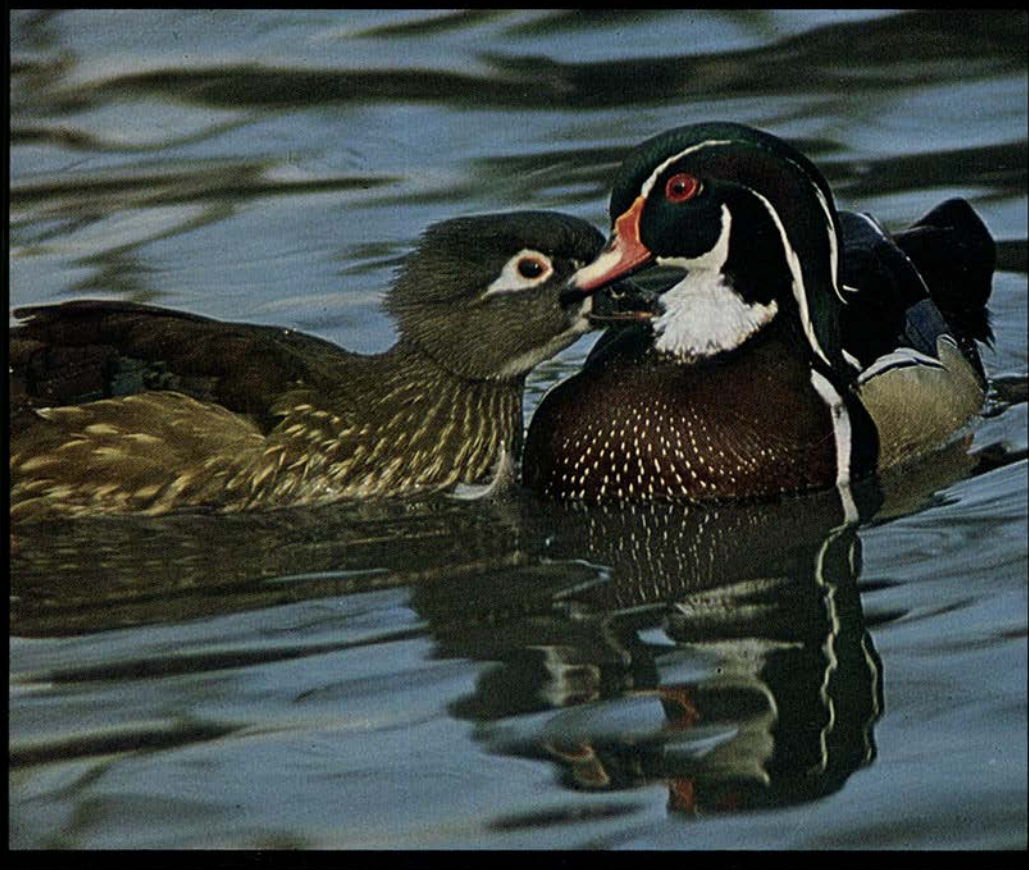


# Idaho Forester

A Magazine of Natural Resources



1979

# Let's set this fellow straight.

Like most Americans, he loves trees but doesn't live in a forest environment. Neither does he fully comprehend the connection between his everyday life and the lives of people in forest industry communities. He is likely to think that logging is primarily destructive, and that our country is running out of trees. After all, there probably aren't too many where he lives.

Those of us who live and work in forest economy areas should set this fellow straight. His mind would be greatly eased if he knew that, due to modern forest management practices, there will always be thriving forests for him to enjoy. We should explain to him that logging is important in the renewal of timber resources.

Although he may not be aware of it, every single day he both supports, and is supported by, people in forest communities. His enormous demand for lumber and wood fiber products, ranging from building materials to egg cartons, links his daily routine with the everyday lives of forest industry workers.

We have a lot more in common than this fellow may realize, and we really should try harder to understand each other.

Presented in the interest of a healthy, productive, and enjoyable forest environment by

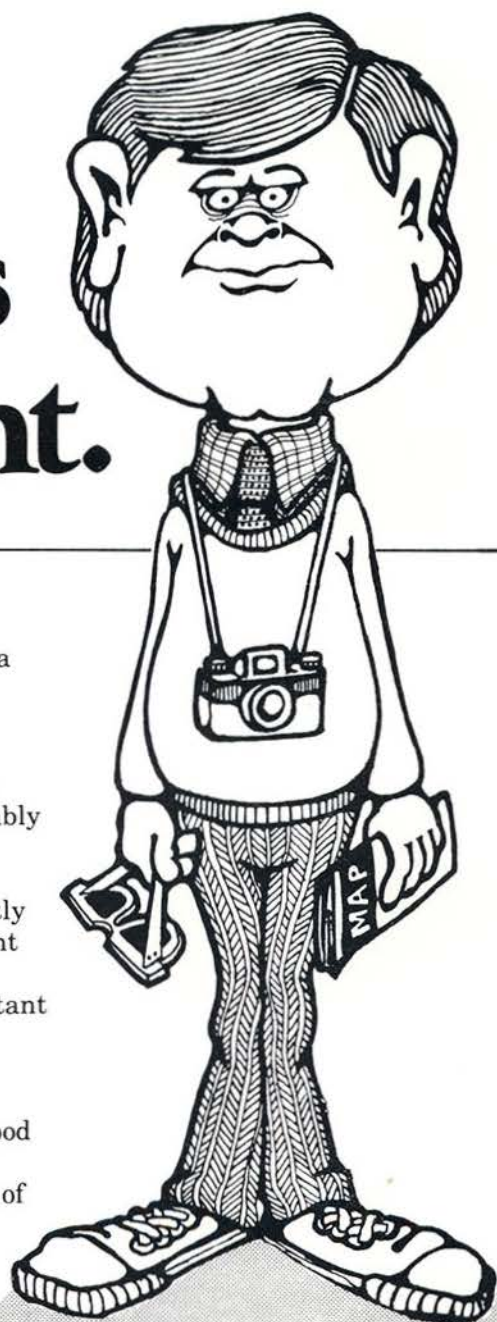


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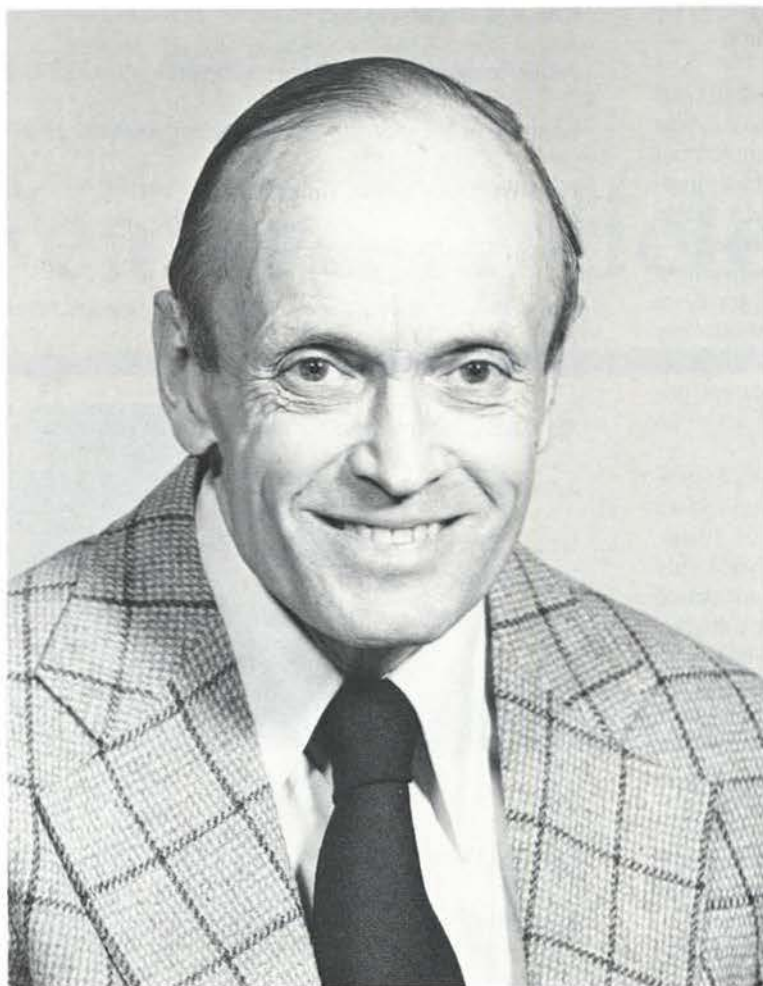
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## DEDICATION



The 1979 edition of the Idaho Forester is dedicated to Dr. John Howe for his many years of faithful service to the College of Forestry, Wildlife and Range Sciences.

# Editorial

A quick glance at our cover will reveal a title change. The addition of a subtitle, "A Magazine of Natural Resources," is intended to reflect more accurately the activities and scope of the College. We view this change as one that is long overdue. Hopefully, our readers will agree.

You may discover several additional changes this year. In response to popular demand, we have reinstated an Alumni News section. This is a unique communication medium that merits your attention. In addition, we have established a patron and sponsor program to help retire our printing debt. Publication costs are somewhat higher today than they were when the magazine first appeared in 1917. Contributions from our patrons and sponsors will supplement revenues from ads and magazine sales.

The *Idaho Forester* began as a yearbook published by the Associated Foresters of the University of Idaho. Editorial style has changed considerably over the years, but we have endeavored to strike a balance between informative and entertaining articles. This brings up the question, "What is the *Idaho Forester*?" According to our subscription letter, it serves as "a forum where students, faculty and resource professionals can informally express their views and concerns on resource issues." Traditionally, the magazine has been an important link between alumni and the College.

Due to circumstances beyond our control, work on this issue did not begin until January. Having assessed the situation, we decided to attempt a 1979 edition, even though much thought was given to abandoning the project and beginning the 1980 issue. The rest of the story is history, but the dedication and hard work of our staff will not soon be forgotten. The final product is a tribute to fourteen people who turned the "impossible" into the possible.

Michael Hollmann  
Cynthia Mitiguy

Cover photos by Steve Peterson and Rex Crawford

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# Feature Articles



Tom Quinn

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# Endangered and Threatened Wild

by Rick Myers

Aldo Leopold, in his time, once proclaimed, "to cause a species to be exterminated from the earth is the ultimate height of human arrogance." More recently humanity has acquired the insight and dynamic initiative to preserve and protect endangered and threatened wildlife and their habitat. Enactment of the Endangered Species Conservation Act of 1969, and subsequent amendments, exemplifies this growing concern. "Endangered" status denotes a condition where a species is reduced to such low numbers throughout all or a significant portion of its range, that it is threatened with extinction. The survival of these species requires assistance and legal protection from exploitation. "Threatened" status designates a condition where a species may become endangered if causal factors are not curtailed. Both endangered or threatened conditions may vary locally within the species range, hence either status may only apply to a particular part of their range. Individual states may also vary in classifying endangered or threatened species that reside there. Either condition requires close monitoring, comprehensive research to ascertain factors critical to survival, and sound management programs.

Idaho still provides habitat for many of these slighted critters. The peregrine falcon (*Falco peregrinus*), whooping crane (*Grus americana*), bald eagle (*Haliaeetus leucocephalus*), and gray wolf (*Canis lupus*) are considered endangered, and the grizzly bear (*Ursus arctos horribilis*) is deemed threatened in Idaho by the federal government. The Idaho Fish and Game Commission has developed its own list of species which are classified collectively as "threatened or endangered" with no distinction. This list includes the grizzly bear, gray wolf, peregrine falcon and mountain caribou (*Rangifer tarandus montanus*). The bald eagle has not yet been classified by the Commission.

The whooping crane, a once viable faunal species in Idaho, is gaining a new position. An experiment is currently being conducted by Rod Drewien and Elwood Bizeau of the Idaho Cooperative Wildlife Research Unit to reintroduce whooping cranes into the Rocky Mountain states. Wild whooping crane eggs, from 1975-1979, were secured from Wood Buffalo National Park, Northwest Territories, Canada, and placed in the nests of greater sandhill cranes (*Grus canadensis*) at Grays Lake National Wildlife Refuge, Idaho. Many of the eggs successfully hatched, and surviving nestlings were accepted by the fostering cranes as their own young. Surviving whooping cranes that have accepted and successfully migrated with their foster parents continue to reside in the geographic range and have adjusted to the food habits and daily and seasonal activities of the greater sandhill crane. Drewien and Bizeau express the desire for further monitoring of these birds to see if, ultimately, species-specific pairing will occur with subsequent success in nesting and rearing of young. The whooping crane may someday reestablish its integrity in the Rocky Mountain region.

Recent surveys, under the direction of Rick Howard of the U.S. Fish and Wildlife Service (USFWS), have estimated 400 to 500 wintering bald eagles in various parts of Idaho. Fourteen active nests are known, with the possibility of more. The USFWS is trying to ascertain critical habitat for the bald eagle throughout the Pacific Northwest. No management or recovery plan has been initiated at the present time, but any Federal projects that may influence the survival of the bald eagle are reviewed by the endangered species biologists of the USFWS.

The southern Selkirk Mountains of northern Idaho and northeastern Washington still provide habitat for mountain caribou, the only herd that ranges from Canada (British Columbia) into the

contiguous United States. Twenty-five to 30 animals, with viable calf production, are thought to comprise this herd. Additional bands of mountain caribou extend northward in British Columbia.

Though these caribou do not come within the purview of the Endangered Species Act, they are protected from hunting in Idaho, Washington and British Columbia. The International Mountain Caribou Technical Committee was established in 1971 to initiate research, gather information to inform the public and design a management plan. These caribou have been subjected to the stresses of logging, road construction, powerline and pipeline construction, overhunting, road kill and habitat loss due to fire.

Various studies have been conducted to ascertain critical habitat, population composition and condition, range and movements and provide recommendations for effective management of the caribou including the consideration of caribou in other land use practices. Potential caribou habitat of northern Idaho and northeastern Washington has been mapped to provide land management agencies with guidelines for incorporating the caribou in future land management actions. Currently, Donald R. Johnson, Department of Biological Sciences, University of Idaho, is continuing caribou research with the assistance of others. Additional information about the mountain caribou and its habitat is required to better protect this unique animal.

The grizzly bear was declared threatened south of the U.S.-Canadian border in 1975, under the Endangered Species Act. Remnant populations still reside in remote areas of the Selkirk, Purcell and Cabinet Mountains in northern Idaho and adjacent to Yellowstone National Park. Little is known about the status of the grizzly bear in northern Idaho and how land management practices influence these bears. Actual field studies of the grizzly bear and its habitat



# Birds and Mammals in Idaho

in northern Idaho are gradually being incorporated into the University of Montana Border Grizzly Project, stationed in Missoula.

The Interagency Grizzly Bear Study Team was established in 1973 to investigate the condition of the Yellowstone grizzly bear and its habitat and provide guidelines for resource management decisions involving grizzlies. Presently the team is developing a management plan to maintain critical grizzly bear habitat.

Idaho is believed to contain habitat which is considered suitable for grizzly bear use, but more information about actual critical habitat components and effective management of these highly disputed beasts is still required.

The peregrine falcon, considered by many as the most highly specialized flyer in existence, is believed to have once inhabited at least 17 historical sites in Idaho, but has since been drastically reduced. A few active breeding pairs are suspected to still reside in the state. Identification of the peregrine falcon is widely confused with the prairie falcon (*Falco mexicanus*).

Knowledge of the status of native wild peregrines in Idaho is inadequate. Methodical checking of the occurrence and activities of peregrines at potential nesting and roosting sites is not being accomplished, due to lack of time and funding. Peregrines have been found in a variety of habitats; hence, additional information is needed to define what is

critical habitat for this falcon. A Peregrine Recovery Team, assigned by the USFWS, has developed a recovery plan, which is pending necessary funding. The plan includes reintroducing captive-bred peregrines into some of the historical eyries, including a few in Idaho.

The Bureau of Land Management (BLM), contracted by the Peregrine Fund of Cornell University, in 1977, initiated a reintroduction experiment involving the cross-fostering of captive-bred peregrine falcon chicks from Fort Collins, Colorado, with prairie falcon foster parents in the Snake River Birds of Prey Natural Area, Idaho. Conspecific young of the prairie falcon foster parents were transplanted to neighboring prairie falcon nests. Additional nest-



Fostered whooping crane among greater sandhill crane cohorts.

Rod Drewien





Paul Elmann

Native Idaho mountain caribou.



Tom Dunstan



Rick Myers



Eric Stauber



*"When we see land as a community to which we belong, we may begin to use it with love and respect."  
—Aldo Leopold*

lings were cross-fostered in the spring of 1978. A total of 5 out of 8 that were cross-fostered in 1977 and 1978, successfully fledged on the study area. The five survivors had readily been accepted, fed and protected by their foster parents and eventually learned to hunt.

BLM personnel monitored the activities of the fostered peregrines until they dispersed from the study area in mid-July each summer as expected. The Birds of Prey Natural Area provides an optimal food source for the falcons only in spring and early summer, resulting in subsequent dispersal to more favorable areas. The young birds that dispersed were considered to be strong and to have developed adequate hunting skills to manage on their own. The whereabouts of the scattered falcons is not known at this time. There is some evidence to suggest that peregrines return to their natal territory at two years of age, but widespread migration leading to the encounter of other desirable areas, coupled with a high mortality rate in the first two years of life, may preclude future observation of these fostered peregrines in the Birds of Prey Natural Area. Additional information on wild peregrine movement patterns will be needed to confirm this.

More cross-fostering of peregrines may occur in the Birds of Prey Natural Area depending on the future availability of captive-bred peregrine chicks and suitability of the Birds of Prey Natural Area for reintroduction. No other potential reintroduction sites outside of the current study area are being considered at present, by the BLM.


The BLM predatory bird research biologists are optimistic about the eventual comeback of diminished peregrine falcon populations. Recent bans on DDT and other chlorinated hydrocarbons are believed by some to have elicited a significant turnaround in the reproduc-

tive success of the peregrine, but more data is needed in this regard. Migrating peregrines still face the threat of pesticides in other countries.

Little is known about the gray wolf in Idaho. Sightings have occurred in the Salmon, Boise and Clearwater National Forests and have been documented as recently as 1978. A Wolf Recovery Team, based at the University of Montana in Missoula, has been assigned by the USFWS to develop a plan to recover remnant northern Rocky Mountain wolf populations and maintain vacant habitat where the wolf may come back. A recovery plan has been drafted and submitted for review by all pertinent agencies whose management actions influence the wolf.

The USFWS, out of Boise, Idaho, is conducting a survey in the northern part of Boise National Forest for occurrence

of the gray wolf. The Idaho Cooperative Wildlife Research Unit is also looking for the presence of this estranged creature in northern Idaho.

Considerable progress has been made toward ensuring the survival of endangered and threatened wildlife in Idaho, but there is still much to be learned and many obstacles to overcome. Given the initiative, hard work and patience of all those involved in the plight of these animals, it is quite feasible that endangered and threatened wildlife will be perpetuated into the future. 

*Special thanks to the individuals and agencies that provided the information for this article.*

*Rick Myers is a senior in Wildlife Resources.*



Gray Wolf



# RARE II Meets Godzilla

by Charley McKetta

In 1977 the U.S. Forest Service instituted its Roadless Area Review and Evaluation (RARE II) process to catalog all remaining undesignated acreage with wilderness character in the national forests. The decision on how much actually to designate as wilderness is, perhaps, the most important land use allocation question in our generation, certainly the most publicized, and the process most open to public input. The draft environmental statement catalogued 8 million acres as potential wilderness in Idaho, in addition to 3 million already proposed or designated.

When huge masses of resources are permanently allocated, socially optimal resource use is the target. Even if that target is achieved, many interests stand to lose or gain, which tends to stimulate the participants. The members of the College Forest Economics and Policy Group predicted a showdown and submitted its first proposal to study the Idaho issues in October of 1977.

Commendable, but what is the appropriate role of the forestry academic in the land allocation process? In a current and highly controversial question, every alternative behavior has pitfalls. A true academic often opts for the ostrich approach. "Problem? What problem?" and he does nothing until the issue becomes moot, uncontroversial history. It is interesting research perhaps, but no longer of much use. One could be accused of ivory tower isolation, but not of meddling.

The opposite extreme finds a holy academician making recommendations from his lofty perch of educated and supreme intelligence. That common and tantalizing behavior is regularly evidenced by headlines like "Logging Expert Finds Wilderness Causes Cancer." It's also called the "how to lose friends and influence nobody" approach. It

imposes the implicit values of the researcher on his results and violates the weak but traditional academic corona of objectivity.

It is better to light just one little candle . . . but how? What the academic is good at is to define concepts, provide data and expertise, outline new perspectives, develop analytical tools and educate. This effort is not aimed at the derivation of a solution but at the facilitation of decisions and reduction of conflict.

You can tell by my change in tone that the Idaho Forest economists preferred the latter tact. The initial product of this philosophy was the publication, *The RARE II Process in Idaho: A Procedure for Evaluating Resource Trade-offs*. We realized that the final allocation would not follow the neat packages suggested by the Forest Service, forest industry or the environmentalists. Further, we realized that the evaluation of alternatives was an economic (even if it sits in a political lap) rather than emotional process. Unfortunately, the

imperfect art of intangible benefit evaluation eliminates the possibility of using the economists' favorite decision tool—cost-benefit analysis.

While we can't find total value of wilderness or the more appropriate marginal value, we can determine relative value of prioritized additions to the wilderness base. By comparing ranked accumulating benefits with equally ranked accumulating costs which are calculated for each area in timber, recreation and grazing resource uses, the technique user can formulate and evaluate a wide variety of wilderness proposals. A number of users applied the technique and achieved some allocation conflict reduction, though not near what we had hoped.

Another publication, *The RARE II Process in Idaho: A Case Study of Changing Roadless Area Boundaries*, noted the arbitrary nature of wilderness decision area boundaries. Initially, the areas were simply contiguous spaces

*continued on page 66*





# Public Involvement: *Is There a Payoff?*

by Norman Hesseldahl

The history book will soon be written for the 1970's; in the end, this turbulent decade may be labeled as the era of the involved citizen.

Citizen involvement has certainly been the norm. In politics, issues like the Vietnam War, Watergate, and the Panama Canal Treaty galvanized and factionalized us. Social debates raged over pacifism, equal rights and abortion. In the environmental arena we battled over the rights of snail darters and bald eagles and wild rivers and wilderness.

In the words of the ancient Chinese curse, it was a period of "interesting times." Rebounding from "tune in, turn on, and drop out," citizens in unprecedented numbers joined in, marched on, and spoke out. Confrontation was the buzz word and, short of being uninformed, the absence of an opinion was the greatest sin.

Nobody was immune from the growing citizen activism; not the bluest of blue chip corporations, not even that fabled denizen of wild lands, the forest ranger!

Appropriately enough, the stage for this era of citizen involvement was set on the very first day of the decade—January 1, 1970—when the National Environmental Policy Act was signed into law. Viewed by some as a final solution, NEPA (as we've come to know it) proved to be only the first of many legislative directives to the natural resource agencies of the country. A recurrent theme in NEPA and later laws was the need to provide the public an opportunity to become involved in the decision-making process. One need only read the texts of NEPA, the Freedom of Information Act, the Forest and Rangeland Renewable Resources Planning Act, and the National Forest Management

Act. The direction is clear; the public has demanded a role in decision-making on public lands, and Congress has ordered that such an opportunity be provided.

