathering your own firewood is to minimize your transportation costs. May I suggest a few ways to do this:

1. Use a large truck to haul your wood. The cost/cord/mile is lower on a big truck *provided* it is filled to capacity. You might want to scout out potential wood in a small vehicle before cutting.

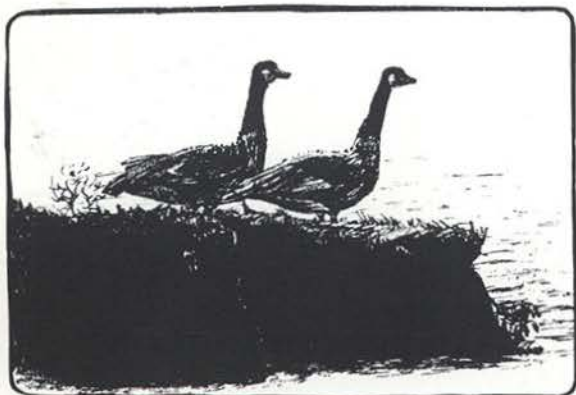
2. Keep spare parts for your chain saw. You can easily spend \$15-\$20 for gas to drive to the woods and back for

Continued on page 42

## Progeny Ballet

*Seed pod  
Performs its ballet  
Prodded on  
By wisps of wind,  
Until it rests  
And grows again*

Jil Wyatt



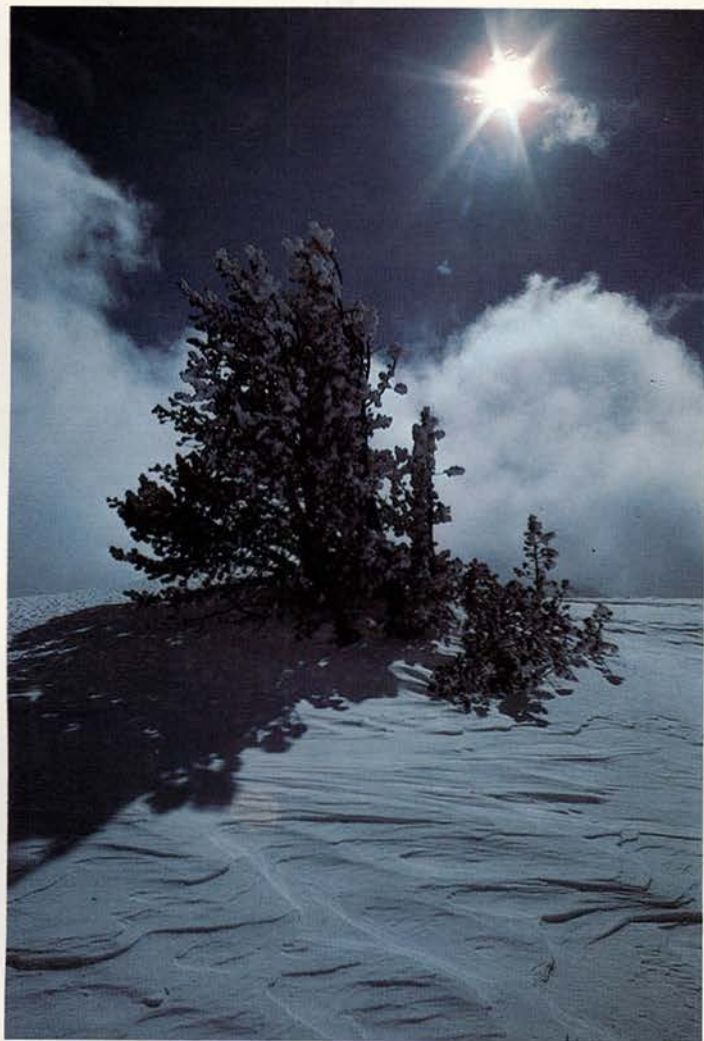
*Artwork by  
Eva Phillips*



*Artwork by  
Cheri Tolosko*



All the wild things sing their songs  
from the hilltops . . . .  
from the marshlands . . . .



there is sunshine  
there are shadows  
songs of rain among the trees

of the mysteries  
of the beauty  
of the faith in miracles

each one sings a separate song  
blending into one great hymn

the symphony of life eternal . . . .

Gwen Frostic

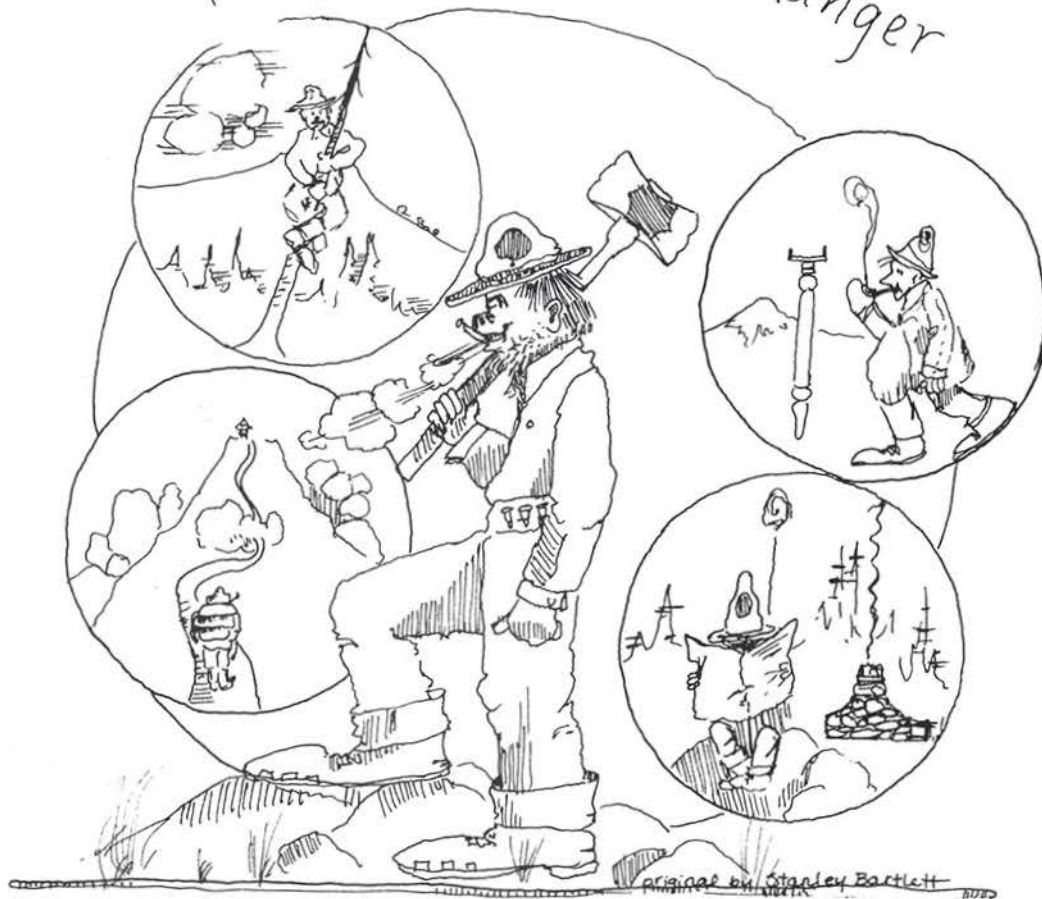


# Tales from the Past



*Courtesy of Ken Hungerford*

# The Picturesque ? Ranger



by Stanley Bartlett

He wasn't much on "movie" stuff,  
He looked just kinder hard.  
He packed a gun,  
But not for fun  
And held the world in disregard.

He didn't wear a great big hat  
O'er his abundant hair  
Or 'round his throat  
A fur-lined coat,  
To drown the words that he did swear.

He didn't sport a snappy suit  
Of kippy forest green;  
His shirt was torn  
By burdens borne,  
Tho' it was patched and fairly clean.

His dancing pumps were hobnailed boots  
That tripped o'er miles of trail;  
His cane (you'll laugh)  
Was a Jacob staff;  
He measured men with a Scribner scale.

When noon came around 'most any time  
He grabbed a hunk of cheese,  
A piece of tack  
From a gunny sack  
Then made his old pipe wheeze.

His literature was bulletins,  
His "day of rest" reports,  
He marked the pine  
And fixed the line,  
And played some other little sports.

From his blanket 'neath the starry sky  
To dawn when birdies sang  
He gave a cuss  
That most shocked us  
And damned the government to hang.

He's something like a hobo  
And he's something like a king,  
But you'll admit  
That he is IT  
Up on the peaks where breezes sing.

The Rangers rave about their life,  
The hardships that they bear,  
The awful tale  
Of camp and trail  
And days and weeks of work and care.

But when it comes to burdens  
To sweat and cuss and grind,  
They'll hit the spots  
And cut 'cross lots  
If they leave the student far behind.

If a guy's a forest student  
The B.A.s at the "U"  
Turn up their nose  
At his hard boiled clothes  
And the smell of his mulligan stew.

They say he smokes a big, strong pipe  
And carries matches too,  
Chews black snoose  
And spits the juice;  
Of course it can't be true.

Reprinted from the 1922 Idaho Forester.

# Summer Camp:

## *Then and Now*



1949



1929



1953



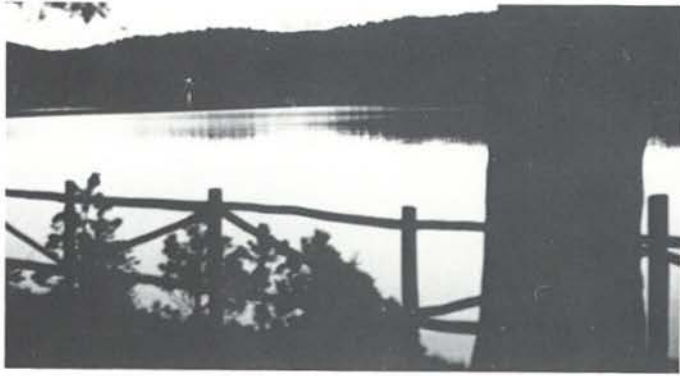
1948



1948



1948



# Trees on the Idaho Campus

by C. L. Price  
Forestry Nurseryman

The trees on the campus of the University of Idaho, Moscow, have become so much a part of our lives that those of us who pass by them daily scarcely realize their existence, yet were they suddenly to be removed we would immediately clamor for their replacement. They add very materially to the beauty of our campus and assist greatly in forming a most suitable environment for the education of the young men and women of the state.

Of the 136 species of trees growing on the University of Idaho campus many are not indigenous to this part of the United States and not a few are native only to Europe or the Far East. All foreign species, however, are making good growth with a few exceptions, and these make good progress during years of suitable growing conditions. It can hardly be expected that a tree native to a tropical climate could equal the growth of one whose range is confined only to our own temperate conditions. However,

there is no discrimination in the placement of many varieties so that the Ginkgo tree from China is growing beside the redwood from California. The eastern white pines from the state of Maine are sharing the ground with the Russian poplars and the Austrian pines from Europe, making our campus tree growth very cosmopolitan.

The slope, south and a little west of MacLean Athletic Field, covered with tree growth, is known as the forest nursery and it is here that the vast majority of the campus trees are planted and grown. The School of Forestry of the University is responsible for the forest nursery and distributes to all parts of the state over a couple hundred thousand trees annually.

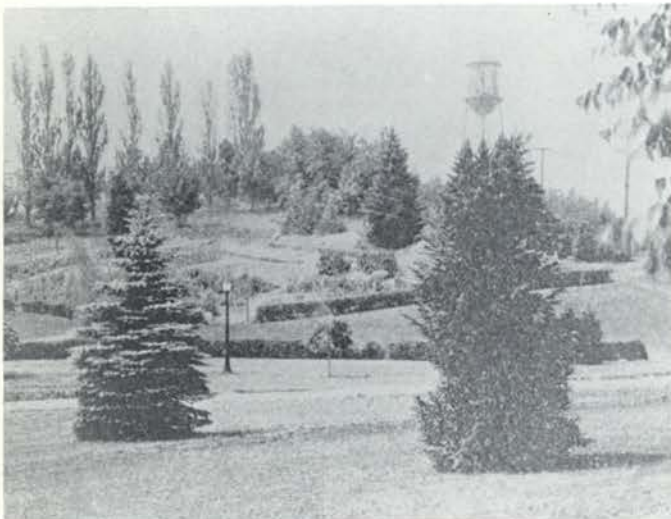
## Historic Trees on the Campus

To perpetuate the memory of three distinguished guests of the University of Idaho who have visited the campus from time to time, three trees have been planted during their visits. One tree is designated as the "Roosevelt Tree,"

another the "Taft Tree" and a third the "Marshall Tree," each forming the point of a triangle and about 30 feet apart. They are standing about 150 feet east and 100 feet south of the main entrance of the Administration Building.