What does all this mean to the natural resource manager of the 1980's? Will we be managing our National Forests according to the squeaky wheel principle? Will our public lands become the province of political consensus rather than resource professionals? Is it all a Machiavellian ruse to continue with business as usual?

I think not.

Ten years of NEPA have brought some significant changes to the field of natural resource management. In this decade, the Forest Service has progressed to a multi-discipline, public-oriented, decision-making approach in which the public will is recognized as a valid consideration, along with traditional resource factors. The net result, in my opinion, has been a significant elevation in the quality of the resource management decisions reached.

At the same time, the decision-making process has become infinitely more complicated. Along with traditional resource values, today's manager must consider such esoterica as visual quality, environmental law, archaeology, macro and microeconomics, sociological effects and public involvement. Of these, the most difficult for most Forest Service managers to assess is public involvement.

The dilemma was best articulated by one of our District Rangers, who complained, "Getting public involvement is easy. It's dealing with it afterwards that gives me problems."

Whatever the frustrations, public involvement is something that resource management agencies can expect more of in coming years. This may be especially true for the Forest Service, due to the specific public involvement requirements of the National Forest Management Act (NFMA).

*continued on page 67*



Public involvement, particularly the interactive sort, will become more common, and will aim toward public understanding and support of resource management decisions.



# Forestry in Honduras: *An Awakening Reality*

by Ruben Guevara

Honduras is a hilly country located in the heart of Central America. Sixty-one percent of its 27.7 million-acre land area is covered by pine and tropical forests; this alone is a larger percentage than that in any other country in Central America.

Because of the mountainous terrain and shallow soils, forests are Honduras' most important natural renewable resource. The Honduran government, recognizing the importance of this patrimony, organized the Honduran Corporation for the Development of Forestry (COHDEFOR) in 1974. COHDEFOR is a semi-autonomous institution in charge of management, utilization and development of the forest resource and related industry in the country. The government has also implemented technical assistance agreements with such international agencies as the United Nations Food and Agriculture Organization (FAO), Canadian International Development Agency, Peace Corps and others to advise COHDEFOR on many aspects of modern forestry.

## The Forest Resource

The Honduran forest is composed of 6.7 million acres of pines and 10.1 million acres of hardwoods.\* The pine forest is the most important commercially. In general, there are three pine species, each characteristic of a different elevational zone. *Pinus caribaea* (pino costanero) is found from sea level to about 900 m of elevation. *Pinus oocarpa* (pino ocote), the most abundant species, grows from 600 m to 1700 m. Above 1600 m, *P. pseudostrobus* (pinebete) is the predominant species. The average rotation period for *P. oocarpa* is about 40 years.

\* Idaho has 13.5 million acres of forests, of which only 5.3 million are in timber production.

The hardwood forest is composed of hundreds of species, but only about thirty are commercially used. Among these commercial species, *Swietenia spp.* (mahogany), *Cedrella odorata* (Spanish cedar), *Dalbergia tucurensis* (rosewood), *Pterocarpus officinalis* (sangre blanco), and *Symphonia globulifera* (sangre rojo) are the most important. All of these species grow in the tropical forest, scattered over vast areas, and are harvested by the selection method.

## The Industry

Sawmilling is the main industry in Honduras. In 1976, there were 120 sawmills that produced 246 million board feet of lumber. In contrast, Idaho produced 2 billion board feet of lumber and 557 million sq. ft. of 3/8-inch softwood plywood in 1976. Most of Honduras' forest products were exported to the Caribbean countries and to Europe.

There are three plywood plants in the country. They produced 4.6 million square feet of 3/8-inch plywood. Some of the other forest-related products

include naval stores, poles and furniture.

## COHDEFOR

COHDEFOR is the institution in charge of managing the forests and of controlling and regulating all activities related to the forest industry. Presently it is operating under a \$50 million budget.

COHDEFOR has five departments: Forest Management, Forest Industries, International Marketing, General Services and the National School of Forestry Sciences (ESNACIFOR). Each of these branches executes tasks that range from forest management and protection to wood processing and marketing of the final product. These duties often must overlap to allow a smooth flow of activities. ESNACIFOR is a school that trains forest technicians for Honduras, as well as for Central America and the Caribbean countries.

## Education

Presently in COHDEFOR there are



Uneven-aged stand of *P. oocarpa*.

Ruben Guevara



*"The more extensive a man's knowledge of what has been done, the greater will be his power of knowing what to do."*  
—Disraeli

about 90 foresters with Bachelor of Science or equivalent degrees, 9 with Master's degrees, and 5 with Doctorate degrees in forestry. Two of these advanced degree holders are alumni of the University of Idaho College of Forestry, Wildlife and Range Sciences. There are about 200 ESNACIFOR alumni who carry out most of the field activities and over 100 university-level experts performing in a variety of activities.

The National University (UNAH) has a forestry school that graduates about 10 forestry students per year. ESNACIFOR will graduate around 100 a year begin-

ning in 1980. There are also several students attending schools abroad, especially in the United States and Brazil.

ESNACIFOR is the research center for Honduras as well as for the Central American region and the Caribbean. An experimental station is operated in Lancetilla (northern Honduras), where scientists are carrying out research on tropical forests.

#### The Outlook for Forestry in Honduras

In 1974, COHDEFOR began organizing the country into forest districts and management units that would

operate in accordance with a National Forest Management Plan aimed at a continuous production of timber over the years. Simultaneously, officials started programs oriented at the application of modern techniques and principles to all stages of forestry operations.

Two modern sawmills began operating in 1978 with a daily capacity of 300,000 bd. ft. Two more plants of similar size are expected to open by 1980. By 1982, a long-awaited pulp and paper mill will begin to produce 600 metric tons of kraft pulp each day. A laminated beam plant should begin operation in the same year.

There are extensive plans to begin better utilization of the tropical hardwood forest using modern silvicultural, logging and processing methods that will ensure a continuous supply of raw material, and a more complete utilization of the existing resource. This will be a tremendous challenge, since the hardwoods are in a tropical forest where traditional silvicultural methods do not work.

The influx of more foresters and the leadership of COHDEFOR's personnel are transforming forestry in Honduras into an enterprise that will benefit its citizens and its economy. As Dr. W.L. Mittak, FAO Project Manager, put it in 1973, "Honduras' forests are three times smaller than those of Finland, but have a growth rate three times faster; therefore, under wise management they can produce as much as Finland's." Finland is currently ranked 7th in world production of forest products.

The time has come, and today forestry is an awakening reality in Honduras!



*Ruben Guevara is a graduate student in Forest Products.*



Logging operation in the pine forest of Honduras.



# Hard Work and Good Times

by Glenn Lackey

It is often said that young people today don't appreciate a good day's work. Whether or not this is true, one group of young adults in our society has been introduced to a hard day's labor. These are the men and women who have participated in the United States Youth Conservation Corps. YCC is a program that was initiated by the Federal government several years ago. The program is fashioned after the Civilian Conservation Corps of the thirties, and, like the earlier Corps, its purpose is to help protect and manage the natural resources of our country. One very important difference, however, is that in our modern conservation camps strong emphasis is placed on environmental education. Just completing a project is not enough. Today the participants must also understand the purpose of the work and how their labor fits into the conservation "picture."

Nearly every state in the Union has a YCC program, and most states have several camps. Young people between the ages of 15 and 18 are employed at minimum wage and work for 4 or 8 weeks, depending on the particular camp situation. Some camps run two sessions of 4 weeks each, while many go the entire summer with one crew. There is also a great diversity in living accommodations, ranging from 7-day residential camps, to situations where the enrollees commute from home every day. Whatever the conditions involved, each camp has a special quality all its own and will be long-remembered by those who lived and worked there together.

During the summers of 1977 and 1978, the University of Idaho hosted its very own YCC camp, funded by the Palouse District, Clearwater National Forest. There were about 35 enrollees



the first year, getting the program off to a successful start. In 1978 the number of young students was increased to 55, providing an even greater challenge to the staff, who should be commended for a job well done. Staff members included Joe Hoffman (Wildland Recreation), who handled the administrative end of things, and Sam Ham (Wildland Recreation), who served as associate camp director. Working closely with Joe and Sam were an assistant camp director, four living group leaders and seven crew bosses. The enrollees were Idaho residents and equally divided between male and female.

At first, the staff was a bit apprehensive about the camp being located so close to Moscow. They feared that the urban environment might be a distraction to the young people. This did not turn out to be a problem, however, and the excellent facilities of the University campus were used to good advantage. The enrollees were housed at McConnell Hall, two to a room, and ate in the cafeteria nearby. The living group directors were responsible for keeping order at McConnell and for planning recreational activities.

Once in the field, qualified crew leaders were responsible for the conduct and safety of the young workers, and also contributed significantly to their education. Each field boss was assigned a crew of eight members and worked as closely as possible with each individual. The crew leaders also developed educational programs to share with the students, drawing on expertise in the fields of wildland recreation, biology, geology, wildlife, land-use planning and environmental education. A very important aspect of the YCC experience is to teach people how to interact with each other, and how to work together and function as a team for the benefit of all. The crew bosses, and the living group leaders especially, have great influence in this respect as they are involved with the young people 24 hours a day.

In addition to scheduled programs by the staff and other professionals on campus, a great deal of an enrollee's education came from impromptu training sessions in the field during the workday. A ten-minute break might be taken at most anytime in order to learn a little about dendrology, or to



*"I am glad I shall never be young without wild country to be young in. Of what avail are forty freedoms without a blank spot on the map?"*

*—Aldo Leopold*

identify a wildflower or investigate an animal track. Some of these sessions prompted individuals to take up leaf collecting, or maybe insect collecting, depending on where their interests lay.

The work projects were located on lands within the Clearwater National Forest. Travel distances to the work locations varied, but were never more than 80 miles from Moscow. The enrollees' duties included a lot of brush-cutting and piling, some trail construction, campground maintenance, forest road maintenance and tree pruning. They also peeled wooden poles and built a fence. Whatever the project, a strong work ethic was stressed and education was integrated with the job at every opportunity.

The students also had a chance to "rough it" for two weeks in a remote tent camp at Kelly Creek in eastern Idaho. The camp and facilities were provided by the U.S. Forest Service and two of the YCC crews stayed there at a time. Equipped with gas stoves and a refrigerator, the crew members were responsible for their own cooking and cleanup.

Work projects at the camp involved some trail work and a lot of stream improvement. Debris from nearby clear-cut areas that were harvested in the 1950's had washed downslope and clogged several streambeds. The crews cleared this debris by hand and built dikes in the streambed for erosion control. Forest Service personnel con-

ducted training and educational programs at the camp, helping to make the whole experience an enjoyable one for all.

In spite of the hard work and the sometimes rough working conditions, the summer passed without any serious injury on any crew. A lot of good work was accomplished, and hopefully, 55 young adults have walked away with a better knowledge and understanding of their natural environment. They are, after all, the decision-makers of tomorrow.



*Glenn Lackey is a junior in Forest Resources.*





# Ghost of North America

by Mike Cook

The mountain lion, "the ghost of North America", is possibly the most controversial large mammal on our continent. Its presence has evoked many different feelings, from worship and fear, to hatred, and finally recognition as an essential part of a dynamic ecosystem. These feelings produced many descriptive names, some of the most common ones being cougar, catamount, mountain lion, mountain demon, Indian devil, and puma.

Physical characteristics vary with geographic location. Cougars inhabiting extreme northern and southern America are larger in body size than those more centrally located. Male mountain lions average fifty-nine inches from head to rump, females average forty-seven inches, and both possess a tail of about twenty-seven inches. In the Idaho Primitive Area average males weigh 150-170 pounds and females weigh 95-108 pounds. The largest Colorado puma, measured by Theodore Roosevelt, weighed 232 pounds and was eight feet long. A shoulder height of about twenty-seven inches is below the elevated rump. This provides the lion with enormous leaping power. Springs of thirty-nine feet from running and thirteen feet from walking have been recorded. The body is long and lithe, the head small and bullet-shaped, and the tail long and cylindrical. The legs are relatively long and support enormous paws with retractable claws. The integration of these parts produces an animal that moves with an easy grace, can cover short ground at amazing speeds, and can crush ungulate necks with jaws or forepaws.



## Distribution

The cougar was once distributed over the entire North American continent. The Canadian range of these big cats has been reduced to Alberta and British Columbia. Eastern United States lions are considered extinct except for a few individuals in the Florida Everglades. Recently, however, reports of cougars in Maine and parts of the Appalachian Mountains have been publicized. The western states provide the puma with a last stronghold. Vast uninhabited areas allow the mountain lion to exist undisturbed in some parts of the West.

The destruction of the cougar because of its threat to livestock eradicated it from many areas. With legal protection, the big cat could potentially thrive in many of its old haunts. The increased deer herds across America and the present attitude of a preservation-minded society could encourage cougar survival and establishment in these areas.

## Importance of Home Area

Although reproductive maturity is reached at two and one-half years of age, mountain lions usually do not breed successfully at that age. During their second winter, the kittens are sent away by their mother. They become transient lions, roaming freely and having no home area. Transient males rarely breed, but females never do. The reproductive stimulus is dependent on the possession of a home area. Adult lions of both sexes can successfully breed at any time of the year after acquiring a suitable home area. Although availability of prey may limit lion populations, home area spacing is probably the major limiting factor.

Movements of resident lions are confined to their home areas. They have two distinct home areas which are usually contiguous. One is used during winter and spring, while the other is occupied in summer and fall. The size of the home area is approximately forty square



miles in winter and up to one hundred forty square miles in summer.

Mountain lion movements are not obstructed by topographic barriers or even large rivers. They follow the seasonal movements of their prey which are mainly deer and elk. This results in summer use of high mountain areas and winter migration to deer and elk concentration areas in the lower river drainages. Their movements vary with the season and prey abundance. In winter, when their range may be reduced due to prey concentration, daily movements are small. During the summer, lions must move farther to find scattered prey. Resident mountain lions may wander occasionally, but it is the transient adults who wander freely across the wild country.

#### **Cougar Predation**

The mountain lion consumes a variety of animals - beavers, mice, hares, coyotes, skunks, turkeys, fish, grasshoppers, ground squirrels, porcupines, and domestic livestock being constituents. By far its most important prey are deer (both whitetail and mule deer) and, if present, elk. The small game forms a larger part of the lion's diet during the summer, but during the winter deer and elk comprise up to eighty-five percent of its food source.

Although possessing a keen sense of hearing, the lion depends almost entirely on sight to locate and stalk its prey. The cougar uses its camouflaged and coordinated body to stalk its victims to within striking distance, often less than twenty yards. With powerful bounds or a leap from above lion is quickly upon its prey. Crushing jaws bite through the base of a deer's skull or a huge forepaw twists and breaks the neck of an elk. The

lion usually drags its kill to a secluded area, eats its fill, and covers the carcass with leaves, twigs, and dirt. Most lions will remain with their kill until it is consumed. Although claims abound of a lion's wanton killing of deer every other night, it is more realistic that a deer or elk is taken about every two weeks.

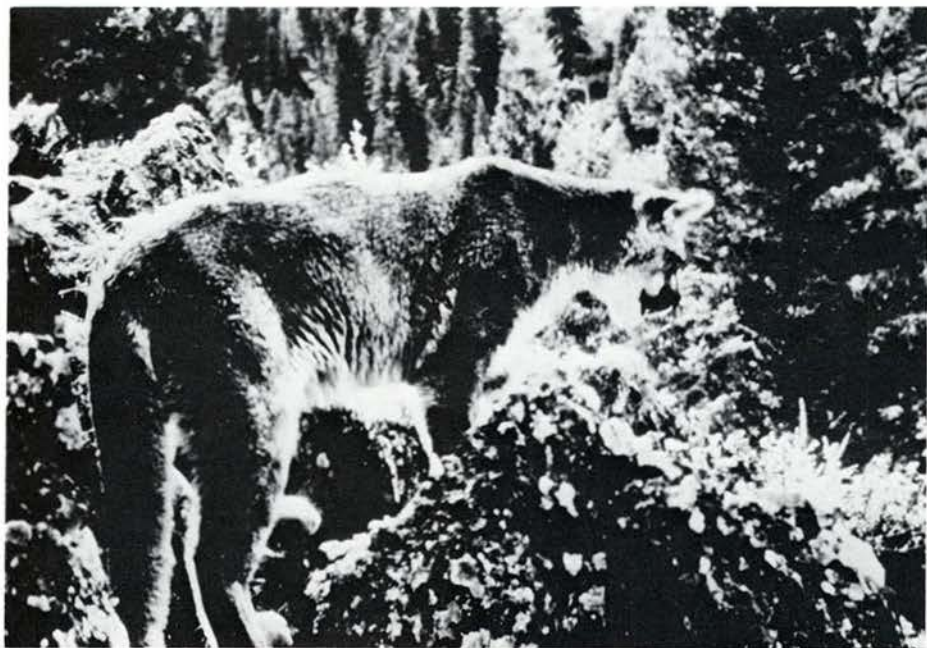
Mountain lion predation has been proved to aid in maintaining ungulate health by selective killing. In Idaho seventy-five percent of lion elk kills were calves less than one and one half years old or adults over nine and one half years of age. In addition, fifty percent of all elk and deer kills by lions were animals in a state of malnutrition. The presence of a mountain lion also disperses deer and elk on winter range, thus preventing extensive damage to habitat and subsequent reduction of carrying capacity. These lion-prey relationships are beneficial to the prey population and the habitat.

#### **A Solitary Life**

It is well known that mountain lions are solitary animals - perhaps a solitary life is the most energy efficient existence. North country wolves can hunt in packs because game is present in large numbers. In typical cougar country prey is more scattered. Pack hunting techniques would expend much energy for little return and promote starvation.

The ways in which mountain lions maintain their solitude has been summarized as "mutual avoidance". Overt fighting, an act which could leave a lone predator like the cougar helpless, is rare. For this reason mountain lion ranges are referred to as home areas rather than territories. Boundaries are casually kept and loosely respected. Scrapes (mounds of leaves and debris scratched over soil and often accompanied by fecal excretion and urine) are made on easy

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# Idaho Phlox:

## *History of An Endangered Species*

by Rex Crawford

Found only in three meadows within a single township, Idaho phlox (*Phlox idahoensis*) is one of the rarest and most attractive wildflowers in Idaho. What is its origin? Why is it so rare? Answers to these questions can lead to an understanding of the relationship of this wildflower to Idaho's flora as well as give clues needed to keep Idaho phlox from going the way of the passenger pigeon.

Idaho phlox is unique among western phlox, being tall and leafy rather than short with grass-like leaves. It grows only in meadows in the vicinity of Headquarters, Idaho. The meadow habitat is an ecological parameter that Idaho phlox shares with its nearest taxonomic relative, meadow phlox (*Phlox maculata*) of the eastern United States.

Apparently, Idaho phlox and meadow phlox evolved from a common ancestor that was part of the North American flora some 150 million years ago. This flora extended over much of North America into Asia and Europe. As the Rocky Mountains began their uplift some 75 million years ago, the continuous flora began to divide into eastern and western sections. With the split, caused by the new arid conditions on the leeward side of the Rockies, Idaho phlox began to differentiate into a unique population, acquiring characteristics beneficial in that environment. At the same time, meadow phlox also began to evolve into a distinct population in the eastern United States.

A distinct phlox now existed in the western United States. New environmental changes later came into play, restricting phlox's range even more. The ocean had a more direct influence on Idaho's climate then because the Cascades had not yet developed. The climate was much like that of the present southeastern United States, that is, one with mild winters and year-round precipi-

tation. The local flora contained a mixture of temperate and tropical plants, the latter nearer the coast and to the south. Phlox probably grew in the highlands associated with the more temperate species. As the Rockies continued to uplift, the shoreline moved westward. The loss of a direct maritime influence, combined with a worldwide climatic drying trend, created an environment more similar to that of Idaho today. The presence of fossilized dawn redwood and ginkgo, both found only in China today, indicate the existence of a more mild climate.

Around 20 million years ago, the Cascade Mountains began building. In contrast to the Rockies, the Cascades were volcanic, producing air pollution

and lava flows. The climate continued to dry and cool. This, combined with the reduced solar radiation caused by volcanic pollution, created an environment unsuitable for eastern deciduous species and tropical species and eliminated both groups from the Pacific Northwest. Phlox continued to adapt but apparently lacked characteristics required for survival west of the Cascades. It has been speculated that the summers along the coast were not hot enough for several Idaho endemic species, phlox included. As a result, phlox was further isolated to the northern Rockies, where moisture was plentiful (now in the form of winter precipitation) and summers were hot.

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# Idaho River Recreation: *Present and Future*

by William G. Hagdorn

Since the early 1960's, the nation has been besieged with the demand for all forms of outdoor recreation facilities to meet the growing leisure needs of American society. Americans, as well as visitors from abroad, have long recognized the values associated with the nation's outstanding natural and recreational resources such as Yosemite and Yellowstone National Parks. Idaho has also been recognized for her quality recreation resources, which annually lure visitors from across the nation and the world to visit such places as Hells Canyon, the Salmon River, Pend Oreille and Coeur d'Alene Lakes, and the Sawtooths.

Recognizing the demand for recreational areas and facilities, Congress created a Land and Water Conservation Fund Program to accommodate the nation's recreation needs at the state level. During the 1960's, Congress also enacted other measures—the Wilderness Act and the Wild and Scenic Rivers Act—that address specific recreation needs of the American public.

Although Idaho has not followed the lead of many other states in establishing a state river system, she still possesses a significant number of quality free-flowing rivers that would meet the requirements of any system currently established in other states. There are approximately 15,700 miles of rivers and streams in Idaho. Many segments of these streams offer outstanding recreational opportunities in the form of active river boating, fishing, nature study and outdoor photography.

Idaho has some 453 miles of river designated as Wild, Scenic or Recreational. In addition, there are approximately 485 miles of Idaho rivers still under study by the U.S. Forest Service and the Bureau of Land Management to determine whether segments of these

rivers should be recommended for inclusion in the National System. The existing and "under study" mileage for each river in Idaho is shown below.

jetboaters have enjoyed the use of the Snake River through Hells Canyon and the Salmon River from Salmon to Riggins, Idaho. During the 10 years

National Wild, Scenic and Recreation River System in Idaho (miles)  
February, 1979

	<u>Existing</u>	<u>Study</u>
Bruneau		121
Clearwater (Middle Fork)	185	
Moyie		26
Priest		67
Rapid	24	
St. Joe	73	
Salmon (Main)		237
Salmon (Middle Fork)	104	
Snake (Hells Canyon)	67	34

The growth of white-water recreation has only recently received consideration in recreation planning in Idaho. For a number of years, kayakers, rafters and

since passage of the Wild and Scenic Rivers Act, white-water recreation participation grew tremendously. The Idaho Outdoor Recreation Plan shows that,



David Thompson



for 1975, there were some 257,000 activity occasions for white-water kayaking and canoeing. In the same year, there were 729,000 activity occasions for river floating on Idaho rivers. These activity occasions—participation in an activity for any part of one day—indicate well over a million occasions occurring on our free-flowing systems. The figure, however, is somewhat conservative as information is not available on the number of jetboating and motorboating activity occasions.

The following figures illustrate the growth of selected river recreation uses anticipated between 1975 and 2000.

State Participation in Activity Occasions: 1975 and Projections for Selected River Recreation (in 1,000s)

	1975	1980	1985	2000
White-water kayaking and canoeing	257	310	368	523
River floating	729	880	1,044	1,485

Recreation Expenditures and Participation for Selected River Recreation December, 1975

	Total Participant Occasions	Retail Expenditures Goods & Services
White-water kayaking or canoeing	256,700	\$794,800
River floating	728,700	\$557,000

Based on the above figures, river recreation is expected to double in the next 20 years. River floating and kayaking will be among the fastest growing recreation activities in the state.

River kayakers, canoers and float-boaters spent approximately 1.3 million dollars for retail goods and services in 1975. With the rapid growth expected

in these recreational activities, river-related recreation will be contributing significantly to Idaho's economy in the next 20 years.

In recognition of this expected growth, the Idaho Parks and Recreation Department has begun to inventory the 15,700 miles of Idaho rivers and streams that are capable of supporting kayaking, canoeing or floating. To date, more than 110 segments of Idaho's rivers and streams have been identified as being suitable for these activities. This constitutes more than 2,900 miles of free-flowing waters. It is expected that a considerable number of additional miles will be added to this inven-

tory as studies continue.

The growth of river recreation is not without its problems. Because of the high quality recreational opportunities offered by Idaho's free-flowing waters, increased user competition is expected to occur. This competition can be expected to occur among all user groups, not just between non-motorized

and motorized boating enthusiasts.

Already, due to pressures from people desiring to float our national wild rivers in Idaho—Middle Fork of the Salmon, Snake River (Hells Canyon) and the Middle Fork of the Clearwater—special use regulations have come about to insure that the existing carrying capacity is not exceeded, and that quality experiences are offered to the people using these resources. However, as greater demands are placed upon the river managers for more opportunities, we can expect additional regulations to ensure that the resources are not damaged or lost. As more of Idaho's rivers become known, additional pressures will be exerted by various user groups to ensure that the opportunities they presently experience will not be lost.

Besides the competition among user groups, there is also competition between commercial and private use of the river. Commercial use of the river is managed and guided by the resource managing agencies, as well as the Idaho Outfitter and Guides Association. The Outfitter and Guides Association wants to ensure that people throughout the country have the opportunity to take a trip on Idaho's rivers with a commercial outfitter. Private users include those persons who float the rivers without a professional guide. Competition between commercial and private groups has existed in the past and will likely continue in the future.

A problem common to both groups is the no-show—a party not arriving for the trip as planned. The trip is then cancelled and, as a result, the original party, as well as those persons who had to be turned down because of a full schedule, lose out on the experience. To ensure that everyone has an equal opportunity to float our rivers, federal, state and private groups have been working to solve problems of this nature.



*Streams are always hurrying,  
Rushing their waters to further  
destinations . . .*

*—Susie Sommers*

In addition to demands for recreational use of the rivers, there are other demands for our water resources. These include demands on the rivers to help irrigate Idaho's farmland and to provide additional hydroelectric power. Such demands have to be recognized as having both positive and negative effects on Idaho's growth and development. Because of the increasing need for irrigation water and hydroelectric power, some of Idaho's existing free-flowing rivers may have to be compromised. Trade-offs have been, and will continue to be, studied in great depth by the various planning and development agencies in Idaho and in the Pacific Northwest. It remains a challenge to recreation planners and river recreationists across the state to determine which of Idaho's waterways will be allocated to recreation, irrigation or energy production.

In concert with the need to plan and program Idaho's free-flowing waters to meet recreation demands, is the need to plan for the safe use of these resources by recreationists. All too often people become involved in recreational activities that are totally new to them. Frequently, they have not prepared themselves or taken adequate safety measures. The need to use lifejackets, safe river craft and to know river flows and classes of river segments is the least that recreationists can do to insure their safe enjoyment of Idaho's rivers. Although statistics on drowning and injuries on recreation river trips in Idaho have been low over the past years, there are records of individuals who have "lucked out" in their challenge with life and death.

River recreation offers unequalled opportunity, challenge and enjoyment—if it is done safely. Because of this opportunity, Idaho will continue to be noted nationwide for its free-flowing water recreation, and will be enjoyed and remembered by those who have taken the time to seek out an Idaho river experience.



Chuck Wells



David Thompson

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# A "RARE" Opportunity:

## Politics of RARE II

by Neil McFeeley

When you were a sophomore and your advisor suggested that you take Political Science 101: "American Government," you probably asked yourself, "Why? How will this ever apply to me as a natural resource manager?" The answer to that question may not have been readily apparent as you sat through lectures every Monday, Wednesday and Friday at 10:00 a.m., but the RARE II process provides an excellent example of the significance of government and the relationship between politics and natural resource management. It is important to you, both theoretically as a citizen in the Northwest and pragmatically as one concerned with the outcome of the process, to understand the political nature and political implications of RARE II.

We might first define "politics" and "government." One political scientist characterized politics as "who gets what, when, and how."<sup>1</sup> A more scholarly, if less witty, way to describe politics holds politics to be "the authoritative allocation of values for a society."<sup>2</sup> Government is, then, the public institutions which perform this allocation for the society. It is not difficult to see how these definitions apply to RARE II; it is apparent that the RARE II process involves institutions of government deciding on the allocations of values (benefits and deprivations). This case involves the allocation of land and resources and the RARE II process certainly will help to determine who gets "what, when, and how" in the struggle over wilderness. The decisions made by those governmental institutions (particularly the Forest Service) will distribute certain benefits and certain deprivations to opposing groups in the society.

One can argue that in some ways the RARE II process is not typical of most

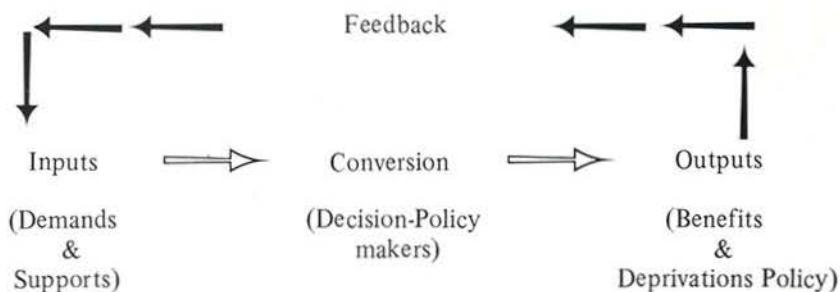
political decision-making because of the great amount of public input. However, in a representative democracy such as ours, the people generally do have a voice, directly or indirectly, in the decisions of government. In RARE II, the public input is perhaps more direct and obvious than in most cases, but nevertheless, RARE II is an excellent example of the political process at work in the United States and the important consequences that flow from that process.

In order to analyze the politics of RARE II, it will be helpful to use a framework for discussion called the "systems approach." Just as natural organisms constitute a system, so too does politics. The political system exists within a cultural, economic, and historical environment which sends inputs (demands and supports) into the conversion process (the governmental institutions that make policy decisions) which converts these inputs by its decision-making into policy outputs (benefits and deprivations). These outputs are received by the society and may cause feedback into the system. (See

Diagram 1.)

In one analysis of the politics of RARE II, it might be useful to start at the feedback stage of another policy decision—that of RARE I. RARE I was designed to review a limited number of roadless areas in 1972-73, but the evaluation process of the Forest Service displeased a number of groups. One, the Sierra Club, took the Forest Service into the federal courts and forced a change in that evaluation process. The next few years saw a very lengthy process of reviewing separate roadless areas, a process which was criticized by many persons, including some in Congress. Accordingly, responding to this demand, input at a U.S. House of Representatives committee hearing on a wilderness act in May, 1977, Rupert Cutler, Assistant Secretary for Conservation, Research, and Education in the Department of Agriculture, proposed a new process that would evaluate 67 million roadless acres within a set time period.<sup>3</sup> Thus, RARE II was originated at least partly as feedback from the RARE I process and partly as response to congressional and interest group demand.

Diagram 1





The RARE II process involves almost every element of the political system. Associated with the input sector were several interest groups, individuals and public officials. The official policy of the Forest Service is to encourage and accept public participation, and the Service solicited letters and messages from the public concerning their views on roadless areas. Over 264,000 messages were received in the public input phase of the process. They came from thousands of individuals and groups. Some letter-writing campaigns were organized by specific groups or companies: "For instance, one campaign originating in one Nevada county accounted for approximately 80 percent of total state input."<sup>4</sup>

Interest groups also made demands through other means, especially in testimony before congressional hearings on bills and roundtables on the RARE II process.<sup>5</sup> Public officials also had input into the decision-making process, originally through comments on the proposed evaluation, then by means of messages to the Forest Service, and finally and most importantly, through their input to the President after the public phase. Governors were invited to state their positions on the roadless areas in their states in February of 1979 (many invited further public comment from citizens of their states), and it is likely that the Governors' views will be given much weight in the President's decision.

The next stage of the political system is the most interesting and has the most visible participants, but in some ways is the least understood. This is the "conversion process" in which the inputs are considered by formal governmental institutions and decisions are made. The most prominent decision-maker in the RARE II process is, of course, the Forest Service. This agency, a component of the Department of Agriculture, is a part of the Federal executive branch and formally implements the decisions of the President (the Chief Executive) or the Congress. Yet, we recognize that bureaucratic



Rick Myers

agencies play an important role in policy-making as well, and the Forest Service is the primary policy-maker in the RARE II process. The Forest Service recognized the problem, set up the evaluation process, considered the various alternatives and formulated a policy which it proposed to the President. The decisions of the Forest Service constitute policy-making within the political context of congressional, presidential, judicial and client-group relationships.

Of course, Congress and the President also play a significant role in the conversion stage. The President has formal authority over the federal executive branch and its activities through his appointments and his budgetary decisions. The President also has the responsibility of considering the Forest Service's and the Governors' recommendations and forwarding his proposals as to what areas should be included within wilderness designations. Congress must pass enabling legislation for any agency to exist and exercise power to appropriate funds for agencies to continue to deal with national forest lands and to propose changes. The Congress also will adopt the actual policy on this matter in legislation shaped largely by Forest Service recommendations.

The next stage of the political system is the output stage. Outputs of governmental institutions are reflections of the society's values and are designed to promote the public interest. There are obviously differing and conflicting conceptions of the public interest and, therefore, the output will benefit some and disadvantage others. Policy is the allocation of resources, and if those resources are finite, some individuals and groups will receive rewards while others are deprived of that which they desire.

The output of the RARE II process will be a policy largely shaped by the Forest Service in response to what it perceives are the appropriate demands from the general public, from specific interest groups which are its "clientele," from other political factors which have influence over its budget and its policies, and to what it perceives is the public interest. Its decisions on what areas should be released for multi-purpose use (timber, mining, etc.) are final policy determinations, while Congress has the policy responsibility in deciding which areas are to be designated wilderness.

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# Spawning Migration and Homing

by Dudley Reiser

Countless studies have been and will continue to be conducted on the spawning migrations and homing behavior of salmonids. These studies have firmly established the importance of spawning migrations for the reproduction and continuation of a particular species and have shown the remarkable homing ability of certain salmonids in returning to their natal streams. This migratory and homing ability can be quite spectacular as exemplified by the chinook salmon. These fish migrate as far as 1600 km downstream to the ocean and after spending up to five years in the sea, return unerringly to spawn in their ancestral stream. Until recently, the mechanism by which these fish were able to "home in" on their particular stream remained a complete mystery. Although much of the enigma has been removed, many questions still remain unanswered.

Spawning migrations occur as a direct result of the need for salmonids to search for and locate suitable areas for spawning. Spawning migrations are ecologically significant in that they: 1) disperse the spawning population throughout the stream, thereby reducing the potential mortality imparted by super-imposition of redds; and 2) assure that all potentially good spawning areas will be used, thereby providing conducive environs for the developing egg. From a management standpoint, salmonid migrations (particularly salmon) lend themselves to the harvest and exploitation of the species, thus resulting in a time in the salmonid's adult life when it is most susceptible to man-induced mortality.

There are four general patterns of spawning migrations exhibited by various salmonids. These include: 1) migrations from lakes to streams (e.g., adfluvial cutthroat), 2) migrations within streams (fluvial) (e.g., brown, rainbow), 3) migrations from the ocean to freshwater streams (anadromous), and 4) migrations

within lakes. Of these patterns, number three is by far the most dynamic and lengthy. Typical migrations of Pacific and Atlantic salmon can range from 80 km for pink salmon to over 1600 km for the chinook. Adfluvial and fluvial migrations of resident salmonids are usually quite short (1-3 km) depending on the availability of suitable spawning areas. These limited migrations of stream residents probably result from fairly even distribution of their populations throughout the stream, due to their behavioral and territorial nature.

A common migration pattern observed in both anadromous and resident salmonids is that the earlier migrating fish tend to spawn in the upper reaches of the stream, while the later migrants utilize the lower reaches. This evolutionary adaptation reduces egg mortality due to overlapping spawning areas.

Generally, resident salmonid spawning migrations are terminated when the fish have reached suitable spawning areas. Anadromous salmonids, however, may pass by many acceptable sites, for it is only when these fish have reached their "home" tributary that their migration has finally ended. Evidence suggests that resident salmonids also exhibit this homing behavior, but not to the extent of the anadromous forms.

## Homing Behavior

That salmon were thought to return to their original birthplace was first suggested in 1653 by Izaak Walton. Undoubtedly, in the centuries that have passed, hundreds of other individuals speculated on this homing ability. The first experiments that offered scientific evidence of this phenomenon were conducted on Atlantic salmon by



This female chinook salmon migrated some 1200 km to reach its natal stream to spawn.



# Ability of Salmonids

Mallock in the early 1900's. In this experiment smolts were marked with silver wire and recoveries noted annually for three years.

Countless theories were formulated concerning the mechanism(s) which facilitated these returns to native waters. One of the earliest was proposed by F. Buckland in the 1880's. He felt that salmon relied on smell to return to their natal stream and that each stream possessed its own characteristic odor. H.C. White, another proponent of the "odor hypothesis," suggested in 1934 that returning adults may be able to sense and smell parr in a particular stream. Other individuals supported the "gradient hypothesis" which stated that the returning salmon relied on the physical and chemical characteristics of the water, specifically the gradients imparted as the stream flows from the headwaters

to the ocean. In 1921, H.B. Ward observed that migrating salmon appeared to select tributaries with the coldest water and therefore thought that the fish were following a temperature gradient from ocean to spawning stream. Other gradient theories included factors of carbon dioxide and salinity.

The problem with gradient theories is that they do not adequately explain salmon selectivity for a particular stream. If the gradient theory were true, it would be more logical for all salmon to ascend the stream with the best conditions rather than select ones which may be warmer and less conducive for egg survival. This, however, is not the case.

In the early 1950's there was renewed investigation into the odor hypothesis. A.D. Hasler posed three questions that required affirmative answers before odor could be considered a significant factor in homing behavior:

- 1) Do streams have specific odors to which fish can react?
- 2) Can salmon differentiate between such odors?
- 3) Can salmon retain odor impressions from youth to maturity?

In 1954 W.J. Wisby and A.D. Hasler conducted a classic experiment to answer these questions. In this experiment, 302 adult coho salmon were captured from two different tributaries. One hundred and fifty-three of the salmon had their olfactory pits occluded with cotton, while the remaining 149 served as controls. All fish were returned below the two streams to determine if loss of smell affected homing ability.

The results indicated that normal salmon were able to successfully ascend to their home stream a second time, while those lacking olfaction were unable to select their stream accurately. This suggests that odor differentiation is indeed the important factor in homing

ability. Similar experiments provided additional evidence in support of the odor hypothesis.

Today it is fairly well accepted that stream odor is the guiding substance salmonids use in homing to their natal stream. The source of the odor is probably derived from a unique combination of runoff from the riparian and surrounding vegetation and soils, and the specific bouquet imparted by the flora and fauna. According to Arthur Hasler, any factor serving as a signal must: 1) remain relatively constant in a stream over a period of years, since up to five years may elapse between the initial imprint and return; 2) not be cyclical, but remain in the same form continuously (this is important because different runs may occur at different times); 3) be specific enough to impart significance only to those individuals originating from a given stream; and 4) remain detectable even with physical and chemical upheavals in the stream such as floods, pollution, etc. The source of odor described by Hasler would meet these criteria, since the natural plant community and soil type would remain constant.

The question then arises as to how these odors are learned or imprinted so as to be retained for as long as five years. Two theories are possible which would explain the ability: 1) the odor selection has come from genetic selection from generations of isolation and inbreeding; 2) the odor selection occurs through imprinting of the olfactory cortex during youthful stages. All evidence to date supports this latter theory. In 1957, R. Donaldson and G.H. Allen removed coho eggs from their ancestral stream to a different stream in which the eggs hatched. The resulting smolts migrated to the ocean and in two to three years, the migrating adults returned to their adopted rather than ancestral stream. Working with Atlantic



Hatcheries rely on the homing ability of salmon and trout for collecting eggs.

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# Whole Tree Utilization: *Biological and Technological Aspects*

by Froylan Castaneda

## Background

In the past, many changes have occurred in forestry and all with one objective: to maximize forest benefits at the lowest possible cost. These changes have been dictated by environmental conditions, diminishing resources and economic pressures. The scarcity of wood created the need for new technological developments and changes of attitudes in harvesting and wood utilization. As a result, full tree utilization and diversified wood product management came into practice.

Whole tree utilization (WTU) is not a new concept. It was of little or no importance some 30 years ago, but has received increased attention since the sixties as a possible solution to the world's demand for more wood fiber. It was first publicly presented 15 years ago, although the first articles published on the subject appeared as early as 1957. About 10 years ago WTU became a reality, at least in the southern United States.

The idea of WTU is to use all of the tree: roots, bole, bark, branches and foliage. The intention is to bring that highly needed additional wood fiber in order to meet the expected future demands of the rapidly increasing world population. It has been estimated that by the year 2000, paper and paperboard production will have to increase by 150 percent or more to meet those growing needs.

## Objectives

Although the advantages of WTU are numerous, the results of research indicate that some of its effects can be detrimental to the soil, to wildlife, and may diminish the environmental and recreational values of a site. Many

timberland owners look at it with dismay; economists and industry say it is the answer to the shortage of raw material.

It is the purpose of this paper to discuss the major pros and cons of WTU based on results of research. Answers to some of these disadvantages are also discussed.

## Effects on Soil

The 40-45 percent gain in yield of wood fiber obtained by using the whole tree is accompanied by an increase of nutrient removals of 30-70 percent. Conventional harvesting methods use only 60-65 percent of the tree, and utilization of the foliage increases yield just slightly. Soil scientists argue that if leaves, which also have a high content of calcium (Ca), nitrogen (N), phosphorous (P) and potassium (K), were left, nutrient removal could be reduced almost entirely. Those reductions would be more realistic for shorter rotations since, at a younger age, the foliage is an even larger component of the tree.

Other soil specialists have expressed their concern by indicating that repeated WTU could deplete plant-available nutrient reserves to levels where tree growth would not be sustained. This is especially true on shallow, highly erodible, coarse textured or mineralogically poor soils. For good sites and for rotations up to 70 years, additional removals, by harvesting the whole tree, become less serious and may be more easily justified both ecologically and economically.

Studies on soil nutrient depletion due to WTU in Wisconsin hardwood sites show that the tops of the trees removed during whole tree harvesting did not cause serious depletion of available N, P, K, Ca and magnesium (Mg) in a minimum of two 45-year

rotations. However, he acknowledged that shorter rotations could cause more rapid nutrient depletion. Results from research in Alabama indicate that WTU can cause possible degradation of soil reserves of N, P and K, but not of Ca and Mg, in cottonwood stands. By harvesting a 13-year old loblolly-shortleaf plantation, it has been shown that dry weight harvested increases only by 14 percent, whereas a reduction up to 70 percent in N occurred. Tests have shown that three 20-year rotations remove more N than one 60-year crop.

## The Private Timberland Owner

Some of the more direct advantages of WTU to timberland owners include (1) more income per unit area as they would be selling tops, branches and stumps which, under conventional harvesting techniques, would remain on the site; (2) it leaves the area more aesthetically clean; (3) it reduces the threat of fire considerably; (4) it cleans the land, thus leaving it ready for agricultural purposes; and (5) it reduces the cost of cleaning the land and avoids fire as a means of obtaining that goal afterwards.

A survey of southern private timberland owners, concerning their attitude and reaction to different harvesting methods, indicates that despite those advantages, many owners still look with dismay to WTU, clearcut and tree-length logging. A great majority of them also favor uneven-age and partial cut practices, because these two methods provide more of a continuous income flow over the years.

Landowners relate clearcutting to WTU, since it is obvious that in order for the latter to become an economical operation, large areas and large volumes must be cut at one spot. This is obtainable by going to a heavier type of cut, such as clearcutting. The reaction of landowners to WTU is, in general,



*"The mighty oak was once a little nut  
who held his ground!"*

positive provided the area cut be kept small, irregular in shape and widely spread. Although income is their major concern, landowners also care about aesthetics. Slash and debris left after harvesting is the most common excuse given by private timberland owners for not wanting to sell.

#### **Its Effects on Wildlife**

The reaction to WTU by wildlife specialists is generally favorable. Some, however, will support the idea of leaving the tops on the site because their removal may cause soil nutrient deficiency and indirectly decrease the amount and quality of forage. Debarking at the site has been determined to help maintain that nutrient level required.

The degree of forage yield for deer, for example, will increase with the degree of cut. The removal of some of the larger trees markedly increases fruit production of the understory hardwoods, making it more readily available. Cutting of larger trees will also increase plant species richness and diversity favorable to wildlife. Food quality is improved since, by creating openings in the forest canopy, growth of the understory vegetation is rapid, succulent and high in crude protein content.

The major concern of whole tree harvesting is when it is conducted over too large an area and when concentration is only on a few species. Some animals tend to live in large areas but their feeding habits are confined to a small range where a particular species grows best. Squirrel populations have been drastically reduced in pine-hardwood stands where the hardwoods have been removed.

Biologists also feel that with the increasing demand for wood fiber, inferior quality material, such as dead or cull trees, will have to be used. If this

point is reached, the existence of some birds and small mammals could be jeopardized.

#### **About Recreational Values**

The type of cutting method has a direct effect on the future recreational potential of a site. If care is not taken, the site cut may be left aesthetically unappealing. As mentioned previously, by favoring some species over others, man can affect vegetation changes over time. These changes may influence some animal behavior and thus have direct effects on hunting, fishing, camping, hiking, picnicking and wilderness visiting.

For WTU to have the least visual impact, it should be light-taking out a tree here, a tree there—a practice which is not too economically feasible. Landings should be located strategically. Logging along main roads should be avoided and careful tree selection should be practiced. Openings must also be irregular in shape and widely spread. Openings should be small in uneven-aged

stands since those stands are desirable in forest landscapes. Besides, contrasting spatial effects can be obtained by harvesting trees in groups.

Water is also a factor that plays an important role as a recreational value. Research indicates that WTU, as compared to conventional logging methods, does not significantly alter water yield. On the other hand, and in most of the southern pine regions, clearcutting alone can increase water yields by almost 50 percent in the first year. Changes in the physical and chemical qualities of water are less from the removal of biomass than from disturbances to the forest floor during harvest.

#### **How Industry Feels**

The increasing demand and the shortage of raw material are the main reasons why industry decided to look for a better way of using the whole tree. By harvesting roots and stumps, an additional 25 percent of fiber can be

*continued on page 74*



Glenn Lackey



# Backyard Wildlife

by Steve Peterson

Many of you seniors graduating in the natural resources field think your experiences with the educational process are now behind you. Boy are you in for a big surprise! Not only will you continue to be involved in education when you leave here, but you may find yourself increasingly playing the role of teacher instead of pupil.