The first of these trees to be planted was the "Roosevelt Tree" in honor of Theodore Roosevelt, former president of the United States. This tree is a Colorado blue spruce and was planted April 10, 1911. It is undoubtedly the best specimen of this tree to be found on the campus and now reaches a height of about fifteen feet [at the time of this issue of the *Idaho Forester*, the tree is about 70 feet—editor's note]. It was five years old when our former president threw the first shovel of earth about its roots.

The second of this group of trees to be planted was the "Taft Tree," a Port Orford cedar. It commemorates the visit October 4, 1911, of William Howard Taft, then chief executive of the United States. The tree was five years old then and only about three feet high. [It is now about 60 feet high—editor's note.]



## Presidential Trees

On the left are the Presidential trees as they appeared in 1927. On the right are the same trees in 1981. The Port Orford Cedar planted by Taft is shown in the right foreground and the Colorado Blue Spruce to the left is the Roosevelt Tree. The third corner of the tree triangle or the Red Oak planted by Marshall is just beyond the left edge of the photograph.



*As a twig bent, so is the tree inclined.*

The third corner of the tree triangle is called the "Marshall Tree" and was planted November 17, 1917, by Vice-President Thomas R. Marshall. Since Indiana was his home, the red oak, a tree native to that state, was chosen. It has made excellent growth since it was planted—then a small seedling—and it now reaches a height of fifteen feet [currently, it is 60 feet—editor's note].

#### Memorial Grove for World War Heroes

In honor of University of Idaho students who lost their lives in the World War, a Memorial Grove was established on the campus. The planting was made in the spring of 1919 and on the slope just south of the Administration Building, about 150 feet away. Thirty-two former Idaho students made the supreme sacrifice and that number of trees was planted to perpetuate the memory of these heroes. These trees consist of 22 evergreens and 10 hardwood trees. The evergreens are Norway spruce, Englemann spruce and Colorado blue spruce and the hardwoods are all red oak. A bronze plaque bearing the name of each man is hanging in the north end of the hall of the first floor of the Administration Building.

In no other way can the beauty, usefulness and attractiveness of our campus be improved and secured so cheaply, easily and satisfactorily as by the planting of trees. Joyce Kilmer in his poem "Trees" paid a fine tribute to this form of plant life when he wrote:

I think that I shall never see  
A poem lovely as a tree.  
A tree whose hungry mouth is prest  
Against the Earth's sweet flowing breast.  
A tree that looks at God all day  
And lifts her leafy arms to pray.  
A tree that may in summer wear  
A nest of robins in her hair.  
Upon whose bosom snow has lain;  
Who intimately lives with rain.  
Poems are made by fools like me,  
But only God can make a tree.

by Fred Johnson

From any direction, Moscow is an island of trees in a sea of wheat! The campus, in particular, is a tree world. Many folks remark that the UI campus is one of the most beautiful they've seen. Why? A great deal of the credit goes to C.L. Price, the first nurseryman, for he was not only in charge of the nursery, but also of campus plantings. The big Douglasfirs on the Administration lawn? Price's work. The row of Norway maples along "Hello Walk"? Price's. Remember the nice group of native trees over near Ridenbaugh?—the big ponderosa, the only decent western redcedar on campus, and the grand firs—all Price's work! Even the twisted Camperdown elms seem to date to Price's day. Price started his work here in 1909; he and Dean Shattuck started forestry together at this university. It appears that Price can be credited with all of the big trees in the core of the

campus. How do we memorialize this planter of trees? With Price Green, of course! For lots of younger folks, the place called "Price Green" is lost in the mists of the past. In the Arboretum, just south of the Picnic Area, is a flat area surrounded by trees—beech on the upper side, planetree maples below. This area was handbuilt by forestry students to use for campfire get-togethers. They named it Price Green. The flat basin back of the Administration Building was developed by Price into the first forest nursery. Then for decades it was McLean Field, home of Vandal baseball and track. Now it's occupied by the Women's Gym. Time moves on, changes come and names are lost. But Price Green is still there, a pleasant opening in the forest of Shattuck Arboretum. But, you know, on second thought, the real memorial to old C.L. Price are the trees he dearly loved and planted for us.



Courtesy of Fred Johnson

C. L. Price working in a black locust plantation.

Reprinted from the 1927 Idaho Forester.





# Dwight S. Jeffers

by D. Nelson Jeffers

Dr. Dwight S. Jeffers, dean emeritus of the College of Forestry, Wildlife and Range Sciences, University of Idaho, died April 20, 1980, at the age of 96 in Des Moines, Washington. He was respected and loved by the hundreds of students who came under his influence during nearly 45 years as professor and dean.

Dwight Jeffers was born in Deland, Illinois, on May 21, 1883. He obtained an undergraduate degree at Illinois Wesleyan in 1906. Two degrees were granted him at the Yale School of Forestry: a master's in 1911 and a Ph.D. in 1935. Author of a text in forest policy and numerous articles for professional journals and magazines, Dr. Jeffers attained a world-wide reputation as forestry educator.

He began his professional career as a mathematics teacher in the Colorado high school system. Interrupting his career as a teacher to spend eleven years with the U.S. Forest Service, he was rapidly elevated to the rank of forest supervisor of two national forests, the Uncompaghre and the Arapaho.

In 1922 Dr. Jeffers returned to teaching, joining the staff of the Department of Forestry (in the School of Agriculture) at Iowa State College. In 1931 he moved to the School of Forestry at the University of Washington where he achieved the rank of full professor.

In 1935 he accepted the position of dean of the School of Forestry at the University of Idaho. Teaching Introductory Forestry and Forest Policy, and at the same time expanding the school to include forest management, forest products, wildlife, fisheries and range sciences, he became one of the leading deans of the forestry schools in the United States. Hundreds of students graduated from the school during the 18 years he served and they left profoundly influenced by the Dean's kindness,



consideration, faith, and gentle leadership.

Retiring from the University of Idaho at the age of 70 in 1953, Dr. Jeffers continued actively as a consultant. He again returned to teaching as a guest lecturer at the School of Forestry, Pennsylvania State University, from which he moved to the State University of Oregon as professor of forestry.

At the age of 83, Dr. Jeffers brought to a close his career in forestry. During that career he was elected a Fellow in the

Society of American Foresters, served two years on the Society's Council, and was organizer and chairman of the Inland Empire Section of the society.

Listed in "Who's Who in America," he also attained recognition as a member of several national honorary societies: Kappa Phi, Sigma Xi, Alpha Zeta, and Xi Sigma Pi.

To quote an editorial from the Lewiston Idaho Tribune, February 8, 1953: "He has been, in character and purpose, one of Idaho's truly big men."



# Arlow Lewis

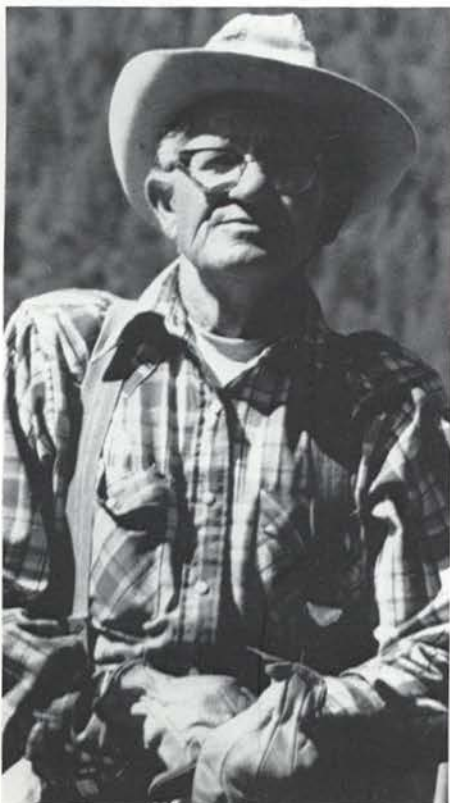
by Dr. Maurice Hornocker

Arlow Lewis, caretaker at the college's Wilderness Research field station at the Taylor Ranch for eleven years, passed away in June 1980. Although he was far from, and little known in the university community in Moscow, Arlow was an unforgettable figure in the lives of many staff members and students who lived and worked at the Taylor Ranch. He was always willing to help with advice concerning back-country living or provide assistance with the physical aspects of research projects.

Resourcefulness, self-confidence and a "can-do" attitude are essential for anyone living in remote country. Arlow Lewis was well-prepared for such a life. Born in southeastern Idaho, he performed a myriad of tasks in the out-of-doors before becoming a university employee. Sheep-herder, cowboy, hunting guide, bull cook, horse wrangler—you name it, Arlow did it. Before he became caretaker at the



Courtesy of M. Hornocker



Taylor Ranch, he worked as carpenter, bartender, dishwasher, blackjack dealer, and even tried his hand as a western singer in the northern Nevada saloons.

Numerous descriptions fit Arlow—loyal, dedicated, philosophical, sometimes cantankerous, always feisty. He was fun-loving, and had the colorful old-West cowboy or sheep-herder Saturday night attitude. When he "went to town," which was only two or three times each year, Arlow lived it up with all the zest attributed to the cowboy of western lore.

The Taylor Ranch became Arlow's home, the only true home he'd known since childhood. He treated it accordingly—seriously, jealously, and lovingly—as had its developer and former owners, Jess and Dorothy Taylor. He was concerned about the appearance of the ranch as "his place" and about its utility and function as a scientific research facility. He had a personal interest in each project centered there and in the individuals involved. He helped in every way he could to see that each undertaking was successful. He was

not always the most patient tutor or helper, but he was always sincere.

Those of us who worked at the Taylor Ranch are all indebted to him. We will always remember this engaging, colorful and compassionate man with warmth and affection. He truly, as the oft-cited grave marker states "...done the best he knewed."



*Dr. Maurice Hornocker is a professor in Wildlife Resources, and Head of the Cooperative Wildlife Unit.*

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*You will find something far greater in the woods than you will find in books. Stones and trees will teach you that which you will never learn from masters.*

St. Bernard

# Fishery Study Aids Endangered Recovery Plan

by Chris Herr

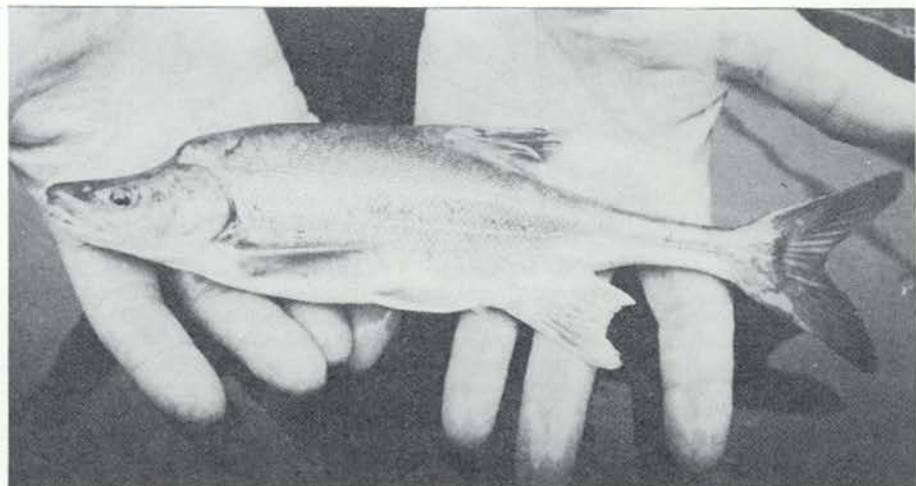
**SAVE THE HUMPBACK!** No, not the Humpback Whale, but the Humpback Chub.

In a set of circumstances not unlike the snail-darter and Tellico Dam drama, University of Idaho fisheries researchers are involved in a study of two endangered fish species. The outcome of the study could affect the construction of a dam on the White River in Utah and possibly the future use of the entire Colorado River Basin.