It really doesn't make any difference whether you received your degree in forestry, wildlife, range management, or fisheries. To your next door neighbor or the other guy in the barber's chair all these professions are generally one and the same. You can expect these people to call on you to settle arguments, make suggestions on what types of trees to plant in their yard, how to prepare various types of game for the table, or provide a sure-fire method of catching a squirrel in the attic. More importantly, you will find out that your neighbors often have very strong *opinions* on how you should be managing *their* natural resources.

No matter how firmly we believe that our chosen vocations within the natural resources field are different, our jobs are very much interlocked "out in the real world." If you end up working for the Idaho Department of Fish and Game, you may find yourself constantly defending various wildlife or forest management policies. Everyone seems to have an opinion on how the Lochsa elk herd should really be managed, but relatively few people outside the profession know the facts behind management decisions affecting that natural resource. The only way to manage our natural resources effectively is to make

sure public opinion is based on facts. Facts are truths, and in our profession they are based on sound biological data.

To convince people that your policies and practices are correct, you will need to explain things in simplified terminology with *examples the public can understand*. It does little good to expound on the biological basis of cropping (killing by sport hunting) overstocked elk herds if the person has never seen a live elk, let alone had the desire to kill one. But thinning carrots, so that the final crop is bigger, better and juicier—that he can understand. Similarly, it is futile to discuss the limitations of "stockpiling" animals if the person is unfamiliar with the principles of habitat selection, species requirements, territorial behavior, plant succession, etc. But a bathtub holds only so much water—that he understands.

Virtually every biological prin-

ciple used in your chosen career can be illustrated with examples in or around your home. Urban wildlife, household pets, aquariums, and gardens make interesting analogies. Many factors that limit or control the growth of urban plants and animals also affect wildlife and their habitat in a similar way, even in remote areas. People readily understand factors that limit the growth of garden or household plants, and most people have observed interactions between fish in an aquarium, the territorial behavior of their dog, or the predator capabilities of their cat. If you can apply these *familiar* nongame examples to not-so-familiar game examples, you will find the public relations aspect of your job much easier. A couple of other examples may help you get started.

The concept of plant succession, as it relates to habitat selection and carrying capacity, is a cornerstone in the foundation of wildlife



Maurice Hornocker



"The reason I've been able to produce some fast horses is that, where I graze them, they have to feed at thirty miles an hour to get enough to eat."

—The Oregon Desert

management. Most people fail to realize that plant communities (habitat if you prefer), and their ability to retain specific numbers or kinds of animals, are constantly changing. Individuals tend to remember "the good old days" when there were *lots* of elk wintering on the Lochsa or *lots* of pheasants available on the Palouse farmland. What these individuals fail to realize is that, over the past 40 years, winter browse on the Lochsa has become decadent, grown out of reach of the elk, or is being replaced by less palatable conifers. When tractors replaced horses, and small farms were consolidated into big agribusinesses, pheasants disappeared along with the fences and brushy draws. These changes in animal populations, then, are primarily the result of changes in plant communities.

Similarly, plants and animals in an urban setting also change with time. Ask anyone who gardens what happens if the nutrients removed in

harvested crops are not replaced each year, if weeds are not removed on a regular basis, or if the soil is not watered frequently. Note how shrubbery, shade, and ornamental plants slowly enclose the houses in "old established neighborhoods." This change in the vegetation from that of newly-developed subdivisions to that characteristic of old suburbs is really quite striking. A close examination of the bird communities in these two neighborhoods would also reveal remarkable differences in species composition as well. Just as ruffed grouse need different habitats at different times of the year, so do predominantly urban birds such as the robin. Nesting requirements for the robin are generally satisfied by a conifer for the first nest in the spring, because this type of tree provides both a crotch to support the nest cup and cover from the evergreen foliage. Later nests are generally placed in the more suitable crotches of deciduous trees—maple, elm or apple—that

have since leafed out.

Another concept associated with carrying capacity concerns the need of individuals for living space. This *territorial behavior* is often species-specific and varies with the season. Anyone who has ever kept Siamese Fighting Fish (Bettas) or Tiger Barbs in small aquariums, knows how antagonistic they can be if an intruder swims beyond that invisible, but mutually agreed upon, territorial line. Have you ever noticed two robins fighting on your lawn? Obviously, one of those birds intruded on the other's foraging area and it subsequently paid for the mistake by getting thoroughly thrashed! Just as your fish tank can hold only a limited number of Tiger Barbs and your backyard only so many robins, so it is for elk on the Lochsa, ruffed grouse in the forest, or mallards on prairie ponds. When the carrying capacity of an area is exceeded, individuals either die, move away, or decline in health.

A few additional words of advice may be in order. Open your eyes and look around you. It isn't necessary to trek into the wilderness to learn about wildlife. Too often we become oblivious to wildlife at our doorstep. As future guardians of our natural resources, you will need all the help you can get. Remember to offer your knowledge to your neighbors, especially children and young adults. Some day you may need their help. Above all, speak on a level your audience can understand. People are interested in what you have to say, and you can demonstrate the basic principles very easily, in their backyard.



Steve Peterson is Chairman of Wildlife Resources, University of Idaho.





# Evolution of A College from

by Dr. Ernest Ables

The College of Forestry, Wildlife and Range Sciences had its formal origin in 1909 as the Department of Forestry. Prior to that date at least one course in forestry was being taught in another department on campus. As curricula in Wood Utilization (1914) and Range (1917) were added and gave breadth to the programs, the name was changed to the School of Forestry (1917). With additions of degree programs in wildlife (1942) and fisheries (1951), college status was attained. In 1963 the words "Wildlife and Range Sciences" were added to better represent the diversity of offerings in the College. Wildland Recreation Management was added in 1974 and brought the number of undergraduate degrees to six.

Prior to 1973 the organizational structure and mode of operation of the College was like that of a large department. Major decisions and administration of budgets were handled by the Dean's Office, with advice from the faculty. Each curriculum was backed up by qualified individuals who taught and conducted research in their respective disciplines. These groups of individuals had no formal identity and were referred to as "faculties", "groups", or some similar term. In wildlife and fisheries the academic areas were referred to as "units" because of the presence of Federal Cooperative Wildlife and Fisheries Units, whose main functions were graduate instruction and research.

As the College grew in size and diversity of programs, it became clear that administering such an unwieldy unit required a different organizational approach. Each disciplinary area needed some degree of identity and autonomy. Thus, in 1973 the present structure

of academic programs with elected chairmen was adopted. This plan fixed responsibility and delegated authority to academic program faculties for developing curricula, making teaching assignments and conducting research, much the same as in regular departments. However, unlike departments, budgets were still administered by the Dean's Office. Chairmen were not appointed but elected for no more than two consecutive two-year terms. Annual faculty evaluations and performance reviews were still done by the Dean, who personally interviewed each individual.

In 1973 the University *General Catalog* listed 35 teaching faculty; by 1979 this figure was 66. Add to this an additional 25 research scientists, 30 affiliate faculty, 40 technicians and staff personnel, 160 graduate students, more than 600 undergraduates and 450 part-time employees, and the magnitude of the administrative load becomes obvious. We could no longer operate as a "super-department". Inexorably, authority began to be delegated to program chairmen who assumed greater responsibility for budgetary control, faculty and staff evaluations, and overall coordination of activities within their programs. Thus, we were operating as if departments existed. After long hours of careful deliberation the following list of advantages and disadvantages of departmentalization was drafted and presented to the College faculty.

## Advantages

1. The confusion, both on and off campus, concerning the structure and function of our college would be reduced.
2. Total breadth of programs and activities would have greater visibility.

3. Our competitive ability in obtaining budgetary support would be improved.
4. The administrative workload in the College would be better distributed.
5. Long-range planning in both teaching and research could be better accomplished where the chairman is more clearly aware of the responsibilities.
6. Compensation for chairmen has a greater probability of being increased under a departmental structure.
7. Responsibility for faculty and departmental affairs would be on a more local level.
8. Budgetary control would be more local.
9. Course prefixes would reflect departmental names.

## Disadvantages

1. Barriers to cooperation and interchange of ideas could develop, due to territorial behavior of chairmen.
2. There would be less flexibility in the interchange of funds.
3. Dean's personal contact with individual college activities would diminish.
4. Departments require strong, competitive chairmen.
5. Increased levels of authority could cause increased bureaucratic procedures.
6. The increased workload of chairmen would cause shifting of their duties away from teaching or research.
7. Competition for budget allocations between departments would become stronger.
8. Departments with low credit-hour production would be conspicuous.
9. Means for allocation of credit hours produced in general college courses would have to be worked out.



# Department to Departments

From this list it can be seen that factors other than size alone were influencing the decision to request departmentalization. Not least of these is how we are perceived by others and the difficulty of obtaining increases in financial support. Other colleges on campus, our counterparts at other universities, the Board of Regents, legislative committees and many external agencies view us as a strange department, the inner workings of which they don't understand. One might argue that it is not important how others view us; that is their problem. To the contrary, how we are viewed becomes very important when our ability to interact effectively with others is being impaired. Colleges with structured departments have difficulty relating to us and cooperation suffers as a result. They aren't sure where authority lies; with an associate dean, a program area chairman, the Dean, or whom? Regents and legislators see a single budget for what they interpret as a large department. When our college budget is compared to that of departments on campus, it does indeed appear large, even though there are depart-

ments whose teaching budgets are larger than our entire college appropriation for instruction. There are circumstances where being different is admirable, but this is not one of them.

On 20 September 1978, the College faculty endorsed the concept of changing to departments. Now we must work out details and methods of implementation. The By-Laws Committee is revising the College by-laws to reflect the new structure, changes in authority and responsibility, and methods for selecting departmental chairmen. We do not anticipate any drastic changes in college operations, but rather a gradual shifting of responsibilities. In many respects we are already operating as departments and a change in name merely reflects what is already fact.

The most visible change as far as academic programs of study and curricula are concerned will be course prefixes. All courses now bear the FWR label. Under the departmental structure, there would be six categories of prefixes reflecting the six departments.

College-wide service courses, such as FWR 101, 307, 383, 494, etc. would be cross-listed between all departments. Others might be cross-listed between only two departments. Credit hours would be assigned to the department under whose prefix the students were enrolled while credit for instructing the course would go to the department supplying the instructor.

Some activities would be only slightly affected by changing to departments. The research programs would continue as at present, under overall coordination by the FWR Experiment Station.

Not everyone agrees with changing to departments. They point out that our philosophy of integrated resource management is enhanced by the present organizational structure and might be hindered by departmental boundaries. They also remind us that the present system *does* work, a point not to be ignored. However, no progress is made until a step is taken. Is this the correct step in the right direction? Time will tell.



*Ernest Ables is Associate Dean, College of Forestry, Wildlife and Range Sciences, University of Idaho.*

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*... Learning is not wisdom; knowledge is not necessarily vital energy. The student who has to cram through a school or a college course, who has made himself merely a receptacle for the teacher's thoughts and ideas, is not educated; he has not gained much. He is a reservoir, not a fountain. One retains, the other gives forth. Unless his knowledge is converted into wisdom, into faculty, it will become stagnant like still water.*

*—J. E. Dinger.*



Jeff Buhr



# 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 Betty Kaufman, Placement Coordinator, College of Forestry, Wildlife and Range Sciences, University of Idaho, Moscow, Idaho 83843.*





# Faculty Follies



*University of Idaho Library*



# A Man for All Seasons

by Jim Spicer

John Howe graduated from Amherst College in 1935 with a B.A. in Chemistry and was subsequently employed by the Procter and Gamble Company in their New York City factory. From there, he transferred to the Procter and Gamble Chemical Division in Cincinnati, Ohio. In the years leading up to and during World War II, John was assigned to the Procter and Gamble Defense Corporation in Tennessee, where he was plant superintendent. The plant, under John's direction, loaded 155 mm shells with explosives.

After the war, John's interest in forest products took him to Chadbourne Lumber Company in Bethel, Maine, where he became Product Development Engineer. Desiring a more scientific knowledge of wood, John entered the graduate program at Yale University and obtained his M.S. degree in Wood Technology in 1955. Through personal contacts in the teaching profession, he was inspired to consider teaching in the field of Wood Technology.

In the fall of 1956, John accepted his present position at the University of Idaho. He was granted a Ph.D. in Wood Science and Technology from the University of Michigan in 1966. During portions of his tenure at the University of Idaho, he spent some time teaching at the University of Michigan (1962 and 1964) and at the University of Maine (1976).

John Howe was the Forest Products Department at the University of Idaho when he arrived here in 1956. He has been instrumental in its development from a one-man department of less than a dozen students to a department of 70 students and 6 instructors. In John's personal opinion, the department today has unlimited prospects for continued growth as long as it remains responsive to needs and trends in the wood indus-

tries of the Intermountain Region. To do this, it must continue providing quality education and research.

John's own research work since coming to Idaho has focused on the following general areas:

1. Preservation, seasoning and mechanical properties of wood.
2. Effects of irrigation on wood quality.
3. Full forest utilization.

He has also studied tropical forestry in Honduras and Costa Rica and has done research on the effects of climate on specific gravities of Costa Rican hardwoods. This work was funded by a National Science Foundation grant.

#### *Idaho Forester:*

What are your thoughts on the past accomplishments and future direction of Forest Products at the University?

#### *Dr. Howe:*

I think we've had a lot of opportunities, some of which we've made the

most of, and others that we could have used to better advantage. As for the future, I would emphasize what I said to Dr. Gibb, that I know of no department on campus with more potential for productive service to the student, the state and industry than our Forest Products Department.

To double back a bit, I think that one of the important things in products is that we have maintained a high quality curriculum, one that will stand up against any comparable curriculum in the country. We meet all standards set by the Accreditation Committee of the Society of Wood Science and Technology. Another thing that I think has been helpful is the addition of some very capable young men with expertise in economics. Their contributions have greatly improved our program.

In the future, I think we have a great opportunity to acquire a number of well-qualified faculty members, so that we can offer the highest quality education possible in the technical and economics/business areas. This will be good for our undergraduate students.





*"More education can help us only if  
it produces more wisdom."  
—E.F. Schumacher*

We have an excellent situation here, considering our proximity to Potlatch Corporation in Lewiston and to Washington State University in Pullman. The University of Idaho can team up and work together with WSU faculty members. In the area of service to industry, I think we have the potential of getting a staff member here who will be in constant contact with industry. He will take questions from them, present them to the faculty here, and return to industry solutions to their problems. Short courses in forest industry-related areas should also receive increased attention.

In research, a lot of questions are being asked relative to the use of wood, since it's our only renewable natural resource. Such questions can be answered here, and I think Idaho is in a unique position to do this.

*Idaho Forester:*

What factors will be decisive in determining the future of the department?

*Dr. Howe:*

I think the decisive factor is not our lab, but flesh and bones. Whether we can fill out our faculty with dedicated people, dedicated to the goals I just mentioned, is the question. To do that, it is necessary for the University to be convinced it is in its best interest to get those people here on our staff. That takes money. It's my experience that if you get the right people, get them hired, they can do much to support themselves through research and service. I don't mean to belittle those who are here already, but it is true that we are a very fragmented faculty. Our faculty members are doing a lot of other things besides concentrating on the forest products aspect. If that fragmentation is going to continue, we will have to bring in people who will

be devoted, as I see it, full-time to Forest Products.

*Idaho Forester:*

There must have been many personally rewarding experiences in your 23 years here. Could you possibly relate the most gratifying segments of your career at the University of Idaho?

*Dr. Howe:*

Well, the most gratifying, and I think it is true for most faculty members, is the feeling that I have had some part in helping young people obtain the training and the knowledge they needed to be successful. We have maintained good contact with our alumni and they with us. I find this very gratifying.

It has been rewarding working here with the faculty in our College. They are a unique group. It has been particularly gratifying for me to work with people in industry. These are, as far as I'm concerned, the truly satisfying experiences.

*Idaho Forester:*

What are your views on retirement? What plans do you have for yours?

*Dr. Howe:*

I look on retirement as an opportunity for change. I have made several changes in my working career. I started out working for Procter and Gamble, then I went to work for Chadbourne Lumber Company in Maine. Finally, I took this position at the University of Idaho.

My plan now is to spend some time doing something in which I am interested, but have not put as much time into as I would like, that is church-related activities. I aim to do this by going back to college to get a Master's of Divinity degree. Hopefully, after that I can be associated with a

church in a forested area. In doing so, I can combine my interest in religion with my interest in forest products.

*Idaho Forester:*

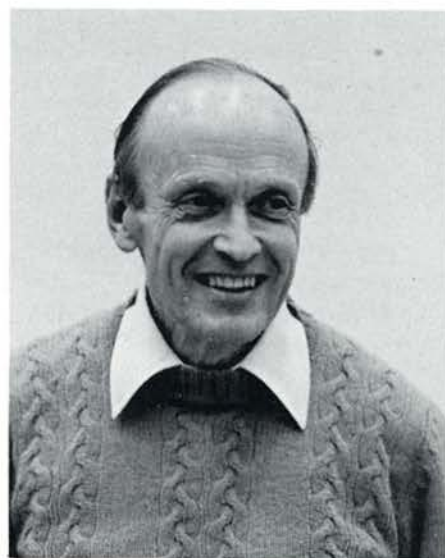
Would you briefly express your philosophy about teaching? What have you learned about it over the years?

*Dr. Howe:*

You have to really like the people with whom you work, the students. That is the basic ingredient of good teaching. The better you know them, the better you can teach them, both inside the classroom and out. Of course, you have to know your subject and stay with it all the time. Continue to take courses for your own improvement. I have taken courses continuously since I have been here. I have never been named Teacher of the Year, but it seems that the better instructors tend to follow the principles I have just mentioned.

When I started teaching, I thought that the main thing was to implant

*continued on page 76*





# Looking Back:

## *A Salute to Frank Pitkin*

by Rick Myers

Professor Frank Pitkin has provided his services to the University of Idaho College of Forestry, Wildlife and Range Sciences (FWR) for some forty years. We, the *Idaho Forester* staff, would like to recognize his dedication.

Frank was born in a small town in Iowa, where he attended grade school. Later, he moved to the Sacramento Valley in California and completed high school. He was awarded a football scholarship by Washington State University and moved to Pullman. Developing a stronger affection for Moscow, he relinquished the opportunity to play football at WSU to pursue a career in forestry at the University of Idaho. He received a Bachelor of Science degree in forestry and later earned a Master of Forestry at the University of Idaho. Professor Pitkin has engaged in various activities including research, teaching, building security, and management of the Forest Nursery. He became the manager of the University of Idaho Experimental Forest in 1971.

The Experimental Forest, in the Moscow Mountain area, has gradually developed since the early thirties through land purchases and donations. Little activity occurred on the Experimental Forest prior to 1971, compared to the more recent teacher and student activities that have ensued there. Professor Pitkin, subsequently, has been quite active in creating interest within the College to expand student participation, develop student training programs and establish other projects on the forest. Numerous field trips have provided educational benefits to many students. A student logging operation was initiated, with the help of a borrowed chainsaw, to familiarize students with logging techniques and provide them with practical experience. Equipment has been acquired gradually through the sale of timber harvested on

the Experimental Forest and through donations. Approximately one million board feet of timber have been harvested annually. Revenues from Experimental Forest timber sales have also provided funding for other school forest activities and research projects. Several miles of roads have been developed for better access and fire protection with the aid of logging and engineering classes. Prescriptions and other silvicultural practices were initiated for student observation. Demonstration plots were set up for silviculture classes. An aerial photography project, a timber inventory program, and forest fertilization projects were also implemented. The Experimental Forest has also lent itself to multiple use, including recreation, grazing, sport hunting, and wildlife research.

Professor Pitkin retired from his position as manager of the Experimental Forest on January 1, 1979, and was succeeded by Harold Osborne. Frank tentatively plans to retire on July 1, 1979, from all his duties, only retaining direction of the Forest Nursery. He is presently active in planning construction of the newly proposed annex for the College of FWR and may continue to participate in this endeavor in the future.



Frank feels fortunate that he has taken part in the Experimental Forest development, but contends that much still needs to be accomplished. He hopes someday to see a teaching center constructed at Big Meadow Creek for research, summer camp, and other student activities. He would also like to see a water stock pond built at Flat Creek for fire protection.

The services of Frank Pitkin have certainly added to the progress of education at the University of Idaho, and we wish him the best for the future. 🌲





# Extension Forestry: *Progress and Change*

by Barb Schrader

This year a change took place in the Forestry Extension Office. For more than 30 years, Vernon Burlison has been the Extension Forester at the University of Idaho. In September of 1978, Mr. Burlison retired, and Don Hanley took over extension duties.

Forestry Extension is just one component of the Cooperative Extension Service operating in Idaho. The purpose of Cooperative Extension is to educate the landowner. Many of the long-range objectives of the Forestry Extension position include communication with the private woodland owner and the county agents, continuing education for professional foresters with private management responsibilities, and assisting farmers and ranchers with forestry-related problems. By being located at the University, the Extension Forester can keep track of research—university, state, federal—that is of value to Idaho citizens. Bulletins and special releases to the county agents are regularly sent out to inform them of issues and improvements of interest to the public.

Vernon Burlison came to the U of I in 1946 on a half-time teaching and half-time extension appointment. In 1951, he took on full-time extension work. Since then, Mr. Burlison has kept busy with 4-H Forestry, organizing professional short courses, and implementing various programs to benefit the private landowner. As well as being active with local 4-H groups, he has been instrumental in drawing up a regional policy which has subsequently been adopted by the National 4-H Forestry program. Last year he received the Outstanding Forester Award from the National 4-H Cooperative.

Mr. Burlison rates the wood-treatment program developed during his extension experience very highly. In southern Idaho no durable wood is



Vernon Burlison

available for long-term use as fence posts. With no treatment, the posts last three to five years. With a treatment developed at the University of Idaho, posts may last up to twenty years. By adding a few cents to the production cost of a post, the life of that post can be extended fifteen years.

The establishment of the Christmas Tree Growers Association also ranks high on Mr. Burlison's list of accomplishments. Forest experiment stations began research on growing trees strictly for Christmas sales when he first arrived in Idaho. It was realized that demand would soon outstrip the supply that came from the back hills.

Growing trees strictly to be sold as Christmas trees can be economical and profitable. The experiment stations test methods of growing trees and investigate the various suitable tree species. Through the Christmas Tree Growers Association, new research ideas and findings on effective tree growing are conveyed to the private tree grower.

When reflecting on the last 33 years he has spent as Extension Forester, Mr. Burlison remarked, "I'm sure I could have done many other jobs and been happy. I enjoyed teaching very much, but nothing could have been more satisfying than my position as Extension Forester."



Don Hanley

Don Hanley is our new Extension Forester. He originally came to the U of I in 1974 as a Research Associate working on intensive timber culture. Mr. Hanley received his B.S. and M.S. degrees at the University of Montana and is currently working on his Ph.D. in Forest Resources.

Mr. Hanley has been busy meeting people and putting various programs together. The following is a look at things to come.

By May, the Extension Office hopes to have literature available to the public on the various aspects of using wood as fuel. Information on this includes firewood species selection, fuel wood properties, costs and storage. A slide-tape series is also being prepared on this topic.

Workshops on windbreak and "shade-tree" forestry for city and county employees, utility personnel and tree surgeons are being planned. These workshops will then be followed by sessions open to the public.

Also underway, in cooperation with the FWR College, is a pilot program to train professional foresters in the use of a stand prognosis model. This model is a computer program that can forecast

*continued on page 82*



# “T-i-m-b-e-r-r!!”

An Interview with Harold Osborne  
by Maryanne Staubach

What is special about this university's college of forestry, is that it has its own Experimental Forest, which offers the students a unique opportunity to gain practical experience in forestry.

Harold Osborne was appointed as the new Manager of the University of Idaho Experimental Forest on January 1, 1979. He was hired by the University in October, 1977, as Assistant Manager, with the idea that he was to take over as Manager when Frank Pitkin retired. Between 1972 and 1977, he was involved in research on the fir engraver beetle, and later, on the relationship of site and stand attributes and management practices on the Douglas-fir tussock moth.

Harold (32) was born and raised in Potlatch, Idaho. He attended the University of Idaho between 1965 and 1971, when he received his bachelor's degree in forestry. During that time, he took time off to serve in the Army. He received his master's degree in forestry at the University of Idaho in 1974. He is currently enrolled in the silvicultural certification program operated by the U.S. Forest Service called "Continuing Education in Forest Ecology and Silviculture" (CEFES). He started in September, 1978, and will finish in early 1980.

As a Research Instructor, Harold's duties are 10% teaching, 10% research and 80% administration of the forest.

#### *Idaho Forester:*

When you became manager of the Experimental Forest, questions were raised by the students here concerning what your thoughts are on managing the forest, and what the extent of your authority as Manager

of the forest is. Who are all the people responsible for making the management decisions for the forest?

#### *Harold:*

The Dean, John Ehrenreich, is ultimately responsible for the forest. Then it is Assistant Dean, Ken Sowles. I am responsible to the Dean through Ken Sowles' office. We, as a group, take advice from the School Forest Advisory Committee, which consists of eight faculty members representing all the options in the College of Forestry, Wildlife and Range Sciences.

The Advisory Committee members receive input from the faculty and staff. It is their job to review the policy under which we operate, set major goals and work out major problems. They do not make the day-to-day decisions on what to cut, how to cut and how many chainsaws to buy. That comes through my office.

The Advisory Committee, as well as any faculty member, may be consulted for assistance on specific problems dealing with their area of expertise. Leonard Johnson is one such person. He is a member of the Advisory Committee, but over and above that, he helps us through class projects and individual efforts with road lay-out and design. Leonard also assists us in procuring the proper type of equipment and making suggestions on what kind of machinery we want to put together for the operation package out there. The day-to-day harvesting operations are carried out by students under the supervision of my Logging Superintendent, Robert Reggear. He is aided by one full-time assistant.

#### *Idaho Forester:*

What do you see as the main purpose of the Experimental Forest?

#### *Harold:*

The primary purpose should be teaching, demonstration and research. It is a field laboratory to be used by the students. Currently, I am running a timber cruising and inventory course out there. Karel Stoszek's advanced silviculture class does silvicultural prescriptions on the forest. Many others use the forest for field trips. I think the Forest Resources people use the forest the most because they are working with tree manipulation through harvesting, regeneration and thinnings. Research is also important. There have been a number of research projects completed over the past twenty years. Extensive research has been done in the East Hatter Creek Unit on white-tailed deer.

But to make all these things work, we need to have a source of funds. Because of limited and reduced state revenues, we are pursuing an active timber sale program. We have a resource, a timber resource. It is worth a great deal of money, and if managed properly, it will pay the way for teaching, demonstration and research, and for the operation and improvement of the forest in the long run. The surplus money is used to aid in such things as graduate assistantships and the purchase of busses and carry-alls used by the students.

#### *Idaho Forester:*

What are your long-range management goals for the Experimental Forest?

#### *Harold:*

An adequate road system to serve all the identified needs and uses is one thing we are really lacking. In five to ten years, we should have the road plan developed and a major portion of the construction completed. Since our units are separated and interspersed with small private inholdings and national forest and state lands, it will take a lot of coordination to



*"Plan to stay off the ranges when the ground is soft. Grass grows by inches but is oft times destroyed by feet."*  
—R.A. Long

develop a road plan. Otherwise, you could be coming up against the backside of a mountain with nowhere to go. So one of the long-range goals is to enlist the cooperation of adjoining landowners and develop a permanent road system to serve the forest.

Another long-range goal will be to operate the forest as a "working forest." In other words, we will be managing the timber resource for the long-term generation of revenue. We plan to practice the "state-of-the-art" resource management. The College of FWR should be a leader in demonstrating the wise management of the forest resource, and the Experimental Forest is where we can practice what we preach, whether it be for timber, wildlife, grazing or recreation.

*Idaho Forester:*

What are your short-range management goals for the Experimental Forest?

*Harold:*

There are a lot of areas where we are deficient, but the primary one is that of sufficient data to make resource decisions. We need to know what is out there on each and every acre, how much it is growing in terms of timber, and how much it is producing in terms of wildlife. We are almost totally lacking in a detailed soil survey. We need information, and to get that information, it is going to cost us some money. Revenue generated will have to be redirected to obtain this information. I envision being able to tell someone, within three years, something about every acre out there, that is, to be able to map soils and vegetation on a one-acre or two-acre level, define timber stands on a per-acre level, and document wildlife use and habitat requirements. This is currently what the advisory committee is deliberating. Knowing what we have and how

we will fill our deficiencies, and getting our information base, are probably most important right now. Not that we do not have some good information, except we need a lot more. We have the type of information that a timber company could operate on, with a goal of just optimizing timber production, but we do not have the information that an experimental forest can use to operate on.

*Idaho Forester:*

Do you have any new or innovative ideas concerning your operations and/or management of the forest?

*Harold:*

One of the things we are doing is testing a small grapple skidding machine for use in thinnings. This project is under the direction of Leonard Johnson. With increased

demand for fiber, pulp production and the more attractive nature of wood as an energy source, methods of removal of small stems are required. Precommercial thinning materials are not currently being utilized. We are looking at a machine that may make such waste material a commercial product.

Another area in which we would like to do work is in the area of cable logging. We have plans to test a small, relatively inexpensive cable yarder and demonstrate the feasibility of the system here in the inland region. The logging technology that works here, should work over most of Idaho and into Montana and eastern Washington.

*Idaho Forester:*

What courses are you teaching this  
*continued on page 78*



Glenn Lackey



# New Blood for FWR

by Jeff Buhr and Barb Schrader

The *Idaho Forester* would like to welcome our new FWR faculty members. We are glad that you decided to join our college and hope that your future years here bring satisfaction along with the accomplishments.

## Forest Resources

Robert Gall arrived in September, 1978. He has M.S. and Ph.D. degrees from the University of Tennessee in Forest Tree Improvement and Ecology, respectively. Dr. Gall began teaching classes in January, 1979. He is currently teaching a graduate course in Forest Tree Physiology and an undergraduate course in Forest Tree Improvement. Research interests include tree physiology and genetic variation in physiological characteristics.



Robert Gall

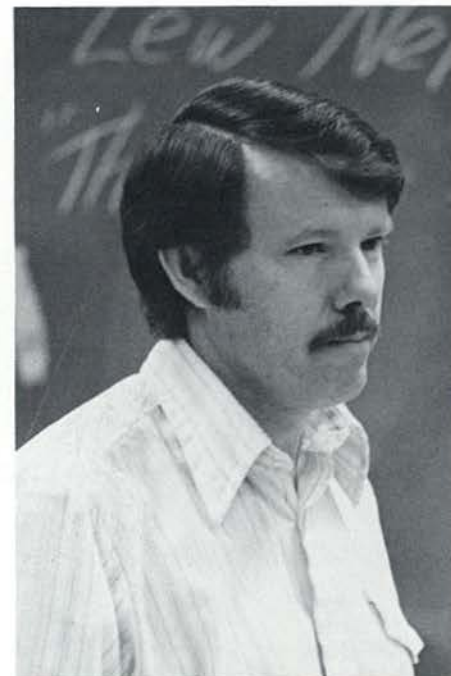


Jo Ellen Force

Jo Ellen Force comes to Idaho from her Ph.D. work at Ohio in Systems Engineering. She also received her M.S. at Ohio State in Natural Resource Management. Dr. Force began teaching Biometry and Introduction to Forest Land Resource Planning in January, 1979. She plans to conduct research in areas such as quantitative management-decision analysis or management planning.



Molly Stock



Lew Nelson

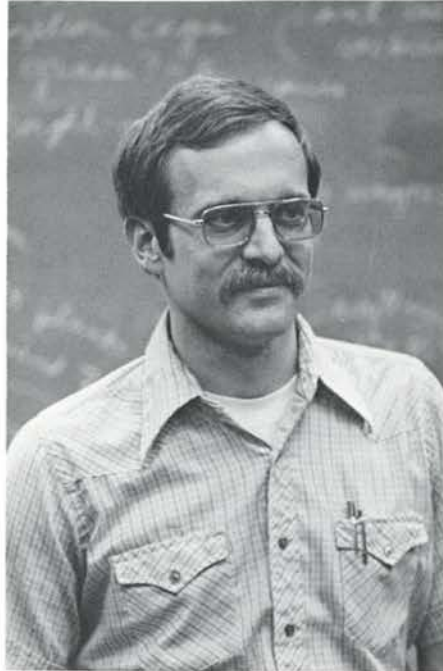
Molly Stock had previously taught in the College of Agriculture at the U of I. Dr. Stock received her Ph.D. in Entomology at Oregon State University. Her M.S. degree is in Invertebrate Zoology from the University of Connecticut. She began work with the FWR College in January, 1978, as a full-time research associate and is interested in the genetics of forest insects. Of special interest to Dr. Stock is genetic variation associated with outbreaks of forest insects and genetics of insecticide resistance. Her current research is being conducted on the spruce budworm and mountain pine beetle.



*"The world is round and the place  
which may seem like the end may also  
be only the beginning."  
—Ivy Baker Priest*



**Ed Krumpe**



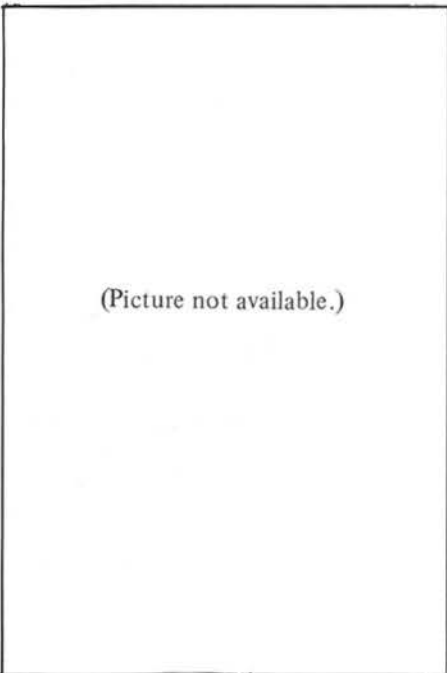
**Steve Bunting**

**Wildland Recreation**

Ed Krumpe is currently a Ph.D. candidate in Recreation Resources at Colorado State University. He received his M.S. degree in Park and Recreation Management at Indiana University. Mr. Krumpe is teaching Wilderness Management this spring. Other classes he will be teaching include Principles of Wildland Recreation Management, Wildland Recreation Management and Advanced Wildland Management. His research interest lies in behavioral decisions of recreation users.

**Range Resources**

Steve Bunting received both his Ph.D. and M.S. degrees at Texas Tech University. He began teaching at the University of Idaho in August, 1979. Classes taught include Elements of Range Management and Range Communities. Dr. Bunting is currently putting together a research project on fire succession.



(Picture not available.)

**Lauren Fins**

Lauren Fins plans to arrive in April, 1979. She received her Ph.D. at the University of California at Berkeley and has a Master's degree from Colorado State University. Dr. Fins will be teaching and doing research in forest genetics.

**Wildlife Resources**

Lew Nelson came to the U of I after working for six years in the Cooperative Extension Service at the University of California, Davis. He received his Ph.D. and M.S. in Wildlife from Utah State University. His position includes 25 percent teaching and 75 percent Continuing Education. In the fall of 1978, Dr. Nelson taught Principles of Fish and Wildlife Ecology. During the spring and summer months, he concentrates his efforts on Continuing Education. At present, Dr. Nelson is getting to know people and laying groundwork for Continuing Education programs for biologists.

\*\*\*\*\*

*River Song*

*Memories are binding me  
To the place that once was home,  
I carry closely to my heart,  
Its image, where I roam.  
And often I return, in thought,  
To a favorite spot of mine  
And rest upon a river bank  
Beneath a tow'ring pine;  
Just list'ning to the murmuring  
Of Clearwater's gentle song,  
While its waters sparkle in the sun  
And smoothly glide along.*

*Through miles away, this river sings  
A siren song to me—  
I hope that soon I'll find myself  
Where my heart wants me to be.*

*—Rachel Hartnett*



# Old Faces, Old Ideas

They are back again—the V-FWR. This is **not** the Veterans of Foreign Wars, but the Veterans of the FWR College. They are all here, present and accounted for. We thought we'd let you know which chalk-slingers, lecture-rattlers and quiz kids are still around the building. Enter, the FWR Faculty...

Ernest D. Ables, Ph.D.  
Professor of Wildlife Resources  
Associate Dean of Students

David L. Adams, Ph.D.  
Professor and Chairman of Forest Resources

George H. Belt, Jr., Dr. of Forestry  
Professor of Forest Resources  
(Watershed Management)

David H. Bennett, M.S.  
Assistant Professor of Fishery Resources

Elwood G. Bizeau, M.S.  
Professor of Wildlife Resources

Theodore C. Bjornn, Ph.D.  
Professor of Fishery Resources

Elmer Canfield, Ph.D.  
Associate Professor of Forest Resources

A. Jim Chacko, Ph.D.  
Visiting Assistant Professor of Fishery Resources

Kjell A. Christophersen, Ph.D.  
Assistant Professor of Forest Products

John H. Ehrenreich, Ph.D.  
Professor of Range Resources  
Dean of College of FWR

C. Michael Falter, Ph.D.  
Professor of Fishery Resources

James R. Fazio, Ph.D.  
Associate Professor and Chairman of  
Wildland Recreation Management

Edward O. Garton, Ph.D.  
Assistant Professor of Wildlife  
Resources

Sam H. Ham, M.S.  
Instructor in Wildland Recreation  
Management

Donald P. Hanley, M.S.  
Research Instructor in Forest  
Resources

Charles R. Hatch, Ph.D.  
Professor of Forest Resources

Robert C. Heller, M.F.  
Research Professor of Forest  
Resources

Minoru Hironaka, Ph.D.  
Professor of Range Sciences

Joseph E. Hoffman, Ph.D.  
Associate Professor of Wildland  
Recreation Management

Arland D. Hofstrand, M.S.  
Associate Professor and Chairman  
of Forest Products

Maurice G. Hornocker, Ph.D.  
Professor of Wildlife Resources

John P. Howe, Ph.D. \*  
Professor of Forest Products

Kenneth E. Hungerford, Ph.D.  
Professor of Wildlife Resources

Frederic D. Johnson, M.S.  
Professor of Forest Resources

Leonard R. Johnson, M.S.  
Associate Professor of Forest  
Products

Winifred B. Kessler, Ph.D.  
Assistant Professor of Wildlife  
Resources

John G. King, M.S.  
Assistant Professor of Forest  
Resources

James L. Kingery, M.S.  
Instructor in Range Resources

George W. Klontz, D.V.M.  
Professor of Fishery Resources

Khiet V. Lai, D. Aquaculture  
Visiting Assistant Professor of  
Fishery Resources

Howard Loewenstein, Ph.D.  
Professor of Forest Resources

Craig MacPhee, Ph.D.  
Professor and Chairman of Fishery  
Resources

Charles W. McKetta, M.F.  
Assistant Research Professor of Forest  
Resources

William J. McLaughlin, Ph.D.  
Assistant Professor of Wildland Re-  
creation Management

E. Lee Medema, Ph.D.  
Assistant Professor of Forest  
Resources

John E. Mitchell, Ph.D.  
Assistant Professor of Range  
Resources

Kenneth J. Mitchell, Ph.D.  
Associate Professor of Forest  
Resources

James A. Moore, M.S.  
Assistant Research Professor of Forest  
Resources

Ali A. Moslemi, Ph.D.  
Professor of Forest Products  
Associate Dean for Research and  
Graduate Programs

Leon F. Neuenschwander, Ph.D.  
Assistant Professor of Forest  
Resources





Arthur D. Partridge, Ph.D.  
Professor of Forest Resources

James M. Peek, Ph.D.  
Professor and Chairman of Wildlife Resources

Steven R. Peterson, Ph.D.  
Associate Professor of Wildlife Resources

Franklin H. Pitkin, M.F. \*  
Professor of Forestry

Kenneth P. Sanders, Ph.D.  
Associate Professor of Range Resources

David C. Scanlin, Ph.D.  
Assistant Research Professor of Forest Resources

John A. Schenk, Ph.D.  
Professor of Forest Resources  
Forest Entomologist

Lee A. Sharp, Ph.D.  
Professor and Chairman of Range Resources

Kenneth M. Sowles, M.S.  
Professor of Forest Products  
Assistant to the Dean

Ronald W. Stark, Ph.D.  
Professor of Forestry and Entomology

Karel J. Stoszek, Ph.D.  
Associate Professor of Forest Resources

Joseph J. Ulliman, Ph.D.  
Associate Professor of Forest Resources

Robert G. White, Ph.D.  
Assistant Professor of Fishery Resources



1978 Outstanding Professor,  
Fred Johnson

\* Retiring

\*\*\*\*\*

The Dean is faster than a speeding bullet,  
More powerful than a locomotive,  
Leaps tall buildings in a single bound,  
Walks on water,  
Dictates policy to God.

The Department Chairman is as fast as a speeding bullet,  
More powerful than a switching engine,  
Leaps short buildings in a single bound,  
Walks on water on a calm sea,  
Talks to God.

The Professor is faster than a decelerating bullet,  
Just as powerful as a switching engine,  
Leaps short buildings with a running start and favorable wind,  
Walks on water on an indoor pool,  
Talks to God if special request is approved.

The Associate Professor can fire a speeding bullet,  
Loses a tug of war with a locomotive,  
Barely clears a quonset hut,  
Swims well,  
Is addressed by God.

The Assistant Professor can occasionally fire a speeding bullet  
without inflicting self-injury,  
Is run over by a locomotive,  
Leaves high marks on tall buildings while trying to leap  
them in a single bound,  
Dog paddles,  
Talks with animals.

The Graduate Student is not issued live ammunition,  
Can correctly identify a locomotive two out of three times,  
Runs into buildings,  
Can stay afloat with the aid of a life preserver,  
Talks to walls.

The Undergraduate plays with a water pistol,  
Says "look at the choo-choo,"  
Trips over doorsteps,  
Plays in mud puddles,  
Mumbles to himself.

The Department Secretary catches speeding bullets in her teeth  
and eats them,  
Kicks locomotives off the track,  
Picks up tall buildings and walks under them,  
Freezes water at a glance,  
She is God.

An Ode to Academia





## IDAHO

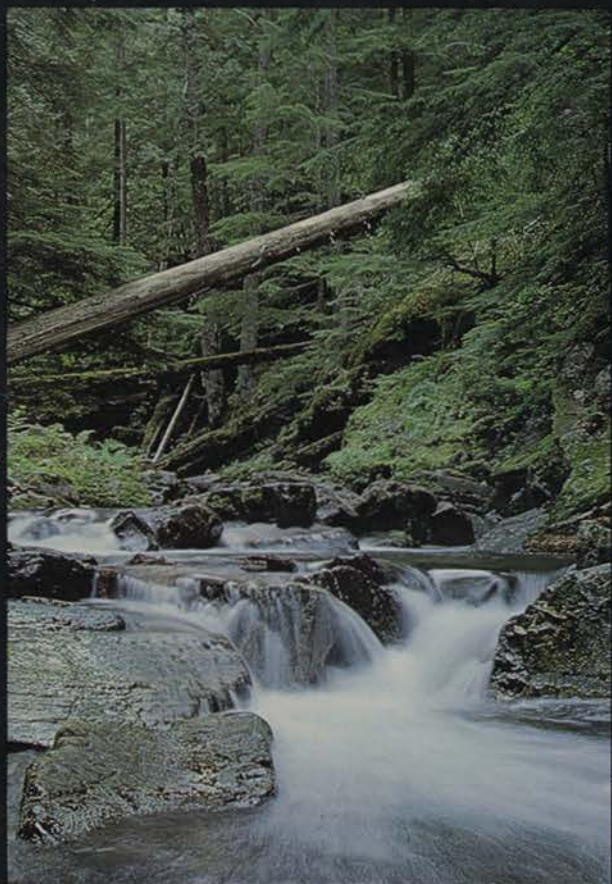
Where northern skies touch the west  
And prairies rise to the mountain crest,  
Here is the land I love the best - Idaho.

Here salmon charge white rapids high,  
The ring-necked pheasants flush and fly  
And soaring eagles dot the sky - in Idaho.

Cattle in the meadows stirrup deep  
Far beneath the big horn sheep  
Perched on craggy granite steep - in Idaho.

The elk, the bear and the white tail deer,  
The old log shack of the mountaineer,  
These are things that we hold dear - in Idaho.



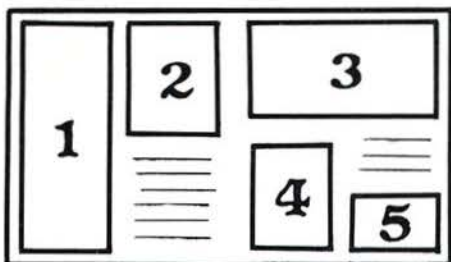


It is our task in our time and in our generation to hand down undiminished to those who come after us, as was handed down to us by those who went before, the natural wealth and beauty which is ours.

John F. Kennedy







The photographs on the preceding pages are described and credited as follows:

1. "Prescribed burning at night" was captured by this photograph. The area, a Douglas-fir/ninebark habitat type dominated by seed ponderosa pine, was burned near Tensed, Idaho. The purpose of this fall burn was to develop a fire prescription to: reduce duff, reduce logging and natural slash, thin young trees and prepare the site for natural conifer regeneration. Photograph by Leon Neuenschwander.

2. This Rocky Mountain Bighorn ram was among a band of several rams in the subalpine backcountry of Glacier National Park during the summer of 1977. The photographer hiked in several miles to capture this unique pose. Photograph by Rick Myers.