Under a \$90,000 contract with the Department of the Interior, Doctors Ted Bjornn, Jim Chacko, and Spike Bealeu form part of a U.S. Fish and Wildlife Service (USFWS) recovery team for the humpback chub and Colorado squawfish. Natives of the once raging and turbid Colorado River, these fish now face extinction as a result of dams and exotic species introduced by man. Once ranging from the Green River of Utah to the confluence of the Colorado River and its outlet in California, only four known populations of the fish currently exist. The fishes' range has been reduced to isolated deep pools in the basin north of the Utah-Arizona border.

Along with seventy percent of other Colorado River natives, the humpback is found nowhere else in the world. It looks like a cross between a camel and an eagle, characterized by its keel-like hump, long fleshy snout, and streamlined body. Growing to about thirteen inches and weighing two pounds at maturity, the humpback seems well adapted to the rushing waters of the Colorado. This uniquely shaped fish was not discovered until the 1940's, making it one of the last large fish species to be identified in North America.

A close cousin to Idaho's northern squawfish and a member of the minnow family, the Colorado squawfish has been known to weigh eighty pounds or more. Owing to its size and one-time abundance,



C. Haynes

This humpback chub is the first specimen found in the Yampa River since the closing of Flaming Gorge Dam in 1962.

the squawfish supported a commercial fishery in the 1800's. Like its northern cousin, the Colorado squawfish has a voracious appetite and reigned as the top carnivore of the biotic pyramid.

Before the dams and agricultural development, the grinding current of the Colorado exposed eons of the earth's history and formed such natural wonders as the Bryce and Grand Canyons. Laden with silt and mineral salts, the river earned its name, "Rio Colorado," Great Red River of the West.

Dropping nearly two miles along its 1,700 mile course, the Colorado's flow is now impeded by more than twenty dams. The construction of the Hoover Dam, in 1935, and subsequent dams have transformed much of the river into deep pools and reservoirs fed by small tributaries. With these radical changes, one can easily conceive how such uniquely adapted fish find themselves strangely out of place.

The primary goal of the recovery plan is to build and maintain self-sustaining populations of both species in their native habitat. If successful, the fish may be withdrawn from the endangered species list.

Dr. Bill Miller, a 1970 University of Idaho graduate now working with the USFWS, is the leader for the Colorado River Fishery Project. Joe Valentine, also working for the USFWS, is coordinating the efforts of the Colorado River Fishery Project, Utah State University, and the University of Idaho for the two-year study. An outline of the plan calls for extensive monitoring of the known populations of both species in order to determine characteristics and requirements of the fish's habitat. This would enable a "Critical Habitat" to be established and help identify other goals for restocking and improvement, where feasible. Enforcement of laws to protect the fish and a public awareness campaign of the fish's plight are also functions of the plan.

The University of Idaho was given the task of conducting laboratory tests on the chub and squawfish. This was an ironic turn of events because the university had previously tried to develop methods of exterminating or controlling populations of the northern squawfish, a well-known bane to sports fishermen of this area.

A scaled-down hatchery has been set up in the Fishery Resources Department's

*Oh, the gallant fisher's life  
It is the best of any;  
'Tis full of pleasure,  
Void of strife,  
And 'tis beloved by many*

Isaac Walton, *The Angler*

labs. The system is stocked with about 5,000 chubs and 10,000 squawfish, transferred from the Willow Beach National Fish Hatchery in Arizona. Working under the direction of Dr. Chacko, graduate student Devona Lam, and aides Christopher Herr and Sallie Bowman, are devising methods to culture the fish for eventual restocking. Their study includes an investigation of diet and growth, as well as behavior. Although Dr. Bill Miller's USFWS team was able to spawn the humpback chub artificially, spawning methods for the Colorado squawfish still need to be devised. Using the northern squawfish as an intermediary, Dr. Chacko will use photoperiod, water temperature, and hormonal injections to induce spawning.

In conjunction with Dr. Chacko, Dr. Bebeau and his assistant, Bonnie Bartoz, are studying the effects of toxic substances on the tissues and organs of the Colorado squawfish. Bioassays are set up to determine if pollutants in the river system are helping to hasten the fish's decline. This information could also give insights into the squawfish's adaptation to river conditions.

Ray Beamsdorfer, a graduate student working under the guidance of Dr. Ted Bjornn, is investigating the habitat selection and behavior of the endangered Colorado squawfish, using northern squawfish as a surrogate species.

If successful, this recovery plan could

illustrate that a well-worked compromise between industry and conservation can be achieved. Dr. Miller explains that the goals of the plan follow a somewhat recent attitude of wildlife agencies "to look at the total picture and consider all impacts of man on the environment." To answer the questions and achieve the goals set forth in this plan might help prevent another snail-darter situation when more development occurs on the river. A compromise is being sought, and in this case it seems likely to be achieved.



*Christopher Herr is a junior in Fishery Resources.*

**Promoting sound forest management to  
insure a timber supply for  
future generations.**

*Trees...America's  
great renewable resource.*



Box 49 ← Princeton, Idaho 83857

# The CEFES Program

by Cliff Todd

For each of the past 8 autumns, the University of Idaho College of Forestry, Wildlife and Range Sciences has hosted 30 students in the CEFES program. CEFES, or Continuing Education in Forest Ecology and Silviculture, is a 3-month intensive training program for the certification of silviculturists. The program was initiated by the U.S. Forest Service in a 1973 directive which stated that "all prescriptions for timber removal, reforestation, and timber stand improvement be made by trained and certified silviculturists."

Each region of the Forest Service is responsible for individual training and certification. The Northern Region, having implemented a similar program in 1972, elected to have the training done by the University of Montana, Washington State University, and the University of Idaho. The certification is done by a panel composed of a forest supervisor, a CEFES graduate, the regional silviculturist, a personnel officer, and representatives of each university.

One condition set by the universities for their participation was that the program be open to other government agencies and the private sector as well. As a result, in each class the majority of the participants are Forest Service personnel, and the remainder are BLM, BIA, state agency, and private industry employees.

The program begins in late summer with four weeks at the University of Montana. Classes are held in geology, climatology, tree physiology, silvics, and statistics. Between the first and second sessions, students collect data on a stand of their choice. Ultimately, this information will be used to write a prescription that will be defended both in writing and orally before the certifying board.

The following spring the second session is at WSU. This is another intensive four-week course. Here, soils are taught in more depth, along with synecology and

habitat classification. Mensuration and pathology are also on the list.

The last session, at the University of Idaho, occurs in the fall about one year after it all began. This last segment has the most practical orientation, with silviculture the core of the session. Support lectures in related disciplines include watershed management, wildlife management, range management, landscape architecture, systems ecology, and economics.

Two all-day field trips are taken to view various forest management techniques on Forest Service, University of Idaho, and private lands. The first field trip tours several stands that show the difficulties associated with grazing, harvesting methods, pathological problems, and natural causes. The second field trip is spent at the University of Idaho's Experimental Forest. Here, silvicultural treatments such as regeneration cuts and site preparations are examined. Prescription burning as a management tool is discussed at length.

With the completion of the UI session, the classroom segment of CEFES is over. Forest Service participants have until

early February to submit their written silvicultural prescriptions. This is no easy task, for the prescription may well contain hundreds of pages and many citations. It is similar to a master's thesis in scope.

The oral defense takes place in March. Students who pass (and not all do) will be certified for anywhere from one to three years.

The initial certification is not the end, however. As long as silviculturalists remain in a position that demands certification, two weeks of additional training are required every few years.

*Clifford Todd is a senior in Forest Resources Management.*

*Knowledge is the only form of wealth that increases when we give it away.*

Environmental Education  
Teachers Guide USDI,  
Bureau of Land Management



K. Carter



# New Life for an Old Facility:

## *Saving the Hatter Creek Enclosure*

by Michael E. Thompson  
and  
Eva L. Phillips

The East Hatter Creek deer enclosure, long the site of wildlife research, is now being considered for multiple forest uses.

The 800-acre facility was established in 1949 on the East Hatter Creek unit of the University of Idaho Experimental Forest in cooperation with the Idaho Fish and Game Commission. The purpose of the enclosure was to contain deer and elk for research while excluding cattle from grazing in the area.

As noted by James Peek, professor of wildlife resources, the area has had a long history of excellent wildlife research. However, the enclosure is now over thirty years old, and its condition is such that it no longer is an adequate barrier to the movement of deer or cattle. In fact, the work done by Thomas Owens, the facility's most recent researcher, was hampered by the condition of the fencing. Owens, a student of Peek, was researching habitat selection and movement patterns of white-tailed deer. The fact that his deer could move freely in and out of the enclosure made his work much more difficult than anticipated. Also, a three-year project initiated in 1977 by Owens concerning deer use of an experimental burn was nearly ruined when cattle grazing outside the enclosure found a way into the study area.

The maintenance of the fence was originally funded for fifteen years by the Idaho Fish and Game Commission. When these funds ran out, the area had to be maintained the same way as any other Experimental Forest facility—with funds from the sale of timber harvested from the school forest.

The question now becomes: what will be the fate of this research facility? Will it be allowed to deteriorate until it is no longer a deterrent to grazing cattle? Will

timber once again be harvested within its borders?

Frank Pitkin, the Forest Manager until 1979, had the enclosure slated for dismantling to make way for more "productive" forest uses. The responsibility for managing the School Forest was taken over by Harold Osborne following Pitkin's retirement in 1979. Osborne's plans for the East Hatter Creek enclosure are indefinite; he is confident, however, that its pattern of use will change.

Ultimately, a decision on this matter will be made by the Experimental Forest Advisory Committee. The committee is made up of FWR faculty and individuals representing all phases of natural resources management. The input of the committee members helps to ensure that the management of the Forest is in the best interest of all aspects of resource use.

The committee, which has been inactive for some time, must reorganize and reconvene to decide the type and level of use on this and all areas of the Experimental

Forest. Until this happens, Osborne's plans for the enclosure are tentative, but they include returning most of the area to the same use as the remaining 6300 acres. This would open the area to consideration for cattle grazing or timber harvesting.

Osborne has included the enclosure in his fifteen-year road plan, which is designed to make all portions of the forest accessible to students and researchers. He also points out that there are potentially harvestable stands of timber within the present bounds of the enclosure and he sees no reason why these could not be harvested. As well as being aware of the potential possibilities for development within the enclosure, Osborne is sensitive to several ecologically unique facets of the area.

One is a unique stand of ponderosa pine which Osborne is considering leaving as a natural site. With this designation, the stand of approximately twenty acres

*Continued on page 67*



S. Hieb

# Joe and Charley

by Kristine Jackson



Joe Ulliman

"Ask Photo Joe, he will know" is often heard at FWR. As Advisor to both the *Idaho Forester* and *The Snag*, the student bi-weekly, Joe Ulliman keeps an open door policy for all students. With a B.A. in English, he is well-suited for teaching our communications courses. His master's of forestry, emphasizing economics, and his Ph.D. in remote sensing form the foundation of Joe's expertise in remote sensing and aerial photogrammetry. Since his arrival at UI in 1974, Joe has expanded his research into new techniques of aerial photo interpretation.

Joe's teaching duties as a professor of forest resources include undergraduate and graduate instruction in aerial photo interpretation, remote sensing, and practicing their applications during summer camp.

Joe is also involved in the international exchange program at FWR. Currently, he is advising a Ph.D. student from India and a visiting Chinese scientist. He recently visited Kenya to present a symposium on remote sensing.

Joe is active in continuing education programs for the promotion of remote sensing in natural resource applications. He is chairman of the Remote Sensing Working Group of the Society of American Foresters and also holds office in the International Society of Photogrammetry.

Joe enjoys his 2.5 mile walk or bike ride to work each day. With three teenagers in the family, Joe and his wife, Barbara, pursue quiet activities such as hiking and playing chess. Every Saturday, one finds him busy baking breads, cakes, and other baked goods with his special sourdough starter. A special hobby of his is amateur photography.

With his command of English, remote sensing, and forest management, Joe brings us a unique combination of talent and guidance. We thank him for all he gives and does for the students of FWR.



Charley McKetta

As our "resident heretic," Charley McKetta brings a nontraditional perspective to FWR. He joined the college as

assistant professor of forest economics and experiment station economist in 1977. Charley teaches Forest Regulation and Finance, Topics in Forest Industries Management, and Economics of Conservation. He is also working on several research projects involving timber taxation, sustained yield as a source of instability, and fire management costs.

Charley received his B.S. in forest management from the University of Michigan in 1966 and a remote sensing Master's of Forestry from them in 1969. While traveling in Central America and studying tropical forest ecology in Costa Rica, Charley realized that the less developed countries' forest resource problems are more economic than biological. This discovery eventually led to graduate studies in forest economics and his employment at UI.