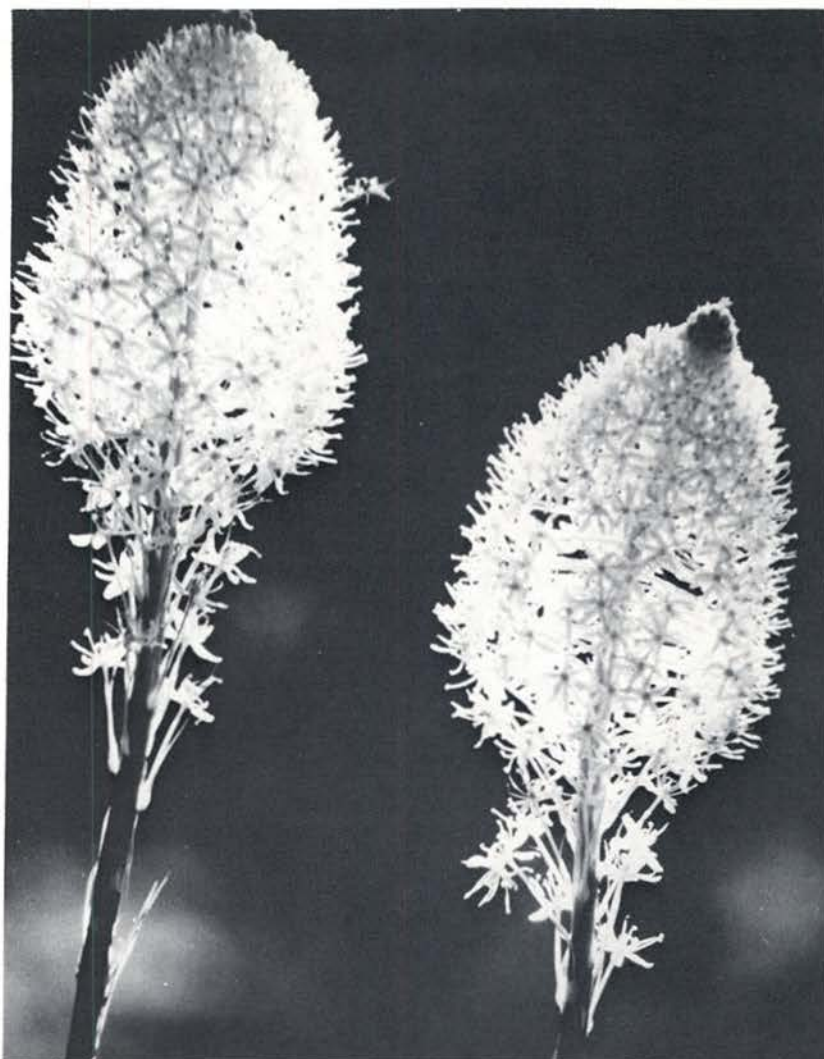
3. This shot of an early February sunset was taken four miles northwest of Moscow. It depicts this past Palouse winter, the most severe this area has seen in 50 years. Photograph by John Marshall.

4. A typical Idaho stream is shown here in all its serenity. Boulder Creek, St. Joe National Forest. Photograph by Ted Clutter.

5. Ponderosa pine cones after a heavy frost are the subject of this winter photo taken on Paradise Ridge. Photograph by Dr. Ernest Ables.

\*\*\*\*\*

*"Ideals are like the stars; you will not succeed in touching them with your hands. But like the seafaring man on the desert of waters, you choose them as your guides, and following them you will reach your destiny."*  
 -Carl Schurz



Ted Clutter

#### *Song for the Idaho Foresters*

*Hoist your coffee cups, you hombres of the trail,  
 With a chorus that will turn the coyote's tail,  
 Like the braying of an ass in a narrow mountain-pass  
 With the spirit of the men who never fail;  
 Sing a song of lonely lookouts on the peaks;  
 Sing a song of distant solitude that speaks;  
 Sing a song of boots and spurs where the screeching  
 eagle whirs;  
 Sing a song of slapping saddle-bags that squeak;  
 Sing a song of bleating sheep and lowing steers  
 That will echo from the canyon walls for years;  
 Sing a song of life and beauty with a service call  
 to duty  
 That will turn a roaring crown-fire into tears;  
 Shout a song of blowing clouds and rushing streams;  
 Lift a song that drowns the mountain-lion's screams;  
 Raise a chorus Heaven-high for the good old U. of I.  
 And the foresters who battle for their dreams.*

-Stanley Foss Bartlett



# College Activities



*Ernest Ables*



# Hot Flash

by Betsey LaBroad

Did you know that the University of Idaho is one of three universities in the Pacific Northwest that offers a program in Fire Management? Most students here at the College of Forestry, Wildlife and Range Sciences attend classes four or five years, earn their degrees and sometimes continue in their graduate courses and remain unaware of the important role fire management can play in their chosen professions. Whether these professions are forestry, range, wildlife, watershed management or wildland recreation, a knowledge of fire and its behavior, causes and effects can aid in the management of these areas.

According to the National Wildfire Coordinating Group, "fire management" is:

*The art and science of integrating fire-related biological, ecological, physical, socio-economic, and technological*

*information into land management to meet desired objectives.*

*Fire management includes all activities required for the protection from fire and the use of fire to meet land management goals and objectives. Fire use includes using prescription fire for the protection, enhancement, and maintenance of resource productivity.*

Fire is widely used as a tool in forest management. The Forest Service alone uses 20% of its annual budget in fire control and use. Dr. Leon Neuenschwander, Assistant Professor of Forest Resources, stresses that a program in fire management is important in providing a scientific basis for the production and protection of forests, and in determining the role fire played in the past and how it can be used beneficially in the future.

The College of Forestry, Wildlife and Range Sciences offers four courses in the study of fire management. On an undergraduate level, courses in Wildland Fire Management, Fire Ecology, and a

prescribed burning lab are taught. A combined course of Fire Management and Ecology is offered at the graduate level.

Wildland Fire Management deals with fire management based on wildland fuels, fire weather and fire behavior with a minor emphasis on fire history, control and use. The effect of fire on the ecosystem is also studied. In Fire Ecology emphasis is placed on fire suppression, prescribed burning and fire management, along with the synecology and autecology of dominant species of wildland habitats. In the prescribed burning lab, fire plans and evaluations are prepared according to basic prescribed burning principles and techniques. Prescribed fire, control and mop-up strategies are demonstrated. The graduate course, Fire Management and Ecology, deals with integrating fire-related biological, ecological, physical and technological information for land managers. Autecology and synecology of dominant species in wildland habitats, the natural role of fire, and fire as a management tool, are also investigated.





*"Wilderness is the raw material out of which man has hammered the artifact called civilization."*

*Aldo Leopold*

Students in these classes, both on the undergraduate and graduate level, receive practical experience in prescribed burning. The students conduct studies and set objectives for the intensity of the fire based on the areas being burned, the fuels involved, and the reason for the burn. After the burn, students evaluate the project to see if the fire met their objectives.

Last fall our students were involved in a prescribed burn with the Forest Service on a clearcut. After a clearcut the land is often burned to prepare a mineral seedbed for new growth and to reduce the forest logging residue. The students were also involved in burning an area provided by the Bureau of Indian Affairs in conjunction with a research project being conducted by Steve Bacon, a graduate student. This burn was used to help develop mathematical models which could be used to predict the intensity of fire needed to achieve specific silvicultural objectives. Proposed objectives included creating a mineral seedbed for natural regeneration, the elimination of logging slash, the removal or lowering of fire hazards caused by the buildup of slash or dead material in the forests, and the removal of dead or diseased trees to allow for new growth.

Last year prescribed fires were ignited and controlled by Dr. Neuenschwander and students for both research and instruction. Of the 56 fires lit last fall, 45 were to build models for the study of fire behavior, the other 11 were for the reduction of fire hazards to adjacent research areas and for fire lines (fire lines are used to contain burns within given boundaries).

To date, no fires have escaped the classes' control, but all participants are prepared for that possibility.



*Betsey LaBroad is a junior in Forest Resources.*





# Scholarships Anyone?

by Betsey LaBroad

Twenty-two students in the College of Forestry, Wildlife and Range Sciences earned scholarships for the 1978-79 academic year. Evaluations conducted in the spring of 1978 identified these students as meeting the qualifications established by the donors of the eight available scholarship funds. All students enrolled in the College at that time and students entering the College in the fall of 1978 were evaluated as potential scholarship recipients. Grades, social and academic involvement and recommendations were among the qualifications considered by the College Scholarship Committee,

headed by Dr. Joe Hoffman.

Robyn Willey, a senior in Forest Resources Management, was awarded the Agnes M. Kelly memorial scholarship. After her notification came from the financial aids office, Robyn wrote a letter of acknowledgement to Alice Kelly Munsun, the founder of the award. Ms. Munsun, in her reply, stated that the memorial scholarship was founded in honor of her mother, a woman who enjoyed the forest. In her letter she wrote:

"Mother was a real pioneer and loved the forests. The timber lands that she left are being managed by Richard Hansen and worked as timber farms."

Ms. Munsun added that the amount of the scholarship fund was being increased because "Mother would have liked it."

The College of Forestry, Wildlife, and Range Sciences offers scholarships to students in all majors on both the undergraduate and graduate levels. Students interested in obtaining a scholarship should apply to the Office of Student Financial Aid on campus, even if they do not have an outstanding financial need. Information about the types of scholarships awarded is available from faculty advisors and the financial aids office. Evaluations for the academic year 1979-80 will be conducted this spring.



## University of Idaho College of Forestry, Wildlife and Range Sciences Scholarships Awarded for 1978-79

Name of Scholarship	Required Major	Qualifications	Recipients
Agnes M. Kelly	Forestry	Scholastic achievement, worthiness and potential; financial need.	Robyn L. Willey Steve N. Scharosch
Henry and Ingeborg Legoll	College of FWR	Full-time student; greatest improvement in grades; activities, motivation, interest in field, personal development, potential.	Marie O. Ahlgren
J.E. Martin	For. Res. Wood Util.	Leadership and professional promise; 2.5 GPA.	Ricky E. Kramer John P. Sweeney
Edwin C. and Esther Rettig	College of FWR	Scholastic achievement, potential in field, worthiness.	Debra K. Dionne Michael H. Cook Larry K. Dunsmoor
Fred and Paul Shafer	College of FWR	Use in Senior Year; full-time students; leadership qualities in extracurricular and academic activities; grades.	Carl H. Sturdy
Izaak Walton League	Wildlife Fisheries	Decision by fisheries and wildlife departments.	Richard B. Myers William R. Kendra
Ernest Wohletz	College of FWR	Academic achievement and activities.	Amy S. Gillette Beth M. Wagner Barry R. Peppersack
Dean's Alumni Scholarship for Incoming Freshmen	College of FWR	High school grades and potential.	Amy S. Gillette Debra K. Dionne Larry K. Dunsmoor Christine M. Ahlstrom Brian R. Gardner Kurt A. Houston Philip A. Ball Jeanne K. Brown Patricia L. Severance Kevin A. Madson



# Utilizing Idaho's Timberlands for the Benefit of Man



**IDAHO FOREST INDUSTRIES**  
**COEUR D'ALENE**

DeArmond Division • Atlas Division • Double Dee Sawmill • Industrial Sales Division • Atlas Building Center



# Clubs

## Forestry Club: On the Way Up

by Glenn Lackey

The University of Idaho Forestry Club is on the way up! The Forestry Club is a student organization whose intent is to involve all interested persons in outdoor activities, usually forestry-related. Our club especially believes in active participation and a good time!

The club raises funds by cutting and selling firewood. The University has been kind enough to allow us to cut "snags" off school forest lands for this purpose. Through the courtesy of a local organization, we have had the use of a large truck to transport the firewood. In addition to providing revenue, the firewood projects also give club members an opportunity to get outdoors and stretch their muscles. (Unfortunately, studying forestry oftentimes stretches the wrong muscles.) We also hope that by working in the woods whenever possible we can all become better acquainted with some forestry skills and practices. The club owns two chainsaws which are supplemented a great deal with saws owned by club members. We try to give everyone the opportunity to operate a chainsaw, and of course, most participants quickly learn how to handle a splitting maul. Some other skills these projects can teach us are tree-felling techniques and tree identification. For many, just the fresh air and exercise is enough! In January the club entered into a business arrangement with the University. The school forest logging crew cut and decked about ten cords of wood for us. We hired a large truck and had the wood delivered to our practice site. Approximately two cords of the wood were "green" and will be used for our competitive events. The rest was dry tamarack and was sold for firewood, providing an income for the club. We thank Harold Osborne, school forest manager, for his help and cooperation.

Another activity important to many club members is the woodsmen's team. This year we are trying to sharpen our skills at the various competitive lumberjack events. These events include two-man crosscut sawing, single buck-sawing, speed-chopping, axe-throwing, log-rolling, pole-climbing and a few others. Most of these activities originated back in the days of the old logging camps when lumberjacks, working in the camp all winter, needed something to do to occupy their free time. Most camp bosses didn't allow drinking or card-playing so the men thought up competitive events to test their woods ability. Occasionally the bigger men in camp would see who could lift a great weight the furthest from the ground. Sometimes the weight used was the front end of a work horse! Thus was born our modern woodsmen's competition.

The Forestry Club practices woodsmen's events for fun and for the thrill of competition. We encourage all members to try their hand at as many events as possible. This is also an excellent way to become better acquainted with some of the tools and equipment used in the forest industry. In October of 1978 the

club conducted a lumberjack exhibition in which everyone was invited to participate. Heated competition prevailed at the two-man crosscut event, but one of the more dramatic activities was the tobacco-spit for distance. Attendance at the meet was good and everyone enjoyed themselves. We intend to hold more such meets in the future. Our practice site is located west of campus near the Agriculture barns, and was constructed by past Forestry Club members. Much of the materials and labor put into the site has been donated by local businesses and other concerns. We would like to take this opportunity to thank them and the University for their help.

Some other activities the club was involved in during the fall semester included a slide show on wildflowers, a spaghetti dinner, a keg party and a square dance, the latter being cosponsored by the student chapter of the Society of American Foresters.

We have big plans for the future and would like to encourage everyone, faculty and students of all colleges, to come out and join us!



Forestry Club



*"When in doubt, do nothing—  
the situation may get worse."  
—The Oregon Desert*



Glenn Lackey



On the way up!

### Xi Sigma Pi

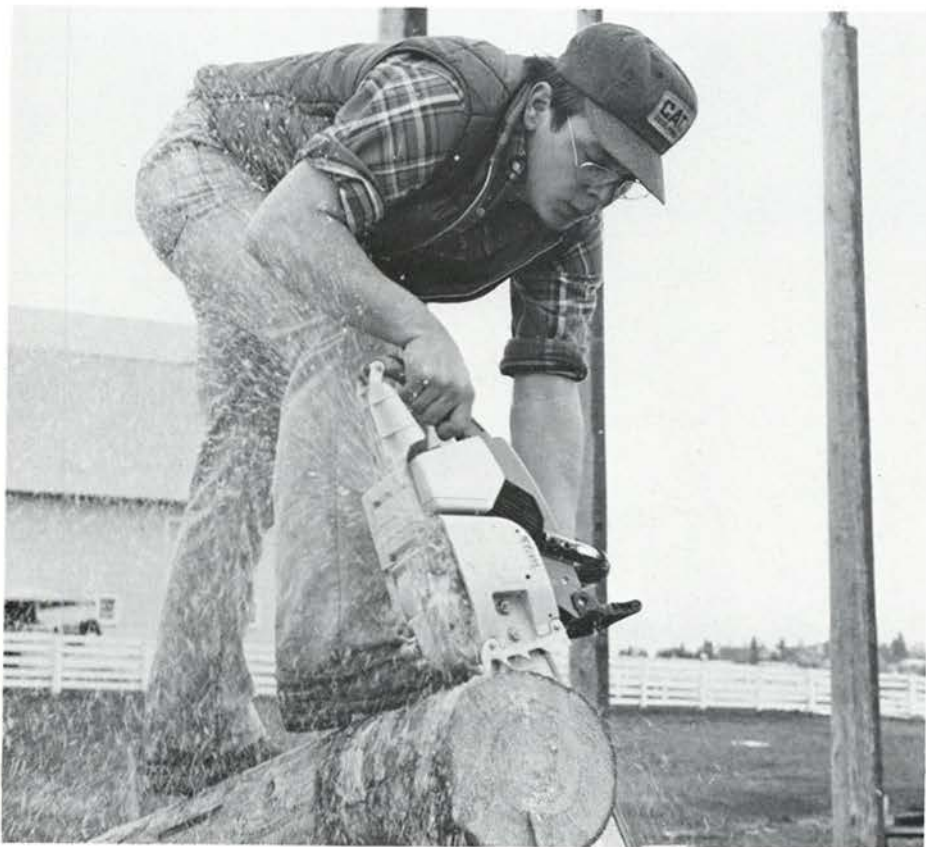
### Xi Sigma Pi

by Tim Monahan

Xi Sigma Pi is an honor society that recognizes academic achievement and individual contribution in the natural resource field.

Throughout this school year the members worked to keep the society the effective student body it's been in the past. Potential members were invited to informal meetings to learn about the society's activities and benefits, as well as to meet the current members. New members were initiated at barbecues held in the fall and spring semesters.

Other activities include conducting the Student Affairs Council elections in the spring, drawing up plans for a college announcement board and selecting the regional Xi Sigma Pi scholarship candidate and Xi Sigma Pi Outstanding Student of the Year. Officers for the year were: Mark Vetter, Randy Welsh, Julie Neumann, Timothy Monahan and Julie Ledbetter.



Glenn Lackey



## Range Club News

by Tracy Behrens

The Range Club was alive and kickin' this past year. This was evidenced by the large increase in active membership and the variety of activities scheduled throughout the year.

Raising enough money to send the plant judging team to Casper, Wyoming, for competition at the National Society for Range Management (SRM) convention constituted the major goal for the year. This goal was partially achieved by sponsoring a raffle early in the fall semester. Donations received from the Idaho Section of the SRM also supported the team. The plant judging team members included Tracy Behrens, Mike Cook and Jim Torrell. These three seniors qualified to go to the national competition by studying 200 plants and scoring a 90% or better on preliminary exams. Although the team failed to bring home the bacon, these three students deserve a lot of credit for the many hours of "free" time they spent studying plants. All three team members felt that the experience gained at the national convention was well worth the hours spent preparing for the judging contest. Planning is now under way to prepare a team for next year's convention and judging contest to be held in San Diego, California.

Other Range Club activities included a presentation on biological control of noxious plants in Idaho given by Dr. Lambert Erickson, professor emeritus of plant science.

A potluck dinner was held at Dr. Wini Kessler's house early in the spring semester. The turnout for this dinner was one of the largest the Range Club has seen in a long time. The potluck offered a great opportunity for interaction between undergrads, grads and profs.

Plans were made during the Spring semester for the club to earn extra money by working on nearby ranches. Working on the ranches not only helped the Club's treasury, but also gave students a first-hand view of actual ranch operations.

The club helped out with Natural Resources Week by organizing the annual "What the Hell Is It?" Identification Contest. This contest included

specimens representing each of the College's various disciplines. The teams, composed of students from all of the College's majors, were tested on their broad knowledge of resource-oriented items.

The club became stronger this year, and we are looking forward to an even more active membership next semester. The grass is getting greener, so come on out and get involved!



Range Club

## SAF Timberbeasts?

by Maryanne Staubach

and Chris Obenberger

The University of Idaho Student Chapter of the Society of American Foresters (SAF) went into the logging business last fall to raise funds for the chapter. Every Saturday for five weeks, members of the chapter went to the Brown's Meadow area of the Flat Creek Unit of the College Forest to work on a thinning project. The project was set up by Harold Osborne, assistant manager

of the forest at the time. He wanted to cut a skid trail through a stand of lodgepole pine and thin an adjacent stand. That which would have become slash if left to the skidders to clear, became a chance for profit for the students in SAF.

Jerry Lohse, chairperson of the student chapter, contacted Mike's Post and Rail Yard, owned by Michael D. Packard in Viola, Idaho. Through a verbal agreement, Mike contacted the student chapter to cut some posts and rails to his specifications.

Blessed with good weather and cursed with unreliable chainsaws, the students



*"... the woods are lovely, dark and deep,  
But I have promises to keep,  
And miles to go before I sleep,  
And miles to go before I sleep."  
—Robert Frost*

managed to maintain good spirits and cleared the way for the skid trail. In the process, they made over \$200. Most of the students who went out had never used a chainsaw. Many of them learned the "thrill" of felling trees, even though the trees were small in diameter.

On the last Saturday out, because they now had to carry the logs a considerable distance to the log piles, some of the students used their imagination and improvised a skidder by tying one end of a cable to the rear of a pick-up truck and the other end to the post or rail and pulled the logs out to the decks. It worked well, and there were a few regrets that this was not done sooner.

Plans are being made to work on another "thinning project" this spring

when the snow melts. This has attracted the attention of the Washington State University student chapter. Who knows? Maybe the U of I student chapter has started something that is not only educational, but quite profitable for not only themselves, but for other groups as well.

SAF has been involved in other activities during the 1978-79 school year. At the beginning of fall semester, Harold Osborne, with members of the chapter, led a tour through the forest. It was mainly directed toward the incoming transfer students and freshmen, but it attracted other students and faculty members who had never been out to the forest. Because of its popularity, this project will become an annual event.

SAF has also sponsored guest speakers to discuss pertinent topics in forestry. Rus Graham, from the Forest Service Lab in Moscow, spoke on "Western White Pine Silviculture" on December 5. Dr. Karel Stoszek of the College of Forestry, Wildlife and Range Sciences, spoke on "General Forestry Practices" on October 24. There was a presentation on "Visual Resource Management" on February 22.

Other activities included a tour of Bennett's mill in Princeton, Idaho, to see the modern computerized methods at the mill. Films shown during some of the meetings were "In These Woods" by Stihl Corporation, "Last Log Run on the Clearwater" by the Potlatch Corporation, and "Pass Creek" about the BLM.

SAF student members also participated in a joint chapter meeting in Lewiston on February 8 and in the section meeting in Spokane on March 9-10. At this meeting they had a display on the school forest.

A much anticipated event, the SAF barbecue, will be held at the end of the semester. Last year's barbecue was a success, and it's hoped that the turnout this spring will be as good. Participation by members is encouraged because this is probably the last time to relax and have a good time before finals. The student chapter is also in charge of the preparations for a barbecue during Natural Resources Week, sponsored by the Student Affairs Council of the College of Forestry.

The student chapter is planning to have a program in March on World Forestry, to be presented by graduate students from foreign countries. Also, there are plans to have a program in April or May on the Tropical Dendrology class' trip to Honduras.



Student Chapter, Society of American Foresters



## Wildlife, Conclave and Bird Boxes

by Barb Schrader

1978-79 has been another busy school year for the Wildlife Society. After getting rather scorched in the competition at the Conclave last year, our chapter gallantly offered to host this year's Western Students' Wildlife Conclave. Wildlife Society student chapters from campuses throughout the West are invited to attend three days of talks, field trips and bowl-team competition. Preparation for this event has kept everyone involved in writing bowl questions, planning field trips and organizing the awards banquet.

The Conclave takes place at the University of Idaho on March 29, 30 and 31, 1979. Student papers will be presented and wildlife films will be shown Thursday, March 29. A dance will be held that night at the Moose Lodge with entertainment provided by Freewheelin'. A Friday morning birding tour through the arboretum and campus grounds is tentatively planned, followed by the afternoon bowl-team competition. The awards banquet is scheduled for Friday evening, with Dr. Maurice Hornocker as the guest speaker. Saturday will be all-day field trips. Conclave participants have a choice of visiting Dworshak Dam and Reservoir, Hell's Canyon or Turnbull National Wildlife Refuge. The Conclave officially ends Saturday evening.

Also coming up this spring will be the 4th annual trip to the Wallowa-Whitman National Forest in northern Oregon. Each year the U of I student chapter sends a crew of volunteers to set up nest boxes and collect data from existing kestrel and bluebird boxes. This project, scheduled during spring break, has built lasting friendships in past years.

The farm pond project is under way

again this year. Essentially, the purpose is to provide and monitor habitat for shorebirds, waterfowl and wildlife using the University Dairy Farm pond. The fact that cows somehow obtained access to the area over the past year has created minor problems. This is merely another challenge for our fearless wildlifers.

Dr. Steve Peterson has initiated a proposal with the student chapter to establish and maintain bluebird nesting boxes in and around the Palouse. Once the routes are established, use of the boxes and surrounding habitats by various birds will be recorded. It is hoped that this long-term project will be carried on in the future by wildlife students.