Before starting his doctorate at the University of Washington, Charley took an extended sabbatical. He worked in Santa Fe as a wood carver, handcrafting signs and furniture. After starving as an artist, he became a commercial pilot and flew charter on the Navajo Reservation. As a reporter for an Indian Community Action newsletter in the early 70's, Charley found himself the only "White Eyes" on Alcatraz during the Indian occupation.

Charley has been married to Judi, who's also an aviator, for about ten years now and has two little ones, Isla and Toshi. He's maintained his pilot's ratings and relaxes with his family by puddle jumping the back country in a school bus yellow Cessna 180.

He's beginning to settle down now, but has maintained a healthy cynicism about the religious aspects of forest management, if his contribution to this issue of the *Idaho Forester* is any indication. We students don't quite know how to take his teaching methods, such as impersonations of Sherlock Hemlock—master of forestry deduction, but we welcome his ideas to FWR.

# Earth Mother's Plant Corner:

## *The Legend of Earth Mother*

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by Earth Mother

A long time ago in the sleepy little world of the Forestry, Wildlife and Range Sciences building (FWR) there was a Dean. This man loved plants, and because the students came here to learn the ways of the outdoors (and natural resources), he wanted plants in the building to bring a little of the outdoors inside his world. So he let it be known that the FWR building would be blessed with greenery.

As the years passed the plants came to know many caretakers. Some took time and tender loving care to see that all were happy and healthy, while others merely poured water into their pots, not bothering to say hello to the plants.

Master Fred Johnson, overseer of the plant kingdom, soon found himself in a familiar dilemma. A new semester was beginning with no one to look after all of his vegetation children.

Many of the plants, meanwhile, were telling horror stories of past mistreatment to students returning from their summer adventures outside the world of FWR. One student was especially horrified to hear their little voices begging for water and a little attention. The sobs of "Nobody cares" could be heard all over the building. The girls could stand it no longer and hurried off to locate water for her newly made friends.

Quickly she returned and relieved her friends' drought stress. Mickey Stehr watched her as she carefully visited each plant, offering kind words with the long-awaited drink of water.

Fred entered the room as the girl knelt down to Aggie Aglaonema and offered the comforting words "If you want something done right, you have to do it yourself." After hearing that, Fred turned to see Mickey's approving smile and asked the girl if she wanted the job caring for the plants in FWR World. She gladly accepted the offer and began her new position immediately with much love and

devotion.

First of all, she had to get to know all the greenery under her care. Soon to become her favorite friend was Monster, the split-leaf philendendron on the second floor. He told her stories of years of abuse and neglect. Soon, other plants opened up by telling tales of past mistreatment. Ben Ficus, the fig tree, said he was overwatered for months and no one ever bothered to check his pot for excess water.

The poor girl was appalled. To let her green friends know she cared, she began a clean-up program to wash and polish all their leaves. She spent many hours shining leaves; then one day while talking to the ferns around the Snag, she heard a voice down the stair well. "Who have we here?" asked Charley McKetta, "Is that the Earth Mother?" Amused by his own comment, Charley remarked to the girl that in years past there had been another plant caretaker who talked to the plants and that she had been named the Earth Mother. So from that day forward the name stuck, and so the niche of Earth Mother (EM) again was fulfilled.

The new Earth Mother brought job to the greenery and brightened the lives of many in the world of FWR; new green babies were seen appearing throughout the building. Ah, the power of Nature.

Earth Mother is committed to the cause of "Greenation." In an attempt to greenate FWR World, she propagated baby spider plants and other species to distribute to the natives. Now, numerous green wonders are living in FWR World, thanks to the Earth Mother.

Everywhere you look, you'll see signs of the Earth Mother's touch. If you've been wondering how she does it, the answer is simple. The key to success with plants is Tender Loving Care, and a few kind words.



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*Earth Mother is an appointed position within FWR.*

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*Water the root to enjoy the fruit.*



# Molly Stock:

## Two Prizes, One Year

from the Fall 1980 Alumni Newsletter

Molly W. Stock, associate research professor of forest resources, has won the FWR Outstanding Research Award for 1979. The award, given in recognition of "an individual or research team in the college who in the last two calendar years has presented the results of a research effort which demonstrated excellence in conception, design, execution, and reporting," was announced in April, 1980.

Stock's work, now commemorated by a plaque hung in the college's administrative wing, has "profound implications in integrated pest management, population dynamics, and basic taxonomy," said Ron Stark, professor of forest resources.

Forest managers and scientists have long been troubled by the inconsistent behavior of forest insect pests, particularly the Douglas-fir tussock moth, the mountain pine beetle, and the western spruce budworm. Why, for example, do different populations of the same insect vary in susceptibility to insecticides? What impels sudden and destructive insect outbreaks? What is the mechanism by which insect populations spread?

Dr. Stock's research demonstrates that such questions may yield to integrated research which includes genetic concepts heretofore neglected in forest entomology. She found that insect genetic mechanisms contributing to outbreaks, insecticide tolerance, dispersal, and other behavioral patterns may vary significantly with insect population location and developmental stage. A fuller understanding of these genetic mechanisms will lead to more effective pest management strategies for these forest destructive insects. As only one example of the several implications of this research, Dr. Ron Stark points out that "these studies open new avenues for refinement of population theory and provide some



promise that incipient outbreak populations may be detectable by genetic techniques."

That Dr. Stock's research adds significantly to international entomological knowledge is attested to by 6 grants, 14 reports, 8 publications, 7 presented papers, and an invitation to present her results at the International Congress of Entomology held this August in Japan.

All of this would supply ample activity for anyone. However, concurrently with her insect population genetics research—which she continues to pursue—Dr. Stock has been engaged in another fairly long-term project. In general, this project, too, has been a genetic undertaking—but anthropogenic, not entomological. And its result is at least as exciting as those for which she has received so much recognition.

On July 18, 1980, Molly and David Stock became the parents of Katherine Stock, who joins older brother Joe in yet another long-term project which will, no doubt, provide their parents with many years of diverting behavioral observation.

Continued from page 23

naught if your starter rope breaks on the first pull and you have no replacement.

3. Tow a trailer behind your pickup truck. You will be able to almost double your wood hauling capacity at a low cost/cord/mile.

4. Do not overload your vehicle. Haul at capacity, but do not break it down. Vehicle breakdowns are a sure way to very expensive firewood.

5. Work and drive safely.



Donald Hanley is Extension Forester for the College of Forestry, Wildlife and Range Sciences.

*Inductive logic is much more difficult—but can produce new truths.*

R. A. Heinlein,  
*The Notebook of Lazarus Long*

Continued from page 21

<sup>2</sup> Martin S. Wolfe. 1979. Managing the patient with giardiasis: clinical, diagnostic and therapeutic aspects. Waterborne Transmission of Giardiasis EPA-600/9-79-001. June 1979, pp. 39-52.

<sup>3</sup> Center for Disease Control. 1977. Intestinal parasite surveillance, annual summary 1976.

<sup>4</sup> M.G. Schultz. 1975. Giardiasis. JAMA 233:1, 383-1, p. 384.

<sup>5</sup> Gunther F. Craun. 1979. Waterborne outbreaks of giardiasis. Waterborne Transmission of Giardiasis. Proc. of a Symposium Sept. 18-20, 1978. EPA-600/9-79-001. June 1979, pp. 127-147.

<sup>6</sup> Robert B. Davies and Charles P. Hibler. 1979. Animal reservoirs and cross species transmission of *Giardia*. Waterborne Transmission of Giardiasis. Proc. of a Symposium Sept. 18-20, 1978. EPA-600/9-79-001. June 1979, pp. 104-125.

<sup>7</sup> Ibid, pp. 121-123.

When some remote ancestor of ours invented the shovel, he became a giver: he could plant a tree. And when the axe was invented, he became a taker: he could chop it down. Whoever owns land has thus assumed, whether he knows it or not, the divine functions of creating and destroying plants. Aldo Leopold



IDAHO'S FORESTS —  
ARE YOUR FUTURE

**KEEP IDAHO  
GREEN**

Governor's Keep Idaho Green Committee  
Idaho Department of Lands

Climb the mountains and get their good tidings. The winds will blow their own freshness into you and the storms their energy\* while cares will drop away from you like the leaves of autumn.

John Muir





Sometimes in the evening when it's all kind of still  
Sweet mountain music flows over the hill,  
On tomorrow's city breeze.



Sometimes when the nightbirds are scolding the mist,  
I think I might know where heaven is  
It's just above the trees.

Charlie Daniels  
High Lonesome



# College Capers



*R. Myers*

# The Next Best Thing to Welfare

by a Smokejumper

"That dog is like a smokejumper," mused the jump base foreman between sips of beer, as he watched a neighbor train his hunting dog. "You slap him and he responds." A *National Geographic* article described smokejumpers as "parachuting shock troops," and "commandos of the fire-fighting forces." To another author, they were "luminescent flares of American youth and courage, living a legend in their own time." Smokejumpers themselves often have a different view of their occupation. "Smokejumping is the next best thing to welfare," read a bit of graffiti inscribed on the bathroom wall at the Fairbanks jump base. Another inscription expressed a philosophy worthy of DesCartes: "Am I a SMJ dreaming I am a butterfly, or a butterfly dreaming I am a SMJ?"

Just what is a smokejumper? Misconceptions which seem to abound among the media and nonjumpers cover a wide spectrum. They range from macho heroes who risk life and limb to protect forests from the ravages of wildfire, to bums out to make a fast buck in the summer in order to spend the winter travelling or skiing. Then there is the "Walt Disney" image of the athletic young college student determined to save Bambi and the rest of the forest creatures from incineration. Somehow, these images never seem to paint a realistic picture of smokejumpers, and most smokejumpers never have an opportunity to express their views of themselves and their job in the media. This short article is intended to depict some aspects of the job—and the jumpers—as two jumpers see them.

Smokejumping was developed as an experiment in the late 1930's, in response to a Forest Service need to suppress remote fires quickly, while they were still small. After the initial experiment succeeded, the first fire jump was made in the summer of 1940 on the Nezperce National Forest of Idaho. Setting a pattern that has endured for forty years, two smokejumpers were dropped as near



to a small fire as safety permitted. Their equipment, consisting of tools, food, water, and sleeping bags, was dropped on a separate cargo 'chute. After extinguishing the fire, the jumpers packed their gear out to a trail and then back to civilization.

Jumping worked well. It enabled fresh, rested firefighters to reach a fire quickly and extinguish it before it had a chance to grow substantially. This gave jumpers a tremendous advantage over ground crews, who often arrived at fires exhausted from hiking in and then confronted a fire which had spread as they hiked. Jumping was economical, because it cost less in terms of man-hours and aircraft time to drop jumpers than to pay a larger crew to hike in and spend more time on the same fire. The system expanded, until more than four hundred jumpers were employed seasonally at twelve bases throughout the Northwest and Alaska in the late 1960's.

Each spring, new smokejumper candidates are selected from among several thousand applicants to fill a few dozen vacancies. The selection criteria are:

previous fire experience, including a minimum of one season in forests of the western United States; good recommendations from former supervisors; and good physical condition. Previous parachuting experience is not necessary, since the Forest Service uses parachuting as a novel means of transporting trained firefighters. They believe that any firefighter in good physical condition, with the will to do so, can be taught to parachute in three to six weeks. Once the one-minute ride to the ground is over, parachuting has little to do with the actual fire suppression.

The "new man" training is rigorous, varying from three to six weeks in duration. Running and calisthenics consume several hours each day. Many hours are spent on the ground units where the new men practice parachute landing rolls, "letdowns" for getting out of a tree, and aircraft exits. They practice donning their special padded jump suits, harnesses, and parachutes. At first, perfection is stressed, for a mistake in procedures or gear hookup can have serious consequences. As they become more proficient, speed is stressed, because during a fire call the jumpers



*That man is richest whose pleasures are the cheapest.*

Henry David Thoreau

must be able to "suit-up" and "chute-up" rapidly. They spend days in the field practicing fireline construction, crosscut and chain saw use, tree felling, tree climbing and cargo letdown, and map and compass use. Classroom hours are spent learning wilderness ethics, parachute malfunction procedures, parachute maneuvering, first aid, fire weather, fire behavior, and other miscellaneous skills.

If the new man performs all of the ground training satisfactorily, he can begin to make actual parachute jumps. The first jumps are made into a large meadow where there is little danger of landing in trees or rocks. This, coupled with the fact that they are let out slightly higher than the normal jump altitude of fifteen hundred feet, gives new men a chance to get the feel of maneuvering and landing without worrying about coming down in rough terrain. With each subsequent jump, the "jump spot" is moved closer to the trees, and then into progressively smaller meadows, until the spot becomes merely a small opening in the trees. New men are sometimes dropped into unbroken canopy so they can experience being hung up in a tree. All jumpers are taught special procedures in the event of a water landing, and some bases drop their new men into a lake to practice those procedures. After successfully completing all aspects of training, the new men are cleared to make fire jumps and are interspersed on the jump list so that each has an experienced jump partner.

The new man now begins making fire jumps, and he soon learns the agonies and pleasures that fire jumps can bring. He will know long, tiring patrols in a cramped jump ship that heaves, bucks, and yaws from side to side in turbulent afternoon air. He will know the sinking, hollow feeling in his guts as the plane banks over a fire—his fire—and he looks down and sees nothing but rocks and trees and more rocks and a single burning snag on the edge of a cliff. He will know the bone-jarring thump of a high elevation landing, and the feeling of disbelief and amazement as he walks away, if he is

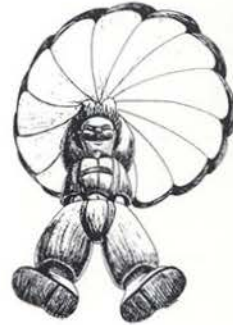


lucky, from a hard landing in a rock slide. He'll endure long, exhausting pack-outs with 120 pounds of gear on his back, or hard, breathless climbs up steep Salmon River slopes in the heat of the afternoon.

But it's not all misery and hard work. The job description states something to the effect that the primary job of smokejumpers is to suppress wildfires in "remote, mountainous areas of the western United States and Alaska." That's the "icing on the cake," so to speak. The job can take smokejumpers anywhere from New Mexico to the Arctic Circle, and they'll have the opportunity to work in some of the most scenic areas in North America. The fringe benefits often include fishing in pristine lakes and streams, or days and weeks spent deep in wilderness areas. Not many people

have been in places like that and have been paid for it as well.

Sometimes jumps are really good deals. After the slamming shock of the parachute opening, the jumper drifts down through cool, thick, early morning air toward a dark green wilderness meadow. A hawk circles lazily five hundred feet below, and a small lake glistens like a polished turquoise jewel amidst the white granite boulders of a nearby cirque basin. The air is quiet, save for the far-off throb of the jump ship's engines and the sighing of the air as it rushes through the parachute shroud lines and steering slots. The fire below is confined to one snag and a tiny patch of ground around it. A jumper summed up the feelings of many about fires like that. "The IR crews can have those big gobblers," he said, "just give me those little two-manners out in the wilderness."



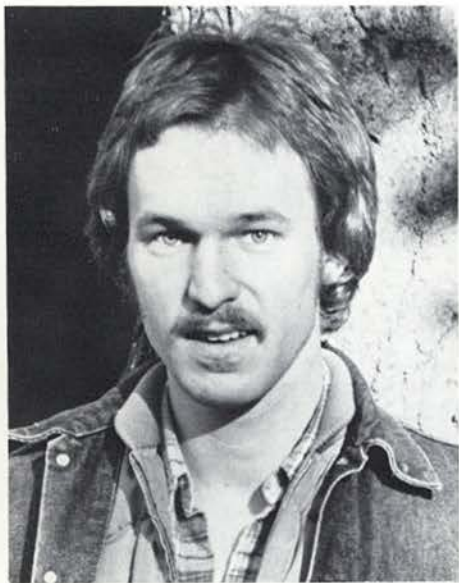
*"... the fundamental ideal of forestry is in the perpetuation of the forests by use. Forest protection is not an end in itself; it is a means to increase and sustain the resources of the country and the industries which depend on them."*

President Theodore Roosevelt, announcing a program that set aside 132 million acres of public land as forest reserves, 1901.

# Outstanding Seniors

## Rick Myers

The Department of Wildlife Resources and the College of Forestry, Wildlife and Range Sciences each honored Rick Myers as their Outstanding Graduating Senior for 1980. Throughout his undergraduate studies, Rick assisted in numerous FWR field studies, including bighorn sheep in central Idaho, grizzly bears in Glacier National Park, badgers in southern Idaho, wood ducks along the Coeur d'Alene River, and waterfowl banding in south-eastern Alberta. In addition, he conducted dietary analyses of songbirds, small mammals, badgers, and bald eagles. Besides his participation in many FWR and Department of Wildlife Resources activities, Rick worked as a photographer for the 1979 *Idaho Forester* and other FWR publications as well.



Rick Myers

Rick, who graduated in the upper 4% of his class with a B.S. in Wildlife Resources, plans to pursue advanced degrees in Wildlife Science involving research in predator ecology. This spring and summer he plans to assist in a black bear study in northern Idaho.

Rick extends his thanks to the College of FWR for this honor and especially to the Department of Wildlife Resources for their support of him as an undergraduate.

## James Spicer

The Department of Forest Products' choice for Outstanding Senior of 1980 was James (Jim) Spicer. Jim, who was enrolled in some graduate courses in fall '79 and spring '80, is now a full-time FWR graduate student working under forest resources professor Jim Moore on timber management, with emphasis on logging operations and harvesting systems, fire management, and silviculture.

Spicer's master's research and thesis topic relates to a model for estimating mortality to interior Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) seed trees following logging and prescribed burning in seed tree cuts. His work is funded by and being conducted on the UI Experimental Forest. He expects to complete his master's in the summer of '81.



James Spicer

Spicer eventually plans to work for private industry, though he does not rule out a federal agency, given the right position.

## Jeffrey L. (Jeff) Foss

Jeffrey L. Foss was selected Range Resources' Outstanding Senior. Foss, his wife, and 5-month-old daughter live in Loa, Utah, where he is a range conservationist with the Forest Service on the Loa District of the Fishlake National Forest. Foss plans to specialize in revegetation, working with the Forest Service or possibly for natural resources-involved private industry. Eventually, he said, he'd like to work in public relations, bridging the "misinformation" gap between natural resources issues and the public.

## Bruce P. Andersen

Outstanding Senior of the Department of Wildland Recreation Management for 1980 was Bruce P. Andersen. Andersen recently completed a 6-month appointment as an outdoor recreation planner for the BLM in Ely, Nevada, where he initiated work on off-road vehicle designation and conducted recreation inventories. Presently, he is a part-time student at Utah State University and is considering the future possibility of a master's program in recreation and public relations/communication.

As to long-term plans, Andersen is considering state and county park systems and perhaps the private sector. However, he says, "Teaching has always been a strong interest—perhaps an ultimate goal, though not for the near future."

## Laine Melbye

Laine Melbye was the Department of Fisheries Resources' choice for the 1980 Outstanding Senior. A member of the Palouse Unit of the American Fisheries Society, Ms. Melbye plans to return to

*"The right to search for truth implies also a duty. One must not conceal any part of what one has recognized to be true."*

*- Albert Einstein*

FWR for graduate studies. In the meantime, she has been analyzing data for the Department of Fisheries Resources. Ms. Melbye's accomplishment is all the more noteworthy in light of the fact that along with her studies, she is raising three young children.

#### Julie Ledbetter

The Department of Forest Resources' 1980 Outstanding Senior was Julie Ledbetter. Among her numerous activities, Ms. Ledbetter represented the students on the FWR Executive Committee. Ms. Ledbetter was recently a temporary forest technician for the U.S. Forest Service in North Fork, Idaho. She is currently looking for a permanent position in private industry, particularly in computer modeling. However, she intends



Julie Ledbetter

to return someday to the classroom, either to complete a B.S. in computer sciences or to pursue graduate work in forestry.



*Animals can be driven crazy by placing too many in too small a pen. Homo sapiens is the only animal that voluntarily does this to himself.*

R. A. Heinlein,  
*The Notebook of Lazarus Long*

## CONGRATULATIONS, 1981 FORESTRY GRADUATES

*We hope your years of professional training in forest-related resources will lead to a challenging career which contributes to the long-range benefit of both mankind and the world environment.*

# Potlatch

Tree Farmers and Wood Converters

Potlatch Corporation  
P. O. Box 1016  
Lewiston, Idaho 83501

# Changes in FWR Faculty

The 1979 *Idaho Forester* featured an article on all FWR faculty. This year, we are presenting an update of faculty changes during the last year. We welcome the new members to FWR and wish the departing ones the best of luck in their adventures. My thanks to the department secretaries who provided the information for this article.—Editor

R. Gerald (Gerry) Wright has joined FWR as associate professor of Range Resources and Project Leader (biology) of the NPS/FWR Cooperative Park Studies Unit. Besides his CPSU duties, Wright team-teaches an upper-level course: Models for Resource Decisions. Wright, a 1972 graduate of Colorado State University, holds a Ph.D. in range systems ecology.

Harry W. Lee has been appointed instructor in the Department of Forest Products, where his primary duty will be instructing a course in forest harvesting/engineering and developing a new course in forest roads engineering. Harry is currently completing his Ph.D. at UI.

Larry C. Tennyson came to the College of Forestry in August 1980, as an assistant professor of watershed management, Department of Forest Resources. He holds a Ph.D. in forest hydrology from the University of Missouri and received the University of Missouri Teaching Award in 1976. Currently, he is teaching watershed management and advanced water quality courses.

In August 1980, Kenneth Mitchell, associate professor of mensuration in the Department of Forest Resources, left FWR and the U.S.A. to work for the research branch of the Ministry of Forestry for the Queen, in Victoria, British Columbia. He was replaced by Charles Stiff, who arrived in January from Louisiana State University with his wife and their five-year-old son. Dr. Stiff is currently teaching mensuration.

Ronald W. Stark, who is on leave for two years, left the College of Forestry in January to be program manager for CANUSA-WEST (international spruce budworm research and development program) in Portland. Molly Stock has taken over Stark's advisees, his graduate seminar, and his role as coordinator of the BIFAD Strengthening Grant.

Wendel Hann has been at UI since fall '79, when he started work on his Ph.D. He was to return to Missoula, Montana, last month to his U.S. Forest Service job as a synecologist with the forest pest management and range management and continue his research. The Forest Service has granted permission for him to teach at UI during the spring semester. He is presently teaching Range Communities and assisting Dr. Hironaka in teaching both range ecology classes. Dr. Hann will return to Missoula at the end of the semester.

John Mitchell left the Department of Range Resources in January. Dr. Mitchell is currently employed at the Rocky Mountain Forest and Range Experiment Station in Fort Collins, Colorado. While at FWR, he taught Range Methods and Techniques, Forest Ecology, and summer camp.

Ken Sanders has accepted the newly created range extension position in Twin Falls. He has been employed by the university since 1975. Dr. Sanders taught Range 4-H Productivity, General Range Management, and Range Communities while in Moscow.

Joseph E. Hoffman, associate professor of Wildland Recreation Management, left the university early in January to assume his new responsibilities as an international training administrator for the U.S. Department of Agriculture in Washington, D.C. Dr. Hoffman will be in the International Training Division, which is responsible for providing supervision and guidance in all facets of training foreign scientists, technicians,

and leaders in all professional fields of agriculture and natural resources.

Dr. Christine Moffitt has joined the Department of Fishery Resources as a visiting research professor. She will serve as a staff member of the Idaho Cooperative Fishery Research Unit and will participate in the Unit's research program on Snake River anadromous fishes.

Our new statistician, Barbara Bajusz, arrived at the University of Idaho in January. Her husband, Brian Dennis, arrives in March to teach part-time until the summer, when he will start full-time in Forest Resources as assistant professor. Barbara is the consultant for the faculty and graduate students in the College of Forestry, Wildlife and Range Sciences. She is teaching Biometry and Basic Statistics.



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John Schenk, professor of entomology in the Department of Forest Resources, is on sabbatical leave until the end of August 1981. Dr. Schenk is now at Oregon State University in Corvallis pursuing an interchange of ideas for both teaching and research with his peers in the Department of Forest Management, Forest Science, and Entomology. He will return here in August to resume his teaching.

Kjell A. Christophersen, assistant professor of resources and forest economics in the Department of Forest Products, is on leave in Washington, D.C. He is currently detailed to the Timber Management Resource and Bioresource Group with the U.S. Forest Service. Dr. Christophersen is working with USAID on international projects assessing the forestry needs of underdeveloped countries.

Leonard Johnson, associate professor of forest products, is currently on sabbatical. He is attending West Virginia University in Morgantown, West Virginia, taking courses toward his Ph.D. and will return to UI this summer.