Wildlife Society



Rick Myers



*"Mountains are earth's undecaying monuments."*

*—Nathaniel Hawthorne*

## Wildland Recreation Association

by Jack Cunniff

The Wildland Recreation Association this year organized and sponsored many activities. These included monthly meetings with guest speakers, weekly noontime undergraduate seminars and two field trips.

Starting the year off right was a backpack trip to the Eagle Cap and Selway-Bitterroot Wilderness Areas. Twenty-five club members made the trip to Ice Lake, the Matterhorn, Horseshoe Lake and Stanley Hot Springs. In

October, to follow up our wilderness experiences, Jim Bradley, wilderness specialist from the Eagle Cap Area, discussed wilderness philosophy with us.

The second field trip was a cross-country ski outing to Fourth of July Summit. Forty enthusiastic skinny skiers participated, with three feet of powder challenging the telemark fanatics. Afterwards a party was held in Couer d'Alene at the home of the recreation specialist of the Panhandle National Forest.

Some of the topics covered in the noontime seminars this year were internship experiences from the deserts of the Canyonland National Park to mountains and glaciers of Alaska. The noontime seminars turned out to be one of the most popular activities of Wildland Recreation students.

This year's club officers were Jack Cunniff (President), Steve Turza (Vice-President), Carol Boyd (Secretary) and Mark Landschoot (Public Relations).

## FPRS

by Jim Spicer

The Forest Products Club and the local chapter of the Forest Products Research Society have merged into an enlarged FPRS student chapter at the University of Idaho.

This year's newly elected officers are: Chairman - Jim Spicer, Vice Chairman - Greg MacDonald, Secretary/Treasurer - Holly Rogers.

In addition to its regular business meetings, the club has planned for this semester the following activities: Open House Party, Commemorative Barbecue for Dr. John Howe and field trips to Kalispell, Montana, for the 34th Annual Northwest Wood Products Clinic and Forest Products Research Society Joint Meeting. Another tentative field trip is to the Potlatch Corporation logging camp in Headquarters, Idaho. The club is planning to display a working "mini-sawmill" during Natural Resources Week.



Wildland Recreation Association

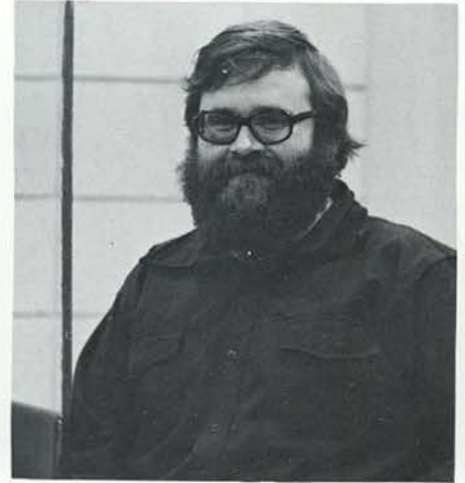


Forest Products Research Society





American Fisheries Society



Outstanding Student, Malcolm Dell



Student Affairs Council

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### *The Road Not Taken*

*Two roads diverged in a yellow wood,  
And sorry I could not travel both  
And be one traveler, long I stood  
And looked down one as far as I could  
To where it bent in the undergrowth;*

*Then took the other, as just as fair,  
And having perhaps the better claim,  
Because it was grassy and wanted wear;  
Though as for that the passing there  
Had worn them really about the same,*

*And both that morning equally lay  
In leaves no step had trodden black.  
Oh, I kept the first for another day!  
Yet knowing how way leads on to way,  
I doubted if I should ever come back.*

*I shall be telling this with a sigh  
Somewhere ages and ages hence:  
Two roads diverged in a wood, and I—  
I took the one less traveled by,  
And that has made all the difference.*

—Robert Frost



"When you get so you can't remember things—just forget it."  
—The Oregon Desert

## Unbiased Field Report; Allison Creek Pipo/Feid

Nestled back within the rolling hills of the Salmon River Drainage was the Shangri-la of Idaho, Allison Creek. We arrived near our mecca after a brief junket through that primeval panorama. There we met our compatriots from Moscow summer camp. Immediately fighting broke out between the two factions. But then Luke stepped in and peace reigned. After differences were resolved, we joined ranks to file after our exalted torchbearer, Freddy-boy-oy. Bringing up the rear was the yet unknown personality singing softly to himself "Burn, Baby, Burn" as he flipped lighted matches into the dry undergrowth.

Upon arrival at our destination, the herd settled down around our trainer for a bombastic sermon on "GOOD ECOLOGY." Halfway through this discourse we heard a perturbed voice from the back, "Why the hell is it crowning out?" A few of us stampeded over him in a valiant effort to put out the blaze. As yet, we hadn't learned that his real identity was... The Lone Pyro.

After dispersing from our casual conclave, we surveyed the vicinity. Our group found that disturbance was present at this site in the form of logging, fire (which occurred in 3-12 year cycles), browsing and curious forestry students who raped and pillaged the land to seek out new forage and vegetation, to boldly go where no forestry student has gone before.

Upon returning late that night to the institution from which we came, we solemnly entered this, the following entry, into our sacred camp journal:

*Foresters Log: Tree date 6:22:78. Today, on a mission into the wild unknown of Allison Creek Pipo/Feid*



*habitat type, in the midst of 100 men, 10 women and no outhouses, we strove forth with great perseverance and fortitude in search of the lost forbroid. In the words of Julius Caesar, "Veni, Vidi, Vici"—I came, I saw, I conquered. In an effort to bring the perfect specimen to our illustrious leader, Freddy-boy-oy, we combed the hills, devastating anything in our path. As we marched into the setting sun, we turned and watched the decimated ecosystem crumble before our very eyes, along with the well-aggregated soil (see Dave-e-boy-oy) slowly drift down the hillside to the waiting waters of the Salmon River below. As the sun set in the west and the moon rose in the east, the wind blew from the north and the rain came from the south and the flowers bloomed in the spring and the leaves fell in the fall, etc. . . . a lilting melody could be*

*heard drifting over the pristine association:*

First there was Ken,  
Two weeks was all we could take.  
Then there was Joe,  
We gave him the best we could fake.  
Thirdly came Chuck,  
Who was the worst of them all.  
Last there was, Fred,  
On whose field trips we all had a ball  
And now it's all done,  
And we'll all go our way.  
I'm so damn glad,  
I can't take another day!

Steve Clements  
Ann Foster  
Tom Robertson  
Beth Wilson



# Alumni News

1928

**Wallace M. Saling**

I received my M.S. in Forestry in 1929. I am now retired but travel some: Japan in '77, Caribbean tour in February, '78, Nauvoo, Illinois in October '78. I work part-time taking care of the grounds at the Maple Hills Apts. I now live in the Garden Park Condominium Complex in Orem, Utah. My health is about average for my age. Kindest regards to all, "Smokey."

1929

**William G. Guernsey**

After spending most of 1977-78 in and out of St. Luke's Hospital, I'm gradually gaining a few pounds and getting stronger. I always look forward to reading the *Idaho Forester*.

1930

**Lowell J. Farmer**

Since retirement from the U.S. Forest Service in 1965 and the California Department of Agriculture in 1972, I've specialized in "Forensic Forestry." The courts are increasingly involved in legal problems pertaining to forestry and arboriculture.

1931

**G.M. Jemison**

Keeping busy in retirement with forest history projects, racquetball, steel-head fishing and community activities.

**James E. Sower**

Retired as Assistant Director for the P.S.W. Forest and Range Experiment Station, U.S. Forest Service. Retirement is a very busy time—good time, too. Regards to all of you wonderful young ones.

1933

**Harold G. Brown**

I am retired as Cdr. CEC, U.S. Naval Reserves. My son, Harold G. Brown, Jr., graduated from Idaho in 1976 with a Ph.D. in Forest Soils. He is now working with the state of Oregon.

1934

**G. Lloyd Hayes**

Have now been retired from the U.S. Forest Service for ten years. Am now winding down my second career as a forestry and environmental consultant so I can spend more time at Huckleberry Fin-type pursuits.

1935

**Dr. T.S. Buchanan**

Been retired as Assistant Director, S.E. Forest Experiment Station since June, 1972. I traveled the world while working, so am content to take care of my yard and garden now. Still get a year older every year!

**Jack I. Groom**

I retired from the U.S. Forest Service in Portland on July 29, 1967. Since then I have traveled through Europe, the South Pacific, Mexico and Central America, Alaska and much of Canada and the United States. Now we have a home in Cathedral City, California, where we spend the winters. We spend the summers in Oregon traveling from our second home in Tigard. Have been back to the Idaho campus a couple of times in the last few years. It is a far cry from the place that I remembered when I went to school there in the early thirties. Your Forestry building is truly beautiful.

1937

**John Chohlis**

Retired as Director of Communications, Chow Division, Ralston Purina Company in December 1, 1978. Am doing occasional assignments for magazines plus guest column for *Drovers Journal*.

**Bruce V. Groves**

I am largely retired after about 33 years with the U.S. Forest Service and ten years with Hoff Companies, Inc. as a forester or consultant. Time now mostly devoted to golf, skiing or travel.

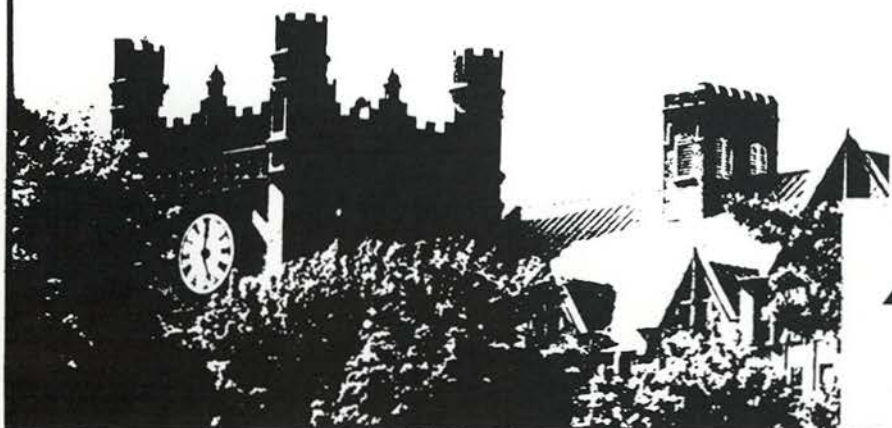
**Thomas Wilson**

Am still retired at Lake Pend Oreille and enjoying life.





# We're with You all the way!



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**Alumni**

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Phone (208) 885 6154

1938

**Byron G. Anderson**

My wife and I just enjoyed a five-week safari with our son, Steven J., in Kenya, East Africa.

**Frank J. Kapel**

Retired from the USFS in 1973. Active in Senior Citizen programs and legislation in local and state areas.

**Arthur Nelson, Jr.**

I am currently Vice-President, Industry Affairs, Timberlands Division Champion International Corporation. My address is P.O. Box 3426, Meridian, Mississippi, 39301.

**Ernest H. Taylor**

Paul Anderson ('38), E. Lavelle Thompson ('38), Bob Bates ('51) and I all live within walking distance of each other. Small world.

**Ernest L. Thompson**

Enjoying retirement very much. Keeping busy working with natural resource conservation organizations and agencies. Principle hobbies: photo-

graphy, golf and backpacking in wilderness areas.

1939

**Kenneth C. Baldwin**

I've worked 1½ years with the U.S. Forest Service, 3 years with Seaheas South Pacific, 26 years hanging steel, setting masts, building foundations at Puget Sound Naval Shipyard, and 8 years as substitute teacher at the secondary level.

**Dale H. Kinnaman**

Retired from the BLM in 1970, and am now operating a small farm north and west of Jerome, Idaho.

**Robert H. Forbes**

Glad to hear that Alumni News is back in the *Idaho Forester* again. My Western Forest Products Laboratory, now part of the Canadian Forestry Service, is in the throes of "privatization" by April 30, 1979. That means that the Canadian government will pick up 55% of the tab, presumably for yearly operation, while the provinces and the

forest-products industry will "fight" over the remainder. Too bad I'm near retirement age or, maybe, it's a good idea to retire. No one can predict how the 44% of the budget is coming to hand.

**Edgar W. Stanton**

I am now a self-employed owner of an agri-oriented civil engineering firm at Live Oak, California. I have two sons who are both U of I graduates. I believe that an alum section in the *Idaho Forester* would be of great interest to all of the old graduates.

**Carl C. Wilson**

I retired from the U.S. Forest Service in early 1978 after nearly 38 years of federal service. I now work part-time as a consultant for the California Department of Forestry as a specialist on fire research and integrated fire management problems. Meantime, in 1978, my wife and I joined a 40-person group of Californian Foresters on a forestry trip to Sweden, Finland, USSR (including Bratsk, Irkutsk, Siberia), Poland and West Germany. It was a memorable once-in-a-lifetime forestry and people-to-people experience.



1940

**Wilber F. Currier**

Living in Albuquerque, New Mexico. Retired in 1975 from the U.S. Forest Service.

**G.J. "Whitey" Price**

I am retiring from the combined government services after serving over 40 years. My last services were with the U.S. Soil Conservation Service as "RC&D" Coordinator with the Wood River "RC&D" Area at Gooding, Idaho.

**Robert Rusher**

Retired from the Massachusetts Department of Public Works as District Roadside Maintenance Engineer in June, 1975. Active in tutoring school children on the Japanese abacus and teaching and playing the Japanese game of Go. Also have a few bonsai (the true hallmark of a frustrated forester, I suppose).

1941

**Vincent L. Benton**

I have retired to Cape Cod, Massachusetts, as of August, 1978.

**Jean E. Fisher**

Still employed as Professor and Senior Research Associate at the Applied Forestry Research Institute, State University of New York, College of Environmental Science and Forestry, Syracuse, New York, 13210.

1942

**Philip C. Habib**

Since mid-1978, I have been Diplomat-in-Residence at Stanford University, having resigned my post as Under-Secretary of State for Political Affairs for reasons of health.

**Edward L. Noble**

Retired from the U.S. Forest Service in 1974. Reside in Ogden, Utah, and do some consulting work regarding strip coal mining.

1943

**Gerald W. O'Connor**

I've been employed by Cook County Forest Preserves in Chicago, Illinois, for 33 years. I'm Head of Operations and Maintenance, which includes 122 Rangers. I'm married and have 2 daughters and 4 grandchildren.

1944

**J.R. Stillinger**

In February, 1978, I became the managing director of the largest particle board plant in the United Kingdom, located in Stirling, Scotland. Also acting as a consultant for Bison-Werke, the largest particle board equipment manufacturer in the world, located in Springe, West Germany. My home base is Corvallis, Oregon.

1947

**Roger Guernsey**

Roger Guernsey, class of '47, won the nickname of "Landslide Guernsey" last November when he won a seat in the Idaho House of Representatives by the razor-thin margin of 8 votes out of 7242. He also reports good progress in managing his 47-acre tree farm at Princeton by taking out 70 M in thinnings last fall. He would delight in hearing from any former classmates.

**John O. Lynstad**

Manager of Lands and Timber for the Pack River Company in Spokane.

1948

**Dale L. Arnold**

I retired from the U.S. Forest Service in June, 1977.

**Steele Barnett**

Am Manager of the Western Forestry and Conservation Association. We coordinate the activities of many forestry groups; therefore, we have contact with many Idaho alumni. Let us know if we can help in locating certain people.

1949

**Everett C. Green**

I am now a retired government employee. I had the misfortune of getting run over by a car in September, 1977, leaving me crippled in my right arm.

**Dr. Robert J. Maple**

Professor and Chairperson of Secondary and Adult Education at Northern Illinois University in DeKalb, Illinois.

**Bob Walkley**

Enjoyed the 1978 edition—keep up the good work.





1950

**Carl M. Berntsen**

I received my M.S. at Oregon State University in 1956 and my Ph.D. there in 1967. I am retired from the U.S. Forest Service, after 32 years of federal service. My last position held was Director of Timber Management Research, Washington, D.C. I began employment with the Society of American Foresters in February, 1979, as Director of the Sciences Programs.

**James Betts**

I retired from the Wind River Nursery, December, 1975. I am now Vice-President and General Manager of Laua Nursery, Inc.

**E.L. "Lonnie" Williams**

In June, 1978, Jim Blaine (also an Idaho grad) and I formed Timber Services, Inc. to do consulting forestry work.

1953

**Howbert W. Bonnett**

I just moved from my assignment as Director of Forest Service Computer Technology Staff to become Staff Assistant to Deputy Chief for Administration. I'm responsible for Forest Service Systems Planning activities. "Hobby" Bonnett

**Robert E. Lieurance**

I received my MF in 1955. Three years ago I moved to Miles City, Montana, after living in Oregon for twenty years. I'm still with the Bureau of Land Management. I have five children.

1954

**Joe T. Helle**

B.S. - 1954; M.S. - 1960. Sheep rancher in southwest Montana. Chairman of the Animal Damage Control Committee, National Woolgrowers Association, married, and have three children.

**Fred T. Matzner**

I'm employed as a Forester with Susanville Forest Products, Inc.

1956

**Norman McClure**

I and my wife, Dorothy, and our two children own and operate a commercial cattle ranch on the Colville Indian Reservation near Nespelem, Washington. It is between Omak and Grand Coulee Dam. I received my M.S. in Range Management in 1956.

**Richard L. Stauber**

My wife, Ruby McElmurry Stauber, graduated in '57 with a degree in Education. She teaches the fifth grade. I am the Supervisor of Sierra National Forest, Fresno, California. Children: Carrie Stauger, senior at the University of Idaho; Rick, senior at Hoover High, Fresno; and Joe, sixth grader.

1957

**Jerry Duffy**

I am currently the Wenatchee Area Manager for Pack River Company. The Area includes 3 lumber mills and lands at Ardenvoir, Cashmere and Peshastin, Washington. I'm also the Douglas County Park Commissioner and on the Mission Ridge Volunteer Ski Patrol.

1962

**Fred Marshall**

After working for over three years for the BLM in Boise and eleven years for a private forest company in the southern interior of British Columbia, I am now teaching forestry at a small college (Malaspina College) located in Nanaimo, on Vancouver Island. The teaching goes very well, and last summer I worked for the B.C. Forest Service supervising thinning operations in second-growth lodgepole pine and western larch. I hope to do the same this summer as the Forest Service plans to step up their activities in second-growth management to hopefully offset quite severe projected reductions in the allowable cut.

We have a medium-sized cattle ranch located near Midway, B.C. (southern border) where we live and work from June to August. Any and all alumni are more than welcome to stop in for a visit—fishing, swimming and home brew are all excellent. My wife

(Bev) and our two boys (Jay, 13 and Stan, 11) love company, so if you're in B.C., stop in anytime!

1963

**Jim Chapin**

I am presently living in Redding, California, with my wife Nancy, and our three children. I am working for the U.S. Forest Service as District Ranger of the Yolla Bolla Ranger District, Shasta-Trinity National Forest. My wife is employed as Realtor Associate for North Central Realty, Redding, California.

**Ron Henderson**

Employed with the U.S. Forest Service in the Gila National Forest, New Mexico. I work on the Recreation, Lands and Minerals Staff.

**Jim Hertel**

Since completing a three-month continuing education program in Forest Ecology in 1975, I and my wife, Jackie, and four boys have been at the Cabinet Ranger District, Trout Creek, Montana, where I am the District Silviculturist.

**Henry W. Riedeman, III**

After graduation in 1963, I worked for the BLM in Burley, Idaho, until August, 1969, then in Safford, Arizona, until December, 1975, then Battle Mountain, Nevada, until February, 1978. I then resigned from the BLM and came to Twin Falls to run the 160-acre family farm. I married Barbara Meester in 1966. She has two children, Ken and Sherryl Meester, ages 24 and 25. Ken works for Northwest Engineers of Pocatello; Sherryl works for Mountain Bell in Kingman, Arizona, and has a daughter, Shauna Friedrick.

1966

**Charles H. Edwards, III**

Have been employed by the Southern Pacific Land Company since June, 1969. Was promoted in June, 1978, to District Manager of the Tahoe District, headquartered in Grass Valley, California.



1967

**Lee W. Aggers**

I have been living in California for two years and work for the U.S. Geological Survey as Chief for the National Cartographic Information Center - Western (division). Previous to my present position I was mapping Director for the Oregon State Forestry Department in Salem. My wife, Vicki, and I have one child, Kristen, who is 2½ years old.

**Allan D. Kyle**

We spent the winter building our own log cabin from our own timber.

**Kenneth Schuster**

I am married and have two little girls, LeAnn, aged 4 and Becky, aged 18 months. I farm about 100 acres, mostly seed crops.

1969

**Capt. LaVay W. Jeffries**

I am currently a Captain in the U.S. Air Force, serving as commander of the 2004 Communication Squadron, handling the air traffic control mission at Sondstrom Air Base, Greenland.

**John Lefebvre**

Have been with Weyerhaeuser Co. since graduation except for the time spent in the Navy Air Force Officers' Training. Married in 1970 to Kristin Chubb and now have four children. Now in Navy Reserves. Will travel to Hawaii in April for two weeks for Navy reserve training.

**James R. Soeth**

In August, 1978, I was promoted to District Recreation Officer on the Arroyo Seco Ranger District, Angeles National Forest. I have been with the U.S. Forest Service for 4 ½ years. I will marry Gretchen Zell of San Gabriel, California, in March, 1979.

1970

**Gary S. Johnson**

I am presently employed at Glastron Boat Company in Austin, Texas, as Woodshop Superintendent. My wife, Pam, and I are expecting our first child in October.

**Clyde M. Norman**

Employed as a District Forester for Canadian Forest Products Ltd., Grande Prairie, Alberta, Canada.

**Tom Robison**

MF in 1972. I am the Forest Hydrologist on the Caribou National Forest.

1971

**Sterling E. (Lou) Woltering**

Naval officer for 2½ years. Range Conservationsist for 2½ years with the U.S. Forest Service in Lincoln National Forest in southeast New Mexico. Married my wife, Kay, in 1976. Have one son, Hal, born in July, 1978. My present position is (GS-11) Wildlife Biologist, Supervisors Office, Lincoln National Forest, Alamogordo, New Mexico.

1972

**Capt. Fredrick J. Ducat**

I am married and have two sons. I am a Captain in the U.S. Marine Corps and fly Boeing 107 (CH-46) helicopters. I visited Spain, France, Italy, Greece and Turkey with the U.S.M.C.

**Robert G. Jacobsen**

Directly after graduating, I went to work for the Lloyd Lumber Company in Nampa. My father and I now own the retail lumber operation, and it has worked very well for us.

1973

**Stephen Pintek**

I am presently Sale Preparation Officer for the Tule River District, Sequoia National Forest. I will marry Karen Rainoldi of Merced, California, on August 18, 1979.

1974

**Mark S. Anderson**

Transferred from Fayetteville, Arkansas to Beaumont, Texas, in August, 1978, with the Boy Scouts of America to serve as a District Executive in the Three Rivers Council.

**Linda Howell**

I am now Senior Range Manager for the Idaho Department of Lands at Gooding.

**David L. Kulhavy**

I began a combined teaching/research position at Stephen F. Austin State University in September, 1978. I am teaching Forest Entomology, Advanced Forest Entomology and Integrated Pest Management. My research is on the southern pine beetle and the Nantucket pine tip moth. My wife, Pam, and our two sons, Aron and Anders, are doing fine. We bought a house and enjoy the community.