Ruben Guevara, a graduate student working on his Ph.D. is on a special program to complete his research work at Weyerhaeuser Technology Center in Tacoma, Washington. This is the first cooperative program of this nature between FWR and private forest industry.

James Congleton joined the Department of Fishery Resources in November 1980, where he is serving as assistant leader of the Idaho Cooperative Fishery Research Unit and associate professor of fishery resources. He received a Ph.D. degree in marine biology from Scripps Institute of Oceanography in 1970, worked several years for a Seattle consulting firm, and taught at the University of Washington before coming to UI. Jim's research interests are concerned with rebuilding Idaho's anadromous fish stocks.

Craig MacPhee, professor of fisheries management, has retired from the Department of Fishery Resources. Dr. MacPhee's service with the department covers about a quarter of a century of teaching and research. During his tenure, Dr. MacPhee served as a cooperator with the Idaho Department of Fish and Game, Federal Water Pollution Control Administration, Bureau of Commercial Fisheries, U.S. Fish and Wildlife Service, and the Water Resources Research Institute.

James R. Fazio, head of the Department of Wildland Recreation Management, is on leave during the 1980-81 academic year to serve as a public information specialist in the Washington, D.C., office of the Bureau of Land Management. Dr. Fazio is the first faculty member from any university to serve in this capacity in the Bureau's Office of Public Affairs. He is responsible for liaison with the Division of Recreation and Cultural Resources, as well as serving as acting coordinator of the bureau's Environmental Education Program.

Robert C. Heller, research professor of remote sensing since 1974, will retire at the end of this spring semester. Dr. Heller taught remote sensing of the forest environment, advanced remote sensing, and a remote sensing seminar. His research activities included predicting forest pest outbreaks, estimating boating use on rivers and lakes, gathering information on irrigated croplands, and assessing riparian habitat. Dr. Heller traveled extensively to present research papers in Paris, Rome, Freiburg, Oslo, Helsinki, and Buenos Aires and also taught a remote sensing for natural resources inventory course in the People's Republic of China.



---

*Wisdom is not a knowledge of many things, but the perception of the underlying unity of seemingly unrelated facts.*

John Burnet

---



# The Partridge Memorial Scholarship



Last year, the Partridge family chose to mark the passing of their daughter, Julia, with a gift to the FWR Scholarship fund to establish a memorial scholarship. More than 100 friends and athletes have contributed to the fund.

Julia Partridge was born and raised in Moscow. She always had three loves—natural science, competitive sports, and the out-of-doors.

She won her first science award at age 10 for a brine shrimp hatching study. The next year she won the grand award at the Inland Empire Science Fair for "Light and Seed Treatment Influences on Seedling Growth." The original research was done with a forestry graduate student, Monty Norman. As a 7th grader, she won a grand award for a working model of "Land Use Affects Waterflow and Quality." The next year it was a grand award for "The Streaker," research on a meteor she had sighted. Her fourth year her grand prize was for research on the effects of mine wastes in the Coeur d'Alene River on pondrosa pine trees.

Julia enjoyed the outdoors very much and was involved with forestry and fish-

eries work as a member of one of the FWR summer field crews. Her summer jobs included laboratory assistant in the vet science labs and the forestry labs, and research work in a fishery lab. She also ran a Christmas tree business with her sister for several seasons to earn money to attend ski races.

She started sports competition as a four-year-old in gymkhanas. Julia won regional cross-country ski races and was a member of the Junior National Ski Team. She competed in national meets in cross-country running, track, and race-walking from the age of 12. Julia was the first north Idaho athlete to win a National Championship when she won the Junior Olympic race-walk.

She was invited to go to Woodside High School in Redwood City, California, for her senior year to race with the Woodside Striders, a men's and women's AAU team. She accepted the invitation and moved to California, where she graduated from Woodside High School with honors.

While in California, she was a member of the Men's National Championship three-man team in the 100 kilometer national meet. She was the first woman to ever compete in a Men's AAU National Championship meet in Seattle. She broke the world's record in the Women's 100 kilometer race-walk with a time of 14 hours, 58 minutes. At age 15, she won the Idaho Woman Athlete of the Year award.

This school year, the Julia Marie Partridge Memorial Scholarship was awarded to Cynthia L. Fleming, a senior in forest resources from Morro Bay, California. Cyndy is the undergraduate representative to the Executive Council of the College and a member of the Student Affairs Council. She is also active in many aspects of forestry as a member of the Society of American Foresters, Associated Foresters of UI, American Forestry Association, Audubon Society, and the Idaho Conservation League. Cyndy likes to run and has competed in

many races to benefit the American Red Cross and the American Cancer Society.

The Julia Marie Partridge Scholarship is open to females who are interested in natural sciences at the University of Idaho. The applicant must also be an active competitor in one or more of the following: race-walking, cross-country skiing, distance or cross-country running or other endurance sports. For more information, write to the Chairman, Scholarship Committee, College of Forestry, Wildlife and Range Sciences, University of Idaho.



# Student Clubs

## Student Affairs Council

by Amy Gillette

The Student Affairs Council (SAC) was approved as a standing committee by the FWR faculty on September 20, 1971. The council members represent all interests within FWR and comprise a membership of close to forty. Members of the council include a representative and a faculty advisor from each of seven major clubs in the college, editors of *The Snag*, *the Idaho Forester*: *A Magazine of Natural Resources* and several student representatives to the Executive Council, and to college and departmental faculty meetings. All members serve on the council for one year. Officers include two co-chairmen, a secretary, and a treasurer.



G. Lackey

### Student Affairs Council

The main objectives of SAC are to serve as a channel of communication for student interests within the College of FWR and to coordinate and promote college-wide activities which will provide interaction and fellowship between departments. Some of the annual activities are Job Opportunities Night, the Pancake Breakfast, and Natural Resources Week. Of these, Natural Resources Week, occurring in late April, is the most time-consuming; every member of SAC becomes involved in organizing the events. Work begins early in the spring semester to schedule the movies and speakers and arrange the identification contest, Mud Run, and barbecue. Because of this coordination and hard work, this week is usually a tremendous success.

The primary goal of the council is quite clear and sound: to achieve "good relations" among organizations, students, and faculty. Dealing with a college of

approximately 750 students demands much time and effort to accomplish this goal, but council members are optimistic and strongly encourage participation from all students. Involvement has been increasing each year, but SAC would like to see it grow even more, and asks students to bring their ideas and suggestions to the council.

The Student Affairs Council is definitely a worthwhile organization, and demonstrates its value by promoting communication among students, faculty, and organizations. Due to the ambition and diligence of the council, many activities are provided to broaden the education and growth of students in the College of Forestry, Wildlife and Range Sciences.

*Amy Gillette is a junior in Forest Resources Management.*



G. Lackey



Palouse Chapter

## CONGRATULATIONS GRADUATES!

*Good luck in the future*

To those whose quest is  
beauty, beauty is universal.

Gwen Frostic

## American Fisheries Society

by Brad Shepard

The Palouse Unit of the American Fisheries Society is an organization of fishery biologists, students, and professors that promotes the fishery resource and profession while having a good time. Current paid 23-person membership comprises 9 graduate students, 9 undergraduate students, and 5 faculty and staff. Unit meetings are generally scheduled for the second Tuesday of each month. Meetings are open to the public and typically include a presentation by a guest speaker and a short business meeting for the members. Paul Tappel has made a special effort to contact interested people by mail to inform them of meeting times in hopes of increasing our membership. The following presentations were given at our meetings during the past year:

1. Ted Blahm of the Bureau of Commercial Fisheries talked on the effects of the May 18 eruption of Mt. St. Helens on the nearby river systems. He showed some excellent before-and-after slides documenting the devastation.
2. Jerry Friars of Washington State University spoke on the possible management implications of manipulating fishery stocks through genetic recombination.
3. Thomas Wesche from the Wyoming Water Resources Research Institute presented his research on fish habitat requirements.
4. Steve Pettit of the Idaho Department of Fish and Game spoke on steelhead in Idaho. Steve showed his great fishing slides and made us envious of his fly-fishing prowess.
5. Kristine Moffit from the Fish and Wildlife Service spoke on shad in the Connecticut River.



M. Reynolds

### American Fisheries Society

Two picnics and a wild game and fish potluck were sponsored by the Palouse Unit. The spring picnic was held in Klemgaard Park (near Pullman, Washington) on Saturday, April 19, 1980, and a raffle was held which offered as prizes a Coleman cooler, fillet knives and assorted hand-tied flies. The fall picnic was held in Moscow at Ghormley Park. During this picnic, a scrappy undergraduate softball team managed to defeat the more experienced graduate players. The picnic was attended by about 60 people. Our wild game and fish dinner was held in early December in Moscow. Plenty of great food and drink, a humorous slide show, and a large raffle

provided a good time for all. Nearly 100 people attended.

The Palouse Unit's latest effort is to get more involved in land management issues that affect fish. Our Resolutions Committee is responsible for reviewing and commenting on such things as timber harvesting and road-building practices, the "Sagebrush Rebellion," dredge mining for gold, and the level of state funding for fish and game.

*Brad Shepard is a graduate student in Fishery Resources.*

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*When young, sow wild oats;  
when old, grow sage.*

## Associated Foresters

by Cindy Lackey

What happened to the Forestry Club? A year ago, the Forestry Club and the student chapter of the Society of American Foresters merged to create a stronger, unified organization—the Associated Foresters. This united effort has made the club one of the fastest growing clubs on campus. Membership has more than tripled in the last three years. This rapidly growing membership reflects the interest and enthusiasm within the club.

The Associated Foresters offers all interested students the opportunity to learn practical field skills and participate in a professional organization.

Activities are an integral part of the club experience. Firewood cutting, raffles and getting donations are the major fund-raising projects. Funds are used to sponsor the Logger Sports Team, educational programs, and social events.

Underclassmen and transfer students are encouraged to contribute new ideas to our program. Rewarding experiences and new friends are here for those who take the initiative. So come give us a try. We welcome everyone!

*Cynthia Mitiguy Lackey is a senior in Forest Resources Management.*

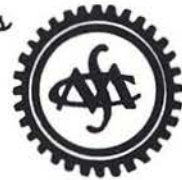


C. Harpham

## Associated Foresters

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## Forest Products Research Society

by Frank Sutman

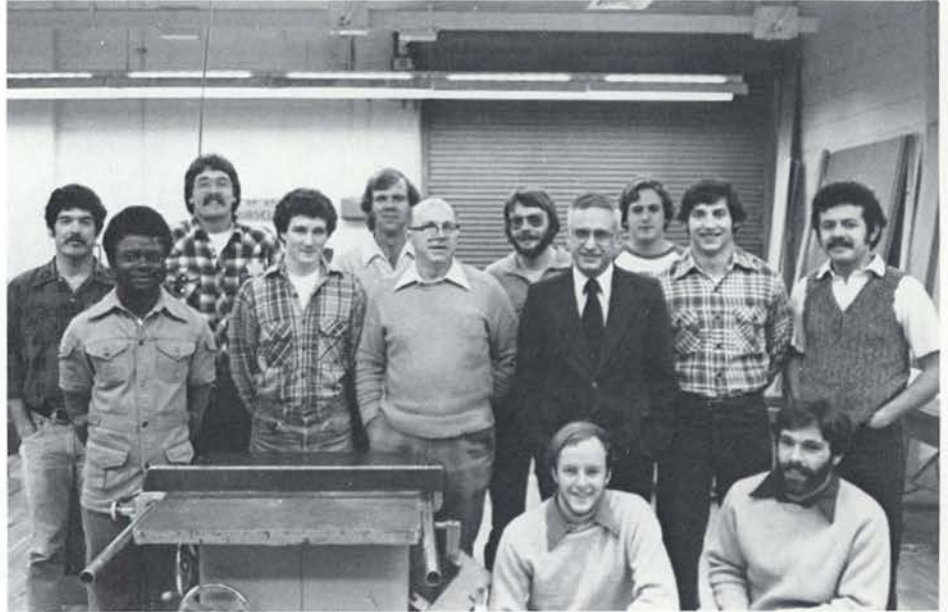
The Forest Products Research Society is an international professional organization combining the many facets of the wood products industries. The UI has a student chapter which is run through the Forest Products Department. Membership is open to anyone with an interest in the field.

Currently, the most important chapter project is the planning and development of a summer internship program. Our faculty adviser for this undertaking is Dr. Ken Sowles. The program, when completed, should allow interested forest products students to take a three-month, or six-month, formal internship with one of several forest products companies within the Pacific Northwest. John Worster and Brian Woodard are co-chairmen of the planning committee.

The local chapter also schedules guest speakers for talks on campus and an occasional movie. A club tradition is the Annual Howe's Happy Hour Pig Roast, held in late April or early May.


Club officers for 1980 were: Glenn Ford - Chairman; John Worster - Vice Chairman; and Bob Patten - Secretary/Treasurer. Officers for 1981 are: Frank Sutman - Chairman; Brian Woodard - Vice Chairman; and Dave Strottman - Secretary/Treasurer. Meetings are held about every three weeks; notices are posted. Anyone interested, please attend. You can obtain additional information on FPRS in the Forest Products Department office.

*Francis Sutman is a senior in Forest Products - Science/Engineering.*




M. Reynolds

### Forest Products Research Society



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## The Range Club

by Doug Bizeau

The Range Club again held a fund-raising raffle during the fall semester. The winner was offered the choice of a rifle, shotgun, goosedown sleeping bag, or cross-country ski package. The club members also helped stage the Fall Fling and the Pancake Breakfast.

At one of the club meetings, John Mitchell of the Range Department faculty, gave an informative slide-talk on the eruption of Mt. St. Helens. At an Idaho Section of the Society for Range Management meeting, club members heard a talk on noxious weed control by Don Thill of the Weed Science Department.

During the spring semester, the club built and repaired fences on the University of Idaho Experimental Forest to raise money and gain work experience. Next February, a team from the Range Club will represent the University of Idaho when they compete against student teams from many universities in the plant



M. Reynolds

## The Range Club

identification contest. This contest will be held at the annual National Society for Range Management meeting in Calgary, Alberta.

The Range Club is a student chapter

of the Society for Range Management and welcomes interested students to its meetings.

*Doug Bizeau is a senior in Wildlife Resources and Range Resources.*

# We're with You all the way!



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*Adventure is not in the guide-  
book and Beauty is not on the  
map.*

*Seek and ye shall find.*

## Wildland Recreation Association

by Jane Mulhall

The Wildland Recreation Association (WRA) is a student organization designed to further our members' appreciation and knowledge of the field through activities such as guest speakers, field trips, and social functions.

This year, we've had speakers from outside agencies, such as the U.S. Forest Service, National Park Service, BLM, and Army Corp of Engineers, as well as graduate and undergraduate presentations. In addition, the group has worked with local conservation groups on current issues.

In order to promote interaction between faculty and students, the association organized various social functions. One of these was a farewell potluck for Yen Ling Chang, a visiting scholar from the People's Republic of China who studied our National Park System. She is hoping to create a similar system in her country.

The WRA is a student chapter of the Idaho Recreation and Parks Society.

All interested persons are welcome at our meetings.

The board members for 1980-1981 were Nancy Ray, Michela Touhey, Greg Neal, Steve Ables, and Jane Mulhall.

*Jane Mulhall is a senior in Wildland Recreation Management.*

*Play for more than you can  
afford to lose, and you will  
learn the game.*

- Churchill



M. Reynolds

### Wildland Recreation Association

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*Man always kills the thing he loves, and so we pioneers have killed our wilderness.*

*- Aldo Leopold*

## Xi Sigma Pi

by Jeff Buhr

The intention of Xi Sigma Pi is to honor the student who excels scholastically and has the personality and professional attitude that will make him successful in a natural resources profession. The society aims at stimulating competence in natural resource management and bringing together in good fellowship those students who have shown exceptional ability.

The society draws its members from all departments in the College. Through the society's activities, the members get a chance to interact with people outside of their majors and to promote the professions in natural resources. The society advocates the development of leadership through participation in the clubs of the college.

This year, Xi Sigma Pi finished the large activities board in the main lobby of the College of FWR. The board is one step in helping to improve communications among students, clubs, and faculty.


One of the major objectives of the society has been to build interest in the society and bring more respect and honor to Xi Sigma Pi. The society is considering changing the chapter constitution to make the entrance requirements equal with the national constitution and to make membership into Xi Sigma Pi a more prestigious accomplishment.

This past fall, the society inducted 25 new members and plans another small induction ceremony this spring. This new group of initiates is symbolic of the quality of students being graduated from the College of Forestry, Wildlife and Range Sciences.

*Jeffrey Buhr is a senior in Forest Resources Management.*



## Xi Sigma Pi



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# Alumni News

Warren H. Bolles 1926

Just pluggin' along. Content to wear old clothes, drive an old car, live in an old house, and sleep with an old woman.

1925

Ralph S. Space

I attended the SAF Convention again, this time in Spokane. I was the oldest living Idaho graduate there. Retired for 18 years, I keep busy bird watching and keeping up on history and astronomy.

1928

Wallace M. Saling

Turned 75 years old in November. Working part-time as the grounds-keeper at a motel-apartment complex. I went on a fall foliage tour of several eastern cities with a cast still on my ankle, but it "wasn't from skiing." I still carry the name of "Smoky" from 1924.

1931

Clive J. Lindsay

Instrumental in developing the Carousel Fireplace and in applying for the U.S. and Canadian patents.

1933

Charles Wellner

Retired from the U.S. Forest Service in 1973. I now spend much of my time working with others in developing a research natural area system for Idaho.

1935

Milton B. Edwards

I have been elected lifetime President of the Woodpecker Ravine Trout Fishing Association, but because of illnesses among the membership the past year, our activities have been greatly curtailed. However, the membership is hoping to make up for lost time during 1981.

Jack Groom

I enjoy the *Idaho Forester* very much. It is a shame more alumni don't tell us a little about themselves. I am enjoying California with its lack of snow. Our best wishes to all our Idaho friends.

John W. Talbott

Received the Borden Chemical Award for "outstanding leadership as a scientist, research administrator, and ardent advocate on expanded use of wood" at the Forest Products Research Society Convention in Boston, July 1980.

1936

Kenneth Crawford

Retired from government work and

keeping busy gardening as well as traveling. My recent itinerary included South America, South Pacific, Alaska, Hawaii, and the Mediterranean countries. I even managed to backpack into 3 wilderness areas last summer.

1937

Alessio P. Caporaso

I spent 1 year in Taiwan with the UN FAO team of foresters training Chinese foresters. I also spent 5 years in Alaska heading up the first scientific inventory of Alaskan forests. I'm now retired and operating a 5-acre "mini-ranch" in the McKenzie River Valley in Oregon.

Marvin M. Marshall

Retired from the Lands and Minerals Office of the Monongahela National Forest in 1973. At that time I established my own real estate appraisal business at Elkins, West Virginia.

1938

Byron Anderson

The *Idaho Forester* is a "masterpiece." Do keep up the good work. I delight in showing the issue to my friends.

Lionel P. Miller

Retired as a Lt. Col. in the active reserves after World War II. Owned and operated the Buhl Floral and Nursery for

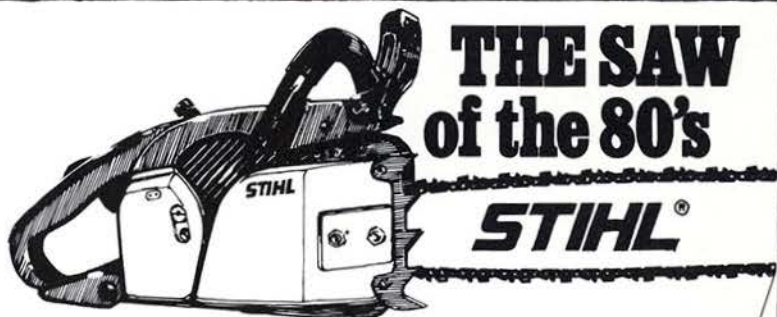
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22 years. After moving to Anchorage and working as the Municipal Horticulturist for 11 years, I retired a second time and moved to Sequim, Washington.

**Arthur W. Nelson, Jr.**

I retired from my position as Vice President of Industry Affairs for Champion International. I am continuing as visiting professor at Auburn University, where I teach Forest Policy and Law. My tree farming operations in Mississippi occupy much of my time. I am chairman of the Forest Productivity Committee of the Mississippi Forestry Association. Mississippi leads the nation in the number of certified tree farmers, but we still have a long way to go.

**Ernest Taylor**

I'm retired, but not resigned. I'm currently trying to stir up a few alumni to contribute to the UI annual fund.

**E. Lavelle Thompson**

Retired, but work in resource conservation groups, such as the Society for Range Management, local and national wildlife federations and the BLM.

1939

**Kenneth Baldwin**

I hitchhiked to Moscow to go to school in 1932. After 30 years of government service, 10 years of substitute teaching, and CETA drafting at Olympic College, I am now retired.

**Dale Kinnaman**

I am operating a small ranch 8 miles NW of Jerome, Idaho. I'm working hard, not making any money, but enjoying every minute of it.

**Carl C. Wilson**

I served on a Fire Safety Task Force this year, as well as swapped houses with a friend on Maui Island in Hawaii. I hope to be able to get in a little more "rocking chair" time in 1981.

1940

**Albert T. Larsen**

I'm enjoying retirement after 29 years' service with the Oregon Department of Forestry.

**Robert Rusher**

Retired as District Roadside Engineer

in June, 1975. Currently tutoring in Japanese abacus and am on the staff of the *American GO Journal*.

1941

**Mel R. Carlson**

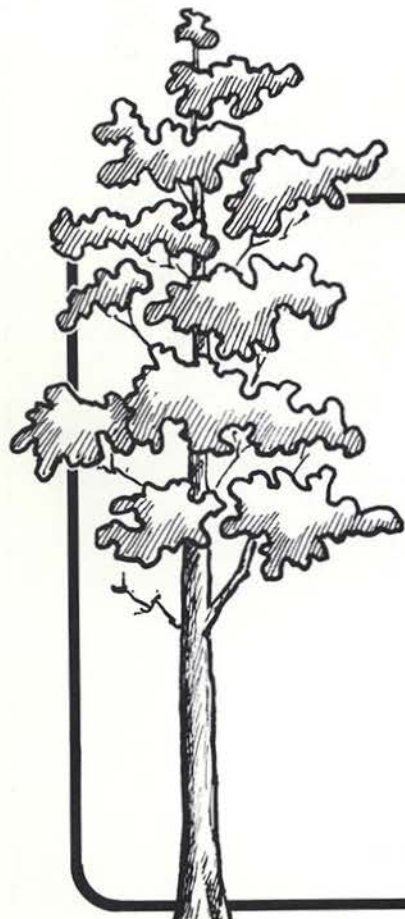
I've been retired since 1974 as state forester for the Soil Conservation Service. My wife and I spent 35 days backpacking on South Island in New Zealand this year. We also led a group of Audubon backpackers into the Big Horn Crags in Idaho and hiked 45 miles into the Seven Devils Wilderness. I work as the Idaho Director of the Contours Traveling Program for the Idaho Association of Conservation Districts.

**James Dick**

Retired in August, 1980, after 32 years with Weyerhaeuser Company.

**Robert W. Harris**

I am currently dealing with land use problems at the municipal level as a City Counselor in Wilsonville, Oregon. I participated in the National Conference on Renewable Resources in December. Jerry Thomas (1941) and I were in the Range Working Group. My wife and I plan to



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**Carlos (Chuck) Klein**

Mrs. Kelin wrote that Carlos died of a heart attack on November 13, 1980, at his home in Stone Lake, Wisconsin.

1942

**William T. Baribeau**

Retired in January, 1980, after 39 years with the USDA Soil Conservation Service. I worked as a District Manager.

1943

**Gerald W. O'Conner**

Worked with the Forest Preserve District of Cook County (Chicago) for the past 35 years, as superintendent of maintenance operations. I hope to retire in 3 years. Married with 2 children and 4 grandchildren.

1950

**James W. Betts**

Just retired a second time as general manager of Lava Nursery Inc. in Carson, Washington. My plans now call for a life of leisure.

**George E. Lee**

Retired after 27 years with the FBI in January, 1978. Now keeping up with our Vandal sports, hunting and fishing.

**Dr. Herald Nokes**

I was awarded the Idaho Tree Farmer of the Year on December 12, 1980. (*Our Congratulations!—editor*)

**Donovan Yingst**

As Chief, Division of Resources at the BLM, Anchorage District for the last 6 years, "we have been up to our ears in alligators" with native claims and expect more of the same with the Alaska Lands Bill. I plan to retire in the summer of 1982 and move back to southern Idaho and devote my time to art.

1957

**Jerry L. Duffy**

Working as a resource manager for the Roseburg Lumber Company for the northern California area.

1961

**Don Comstock**

Received a cash award and certificate of merit for his role as rehabilitation coordinator on the Bridge Creek fire, which burned 450 acres in the Bend municipal watershed. I am currently a timber management assistant on the Bend Ranger District of the Deschute National Forest.

1963

**Ronald L. Henderson**

Working for the Gila National Forest as a recreation lands and minerals forest staff officer. Married with 2 children.

1965

**Lynn Thaldorf**

I own Appraisal West, a firm dealing in all types of real estate appraisals.

1969

**Eric Sipco**

I am an assistant refuge manager at the Mingo National Wildlife Refuge in Puxico, Missouri.

# WHAT IF WE HARVESTED FOOD LIKE WE HARVEST TIMBER?



Consumers wouldn't stand for it. They would see that heads rolled in Washington.

Why, if we managed our agricultural crops as ineffectively as we manage our national forests, this country would no longer be the world's breadbasket.

Not by a long shot.

It's time we Americans asked our President, senators and congressmen, to take a look at the huge potential of our woodlands. We should point out that the economic and environmental benefits of the forest can be enjoyed at the same time without conflict.

It's time we said—look, there's over six billion board feet of timber

going to rot out there every year.

We could take that material and build 400,000 new homes.

Create \$600,000,000 in local tax revenue.

If we got serious, we could make our national forests far more productive. Already private industry has shown how intensive forest management can double, in some cases even triple, the amount of wood grown on a piece of land.

What the Forest Service needs most is money—the funds to get the job done right. It's up to us to remind congress that every dollar invested in the Forest Service yields a profit to the U.S. Treasury.

We must let it be known that this country deserves a progressive National Forest Management

Act which will see to it that:

1. Timber production goals be established consistent with the nation's anticipated need and with the capability of the national forests to meet that need.

2. Timber be sold in volumes sufficient to meet the established production goals.

3. Funds be provided for intensive management.

4. Over-age timber be harvested before it decays.

Write today. A little yelling could do us all some good.

**LP Louisiana-Pacific**

1971

**Dave Henderson**

I received my M.S. in Wildlife Habitat from Washington State in 1978. I'm presently a range conservationist with the BLM in Caliente, Nevada.

**Wayne Syron**

I spent 2 years in Honduras with the Peace Corps and then landed a job with the Forest Service on the Bonners Ferry Ranger District, Idaho Panhandle National Forest. Married in April 1980 and plan to build a log home in 1981.

1973

**Peter Heide**

As a regeneration forester with the Scott Paper Company, I am developing nursery stock with a planned production of 2 million a year.

**Eric Heublein**

Working at the Naval Air Station at

Key West, Florida as a search and rescue helicopter pilot. I am still single at 30. I'd like to come out west again, but need a pilot job. Know of any?

**Edward Kelley**

I worked as a forest resource staff analyst for the Oregon State Department of Forestry for 5 years. Currently I am acting as a tax analyst for the Weyerhaeuser Company at corporation headquarters in Federal Way, Washington. Married with 3 children.

1974

**Tim Flint**

Worked for the Washington Department of Game the last six and a half years as a wildlife control agent. My work includes animal damages, upland bird and waterfowl transects, enforcement and gathering harvest data.

**Dr. David L. Kulhavy**

Since moving to Nacogdoches, Texas, in 1978, I've been teaching Forest Entomology and Pest Management at Stephen F. Austin State University. My research is on hazard-rating for the southern pine beetle and population sampling for the Nantucket pine tip moth.

1975

**David G. Kaspar**

Currently I am working as a reforestation forester with the State of Oregon Department of Forestry. I am directly responsible for all young growth management of Douglas-fir in the district (some 131,000 acres).

1976

**Arlene Blade**

Her father reports that Arlene is in Africa with OXFAM of England conducting a pilot program that deals with



### Wheedling The Seedling

If it gets through the first three or four years, it has a pretty good chance — those years when water's so important to "catching on." Then all the seedling has to contend with is disease, insects, several species of rodents, hungry game and fire.

That's why all the wheedling and coaxing is done—the reason for inspections and so much attention by foresters.

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agricultural techniques of run-off. She is interested in advanced studies in arid land development.

#### Sharon Bradley

Recently returned from working for the U.S. Forest Service Pacific Northwest Experiment Station. Currently employed as a timber forester on the Palisades Ranger District, Targhee National Forest, as a snow ranger at Kelly Canyon ski hill.

#### Robert G. Roberts

Currently working as a silviculturist for the Burlington Northern Pend O'Reille Management Unit at Newport, Washington.

1977

#### Steve Fuhrman

Sawmill shift foreman for Boise Cascade Corporation in Council, Idaho. Married with one child on the way.

#### Michael Hanna

Has been employed with the Idaho Department of Lands in Orofino as the Senior Forester for the last three and a half years. Married, with a year old girl.

#### William Hensel

This is my fourth year with Consolidated Papers as the company land forester in charge of 45,000 acres.

1978

#### Sorrells Dewoody

Planted over 3800 acres while working with Weyerhaeuser this year. I visited Steve Smith (1979) on the Clearwater. (Steve is McFarland's main man there). 'I'm ready to move back to Idaho if someone's got the job.'

#### Victor Bullen

After working for more than two years in Parque Nacional Cerro Cora, Paraguay, with the Peace Corps and Servicio Forestal Nacional, I was asked to help develop a Wildland and National Park Management Program at the Escuela Technica Forestal. 1982 will probably see me checking out wildlands in South America and going to graduate school. Drop me a line at: Cuerpo de Paz; c/o Embajada Americana; Asuncion, Paraguay.

#### Craig Roebuck

I'm working on my M.S. in Range Science at Texas Tech. University. My study included comparative food habits and range use of pronghorn antelope and cattle in the Texas panhandle. I hope to finish and return to Idaho by December 1981.

#### Mark Vedder

After painting houses for 4 months and working in the Challis National Forest as a range technician, I landed a permanent job with the U.S. Forest Service in Pocatello as a range conservationist on the Caribou National Forest.

1979

#### Tracy Behrens

I got a job as a range manager with the Idaho Department of Lands in Idaho Falls. I started here in May 1980. Things are going well and I'm enjoying my freedom from school. Good luck. I'll be anxious to see your finished product. (*Tracy was the Idaho Forester editor in 1978—editor*)

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### Robyn Willey Darbyshire

I'm doing graduate work here at Oregon State University. The forestry school administrators are green with envy that the *Idaho Forester* has won the SAF contest 2 years running.

### Doug Larsen

Was accepted in April at the University of Alaska. My research includes otter habitat selection by the use of radio transmitters.

1980

### J. R. McKinley

Brad's mother reports that Brad accepted a forestry research position for the Peace Corps in August 1980. He is stationed at the base of a volcano in the Andes in a town called Catapaxi. (*Does St. Helens have a sister?*)

### David W. Saxe

His mother tells us that Dave played on some Luxembourg basketball teams in 1979. His ambition was to play on their national team. As a result of his playing on these teams, he was hired in Sweden to coach a youth's team until April. He

will then return home to the family business, Elliot Power and Processing Equipment.

### Richard Wallace

I am a graduate student at the University of Dayton in computer science.

### Richard L. Focht, Jr.

Richard joined the Northern Southeast Regional Aquaculture Association in the summer of 1980 after completing his M.S. in aquaculture. Focht is project leader for the Twin Lakes coho facility near Salmon Creek Hatchery. He lives in Juneau with his wife, Dayna, and a daughter.

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Continued from page 39

would be excluded from harvesting and allowed to progress to old growth.

Another important feature, Osborne points out, is the bottomlands, which have not been grazed by cattle for several decades. This is unusual in north Idaho, and it serves as a comparison to show the effects of grazing on streams. As a whole, the enclosure serves as a comparison between ungrazed and grazed forest lands, something that Peek stresses as being absolutely necessary.

Awareness of the unique features within the East Hatter Creek enclosure and the need for their preservation is not enough. We feel that Osborne, the committee, and the users of the Experimental Forest must recognize that the enclosure as a whole has value in and of itself. Its value as a focal point for wildlife research since 1949 is still justified today.

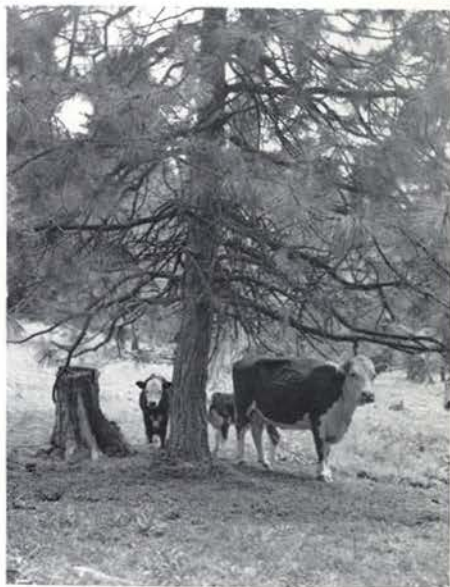
As other areas of the Forest are used

by students for silvicultural demonstrations, the enclosure could be retained for wildlife demonstrations. Forestry students gain practical experience in different harvesting techniques and in planning and developing access to areas to be logged on various parts of the Forest. Recreation students design and build nature trails at the Big Meadow Creek unit. In the same fashion, wildlife students should have the opportunity to better understand what they learn in the classroom by application to a field research situation.

Under the guidance of wildlife faculty, students could set up research projects to be conducted in the East Hatter Creek enclosure. As well as benefiting the student, the information gained could be used to better manage the Forest.

Funds for equipment and transportation could come from general Experimental Forest funds, or in part, from the Wildlife Department. Although maintenance of an area of this size for wildlife purposes only cannot be justified economically or in terms of multiple resource

use, we feel that wildlife should be the primary use in coordination with other forest use.



Mike Thompson is a senior in Wildlife Resources and Eva Phillips is a senior in Interdisciplinary Studies.

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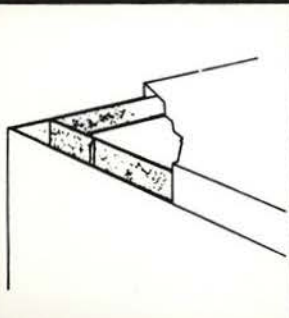
And most of all, Joe Ulliman for his guidance and patience along the way.

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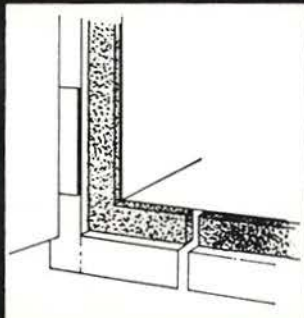
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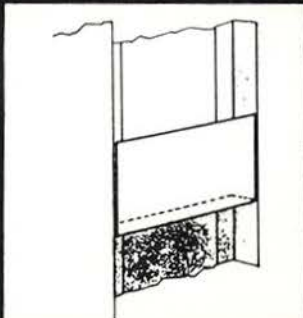
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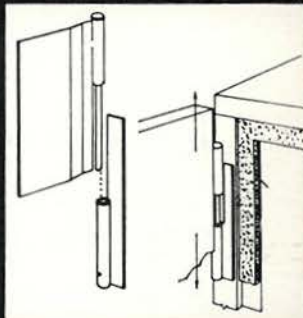
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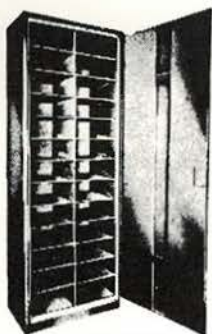
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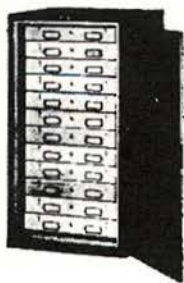
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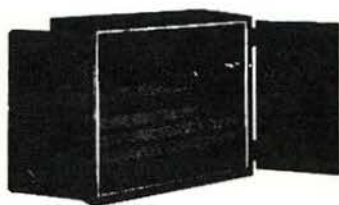
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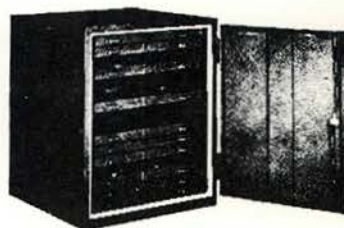
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*Idaho Forester*

*1981*

An annual publication by the students  
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