**Greg Lynch**

I received my B.S. in 1974, and Dr. Ables headed me south for an M.S. at Texas A&M. The last two years I have been working as a Research Biologist, USFWS, Denver Wildlife Research Center, Twin Falls, Idaho. Pam and I are still married after 12 years, and that is almost as unusual as finding a job in wildlife. Congratulations on another fine *Forester*.

**John Mount**

Working for the BLM out of Boise as a Range Consultant. I married Janie Hanson, class of 1976, Home Economics. Janie is teaching in Marsing (near Nampa). We are expecting our first baby in May!

1975

**Clifford J. Dorr**

I am still running ridges in the Sawtooths and vicinity.

**Joseph A. Fyle**

I am presently employed with Morrison-Knudsen Forest Products Co. in Boise, Idaho.

**Chuck Hagerdon**

Ex-Peace Corp volunteer; worked in Honduras C.A. Am now working as a Forester-Silviculturist on the Carson National Forest in New Mexico.

**Thomas W. Moore**

I am still working as 208 Silviculture Nonpoint Source Water Quality Forester for Washington State Department of Ecology. I was promoted to Environmentalist II classification on Nov. 10, 1978.

**Harry A. Morrison**

After two years with the Peace Corps in Guatemala, I have spent the last two years working with a private consulting firm: Southwestern Environmental Consultants, Inc., in Sedona, Arizona.



**Russell T. Moore**

I am presently employed as Manager of the Mining Services Division for Environmental Research and Technology (ERT) in Fort Collins. Our mining services consist primarily of baseline surveys, impact assessments and reclamation planning for western surface mines.

1976

**Steven J. Anderson**

I am returning to the U.S.A. after serving 2½ years in the Peace Corps as Fish Biologist on Lake Victoria, Kisumu, Kenya, East Africa.

**Sharon Bradley**

I am now a Forester with the Pacific Northwest Forest and Range Experiment Station. I do timber inventory out of Portland. I am now preparing for the field season, where we'll be doing inventory on private lands in western Washington. I accepted the job last August (1978) on a full-time, permanent basis, after working five seasons temporarily on the Caribou National Forest in southern Idaho in timber: sales, reconnaissance, cruising, marking and even some fire fighting.

Working in Washington has been an educational and very wet experience, and I am looking forward to getting back into the field.

I like this job, however, I am trying to transfer back to good ol' Idaho on a district working in timber—mostly sales and preparation.

**Tim Hull**

I'm married and have a daughter who is two years old. Self-employed as a carpenter and rodeo star, I'm practicing high-yield forestry on my ranch near Winchester.

**John D. Owens**

From 1/79 to 3/79 I attended Western Washington University, majoring in Environmental Education. I will return to work on the Boise Ranger District, Boise National Forest, Range and Wildlife crew in April.

**Craig Ramsey**

I have recently worked a year for a horse logger named Larry Duff in Elk River. I would like to see a full article in the '79 *Forester* on the problems and potential of horse logging, not some

romantic story. Larry will return to Elk River next spring, and I believe such a story will help keep the ball rolling for this "new" harvesting technique. Another horse logger is Dan Nagle in Potlatch.

**Robert G. Rogers**

I have been with Burlington Northern, Timber and Land, for over two years. My present position is Forester on the Pend Oreille Mgt. Unit; I am in charge of silviculture and slash.

**Craig Steedman**

Forester at Penasco Ranger District, New Mexico.

**Kate Sullivan**

To the *Idaho Forester*: Set your own standards—shoot for the moon. Don't let your concern for us old gizzers of alumni direct your course. We'll go where you take us, lead on! And for Christ's sake, charge us \$5.00 a copy.

1977

**Charles Graham**

Working as a tree-thinning contractor. Married Nancy on May 6, 1978 at Orofino.

**Eve Marie Johnson**

I am working out of corporate headquarters for Weyerhaeuser Company in their wood products research and development department. I am specifically working in the area of process control. I am one out of 35 in their Professional Intern Program, which is a nationwide Weyerhaeuser program initiated in July, 1977.

**Justin Naderman**

Am presently pursuing a MS degree in Range Management at Texas Tech University, Lubbock, Texas. The study involves brush management for improved white-tail deer habitat in the Coastal Bend Area, Texas.

1978

**Norris Boothe**


I am working for the Bureau of Indian Affairs on the Yakima Reservation. Last summer I worked (again) at the Salmon National Forest. There is an appalling lack of U of I grads here, yet we've got seven more positions to fill on this reservation alone. Colville also needs foresters, so get on the stick!

**Victor Bullen**

As a former *Idaho Forester* staff member for three years, I can empathize with whatever pains you're going through right now. Hang in there! By the return address (Brazil) you might think that I'm a Catholic missionary in Brazil. Actually, I'm a Peace Corps volunteer working with a national park in northeast Paraguay.

**Leslie P. McKown**

I graduated highly qualified from missile launch officer training at Vandenberg AFB, California, in November, 1978. I'm now stationed at Grand Forks AFB in North Dakota.




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Glenn Lackey

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Rick Myers

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Rick Myers

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without roads, with no recognition that a single decision unit might encompass areas of both high and low wilderness character as well as high and low consumptive resource use values. Boundary definition without regard to resource character begs for a confrontation decision process. Subdivision by some criterion of like resource character substantially reduces the employment and resource value conflicts in the allocation decision. This approach was incorporated in later Forest Service proposals.

New information always changes a decision process. When the corrected inventory of resource information within the new boundaries became available, an update report, *Social-Economic Impacts of Wilderness Classification for RARE II Units in Idaho*, made corrected impact computations in a form which could be used by the original evaluation technique. It was sent to leading organizations in all camps.

<i>Proposal</i>	<i>Change in Wilderness Acres</i>	<i>Change in Employment</i>
Forest Industry	+2,063,353	-234.9
Forest Service	+3,392,142	-731.4
Conservationist	+5,642,525	-2,996.6

The last contribution used the new impact calculations to evaluate the predominant wilderness proposals. *A Comparison of Employment Impacts for Three RARE II Wilderness Allocation Alternatives in Idaho*, tabulated direct and indirect job loss impacts by proposal, by category and by multi-county group where impacts would occur.

The bottom line of our one little candle effort shows up in comparing the wilderness and further planning impacts, and in the realization that Idaho County alone bears half the burden of everybody's proposal.

New technique development and information dissemination were the tasks we selected as our appropriate role. Now the tradeoffs implicit in each wilderness proposal are visible, but which is the best wilderness package for the people of Idaho? Ask some other ostrich 'cause I'm gonna keep my head in my sandbox till that question becomes moot uncontroversial history!

*Charley McKetta is Assistant Professor of Forest Resources, University of Idaho.*



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Public involvement, according to the NFMA, "shall be used throughout the development, revision, and significant amendment of plans."

While this particular direction applies to the preparation of Forest plans, the general trend is definitely toward more public involvement in all phases of National Forest management. This increased emphasis on public involvement places new responsibilities on both the Forest Service manager and on the participating public.

For the Forest Service decision-maker, there will be a whole new series of skills to acquire. Public involvement—particularly at the intensive level required by NFMA—is a specialty which will need to be merged with our more resource-oriented interdisciplinary teams. Detailed knowledge about how to plan, conduct, and assess public involvement will have to be acquired quickly. Decisions will have to be made by each line officer at the very beginning of the process as to how public response will influence his later decision-making.

Publics will have to be identified, new notification and involvement methods developed, assessment techniques learned and analytical systems perfected.

Some adjustments will be called for on the part of the public, as well. The key to effective public involvement is rational participation by an informed public. Such participation—as many experienced people can testify—takes time; time for research, time to attend meetings, time to talk to specialists, and most important, time to think. Effective public participation also calls for the availability of enough people to "cover all the bets."

Given the number of environmental issues facing a regional public in any single month, no one person can even keep abreast of developments, much less conduct in-depth reviews. Increased public involvement will require both the efforts of more people and the expenditure of more time from each individual.

Will there be a tangible payoff for these added commitments?

Definitely.

In the foreword to Doug Gilbert's excellent text, "Natural Resources and Public Relations," Thomas L. Kimball, Executive Director of the National Wildlife Federation, states, "No suitable management program for our nation's natural resources—soils, waters, forests, rangelands and wildlife—can succeed without public support."

The interactive sort of public involvement described in the NFMA will, in my opinion, provide the network for improved communications between the Forest Service and the public it serves. From communications comes understanding, and from understanding—support.

With public support based on involvement and understanding, the Forest Service and the public it serves can cooperatively pursue the mutual goal of quality natural resource management. And that's a very definite payoff which makes public involvement worth all the time and money and effort involved.

*Norm Hesseldahl is Public Information Officer, Idaho Panhandle National Forest.*



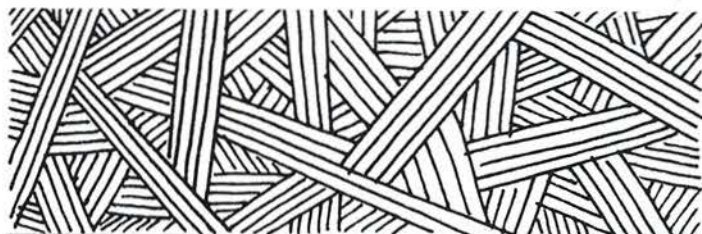
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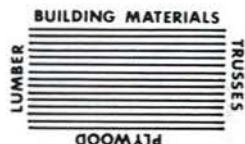
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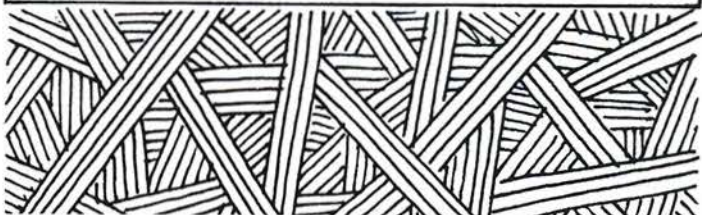
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passageways near a cat's boundaries. Scrapes, visual contact, scent, and the cougar's memory inform him of the presence of another cat's home. After recognizing a resident lion's area, an intruder may leave abruptly, or roam about the area for a couple of miles, leaving in an unhurried manner.

Because of its secretive manner, the mountain lion usually does not encounter man. This makes the two tolerable to each other indirectly. Resource management has actually increased deer and elk herds which are the lion's major prey. The conflict between lion and man centers around the lion's destruction of domestic livestock. Colt killings and mass sheep slayings have given cougars a bad name in many western communities. Losses incurred by ranchers are real and must be paid for with dollars or with a lion's skin. Dr. Maurice Hornocker, a leading authority in cougar research, contends that killing of domestic stock is a learned behavior (from mother) and is most prevalent in the Southwest where decreased natural prey populations are believed to have led lions to take the abundant, easy stock.

#### Habitat

Ideal habitat provides the essentials of food, water, cover, and space. Lions need plenty of open space to roam, but they also require a member of the opposite sex nearby. Mountain lion habitat includes grasslands, tropical and temperate forests, swamps and semi-deserts. Cougar home areas generally include several medium drainages.

Unlike the herbivores upon which it preys, the mountain lion does not damage its habitat. Two population controls limit lion numbers and therefore prevent habitat destruction. The first is the low density social organization previously described. (Lions are solitary animals, possess home areas, and will avoid settling or even hunting regularly in an area already marked by another cougar.) Prey numbers and characteristics comprise the

second control mechanism. Rather than destroy the prey resources, lions benefit it.

#### Management

Management strategies are based on the number, distribution, and trend of pumas. Given the earlier distribution, there are an estimated five thousand cougars in western North America and one to two hundred in the Florida Everglades. It is remarkable that lion numbers have increased considering bounties were still paid on them in the 1960's (Idaho was the last state to classify the lion as a game species). Management can continue this increase by assuring prey for the cougar, transplanting cougars to suitable unoccupied areas, and resolving lion-livestock conflicts. This last consideration is the most difficult. Trapping problem animals and paying damages are two popular ideas to alleviate this problem. Continued

research on mountain lion behavior, requirements, and position in the ecosystem are desired.

Changing public attitudes have allowed this great predator to escape destruction and to remain a part of the natural world. This animal, once considered a threat and pest has even been recommended to replace the eagle as America's symbol of freedom and greatness.



Mike Cook is a senior in Range Resources.

\*\*\*\*\*

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The ice age, some 1-2 million years ago, represented the last major climatic assault on phlox, reducing its range even more. Glaciers advancing from Canada and accompanying lower temperatures, forced phlox and associated temperate species into isolated areas. The Clearwater River canyons acted as refuges for these species. These canyons, because of their depth, were warmer than the surrounding area and still received extra moisture from the clouds backed up against the Bitterroot Mountains.

After the glaciers retreated, the climate returned to one much like today's. Phlox survived in meadows and along streams in the Clearwater Basin. Some 10,000 years later, in the 1860's, settlers entered the area in search of gold and timber, and Idaho phlox met its newest and most formidable assailant. Livestock used for transportation and food utilized the habitats best suited for phlox. Trampling and grazing began to reduce the phlox populations to critical levels. Ironically, the same people who brought the livestock also expanded meadows and increased phlox's habitat by timber harvesting. Today, proper

grazing helps to maintain open meadows where phlox grows best by reducing shrub and tree invasion. The healthiest population, however, is in an ungrazed meadow where fire or some means of disturbance is needed to reduce shrub cover.

Much of the previous discussion is speculation based on known geologic history and present ecological information about Idaho phlox. To reach conclusive answers to the question of Idaho phlox's origin and protection of its known population, more studies are needed.



*Rex Crawford is a graduate student in Forest Resources.*

\*\*\*\*\*

*Whenever natural processes are thwarted, circumvented, or prevented, nature will nonetheless respond with new alternatives which may be more difficult to accept than the original responses.*

*-Richard J. Vogl*

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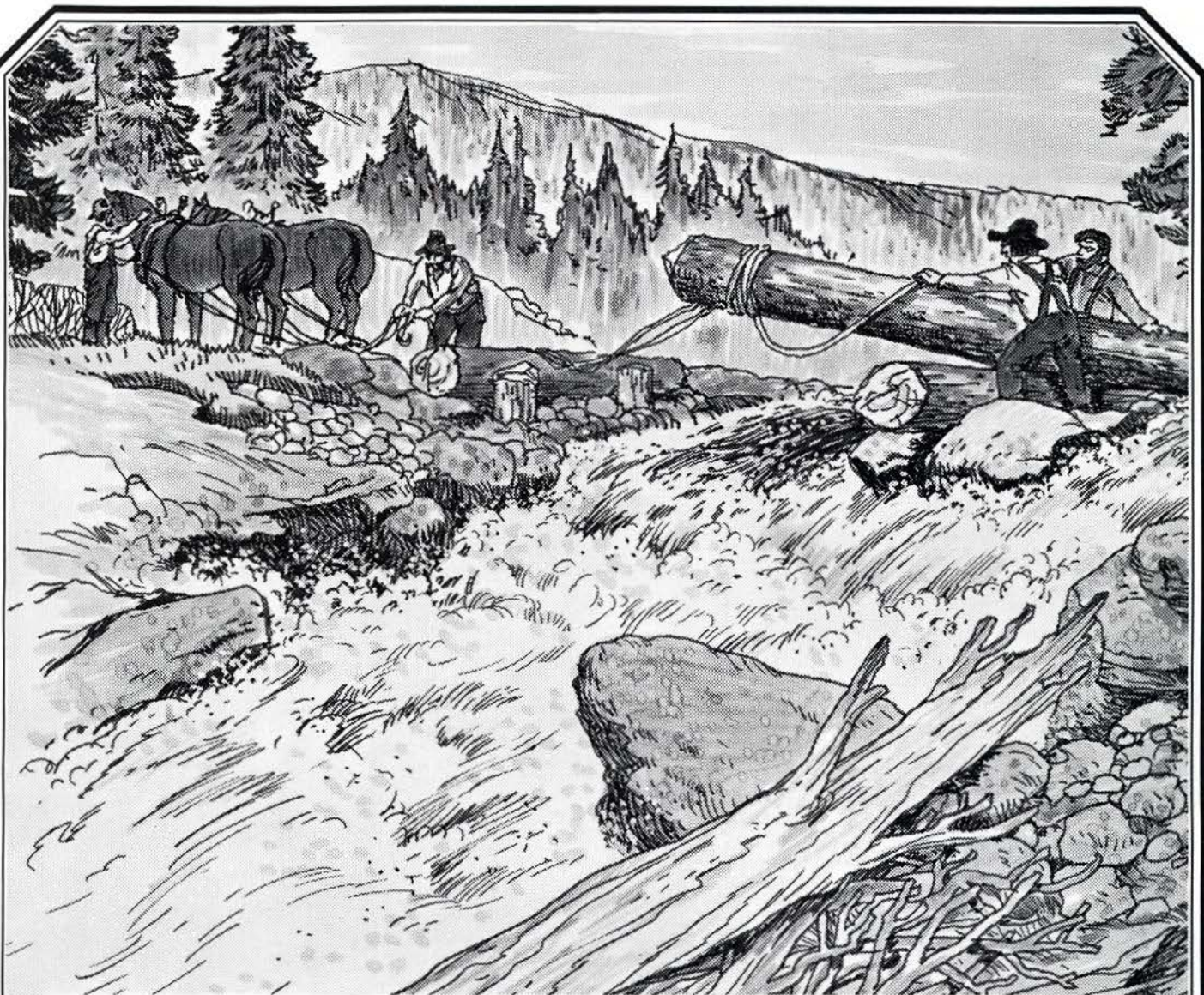
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The RARE II process offers us an opportunity to see the American political system in action. We can see the various elements and actors in the system as they interact to produce a policy decision on the future of wilderness areas in the nation. Particularly significant in this process is the Forest Service, an executive agency that has the most important role in this decision as to "who gets what, when and how." That decision has political implications since it is the result of a political process, and because it results in a distribution of rewards and deprivations by government. If politics involves the allocation of resources, this RARE II allocation of natural resources illustrates the American political system.



*Neil McFeeley is Assistant Professor of Political Science, University of Idaho.*

<sup>1</sup> Harold Lasswell, *Politics: Who gets what, when, how.* (New York: McGraw-Hill, 1936).

<sup>2</sup> David Easton, *A framework for political analysis.* (Englewood Cliffs, New Jersey: Prentice-Hall, 1965), p. 50. Easton also established the idea of political "systems."

<sup>3</sup> Hearings before the Subcommittee on Indian Affairs and Public Lands of the Committee on Interior and Insular Affairs: House of Representatives, 95th Congress, 1st Session on H.R. 3454 (Endangered American Wilderness Act) No. 95-2, Part III (United States Government Printing Office, Washington, D.C., 1977).

<sup>4</sup> RARE II Final Environmental Statement, United States Department of Agriculture, Forest Service, FS 325, Jan. 1979, Appendix U, p. U-4.

<sup>5</sup> See, for instance, the Roundtables in February, October and April, 1978, chaired by Senator Church of the Committee on Energy and Natural Resources on RARE II, Pub. No. 95-92 (United States Government Printing Office, Washington, D.C. 1978), where environmental and conservation groups and timber, mining and recreation industry representatives presented their views to the Forest Service and the Senate.

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salmon, Carlin in the 1960's transplanted fingerlings from their ancestral streams to streams lower down in the drainage. Carlin feels that successful imprinting can occur with smolts up to 20 cm in size and in the second year of hatchery life. Today it is a common practice among state Fish and Game agencies to transport eggs from one locale to another in an effort to augment a particular run of fish. This practice is based largely on the odor imprint hypothesis.

Another unanswered question addresses the problem of olfactory sensing to and from the natal stream. For species which migrate inland only short distances, the detection of imprinted odors should pose no problems. With fish which migrate long distances, it seems highly improbable that they would be able to sense their ancestral stream at the river basin when given so many choices. Possible explanations include: first, smolts imprint on a second odor at

the stream's mouth. The tendency for smolts to linger in estuarine waters certainly lends support to this theory; secondly, smolts continuously imprint on various odors for the entire duration of their seaward migration; and thirdly, the mouth of the home river system may be detected via the unique conformation of tactile and audible vibrations imparted from the movement of the shallow water through the unique topography. Adult returns resulting from the current management practices of barging and trucking smolts downstream should ultimately solve this question.

A fundamental question which has not been discussed is, of what importance or ecological significance is the ability to home in on a natal stream? Potential benefits include: 1) the dispersal of a run of fish throughout the tributaries. If stream selection were based on selecting the tributary with the best condition, entire runs of fish would congregate in one particular stream. Homing behavior operates on other

factors unrelated to water quality and in so doing assures dispersal; 2) insuring the continuation of a run, e.g., if one stream is subjected to a flood, drought or other catastrophe, the part of the run which homed to different tributaries would still remain. In this manner, to coin a cliché, all of the eggs are **not** in one basket; 3) maintaining the genetic integrity of a particular race. Fish of a particular tributary may have evolved certain characteristics which lend themselves better suited for that stream, e.g., tolerance of warmer temperature. The homing instinct would insure that these better adapted fish return to these particular waters. In addition, from a management standpoint, homing behavior allows hatcheries to enhance and sustain runs of anadromous salmonids without having to actively capture adult fish for spawning. 

*Dudley Reiser is a graduate student in Fishery Resources.*



*continued from page 25*

obtained. Branches and tops can supply another 15-30 percent; however, that may not be enough to keep up with the rate of demand. Between 1967 and 1977 softwood plywood manufacture in the U.S. increased by 49 percent; this represents a yearly increase of 5 percent. A yearly 2-3 percent increase is projected over the next decade. Particle board production increased 205 percent in the last 10 years. It has been estimated that if the available 3800 million cubic meters were exploited, the world demand would exceed supply by 200 million cubic meters in the year 2000.

Results indicate that additional benefits are obtained when WTU is practiced. Industry claims that savings per acre on site preparation can be as high as 32 percent as compared to when other conventional logging methods are used. It claims that it can grow wood thereafter at about 76 percent of the cost of other harvesting methods. Site preparation for subsequent plantations has also been accomplished at about 68 percent of the cost.

Although the forest products industry is increasingly using WTU, some problems have been encountered. The handling and processing of smaller material have caused considerable jumps in the manufacturing costs. Trucking costs are also higher since volume/weight ratio of chips is greater than for logs. The manufacturing process also requires additional fiber preparation, such as chip debarking, pulp cleaning and bleaching.

Some mill owners have reported problems of higher chemical and steam consumption. Increased wear on the scaling equipment is due to sand and dirt particles going into the process and to more bark entering the system. Problems of decay from storing chips outside have also been expressed.

#### A Final Note

Whole tree harvesting is here to stay, but some steps must be taken to diminish those negative effects mentioned. Some practices carried on now, such as keeping the cut areas small, irregular in shape and camouflaged from main highways

and roads, must be emphasized. The silviculturist likes the idea, but would rather see more thinning material used. Heavy thinnings, especially on poor sites that may require the use of fertilizers to reestablish the nutrient level of a site, should be avoided.

It is very important that the waste or mill residue be utilized on a larger, more intensive scale. It was estimated in 1967 that wood waste sources included 44 percent from saw veneer, 46 percent from the forest and 10 percent from manufacturing. This meant that an equivalent of 111.4 million cords of wood residue were being used then. In 1973, it was shown that more than 25 percent of the wood fiber that could be used was still left in the forest.

The biologist sees WTU as an application of ecological intensity in primary productivity, whereas the forest technologist looks at it simply as the ultimate in wood utilization.



*Froylan Castaneda is a Ph.D. candidate in Forest Resources*



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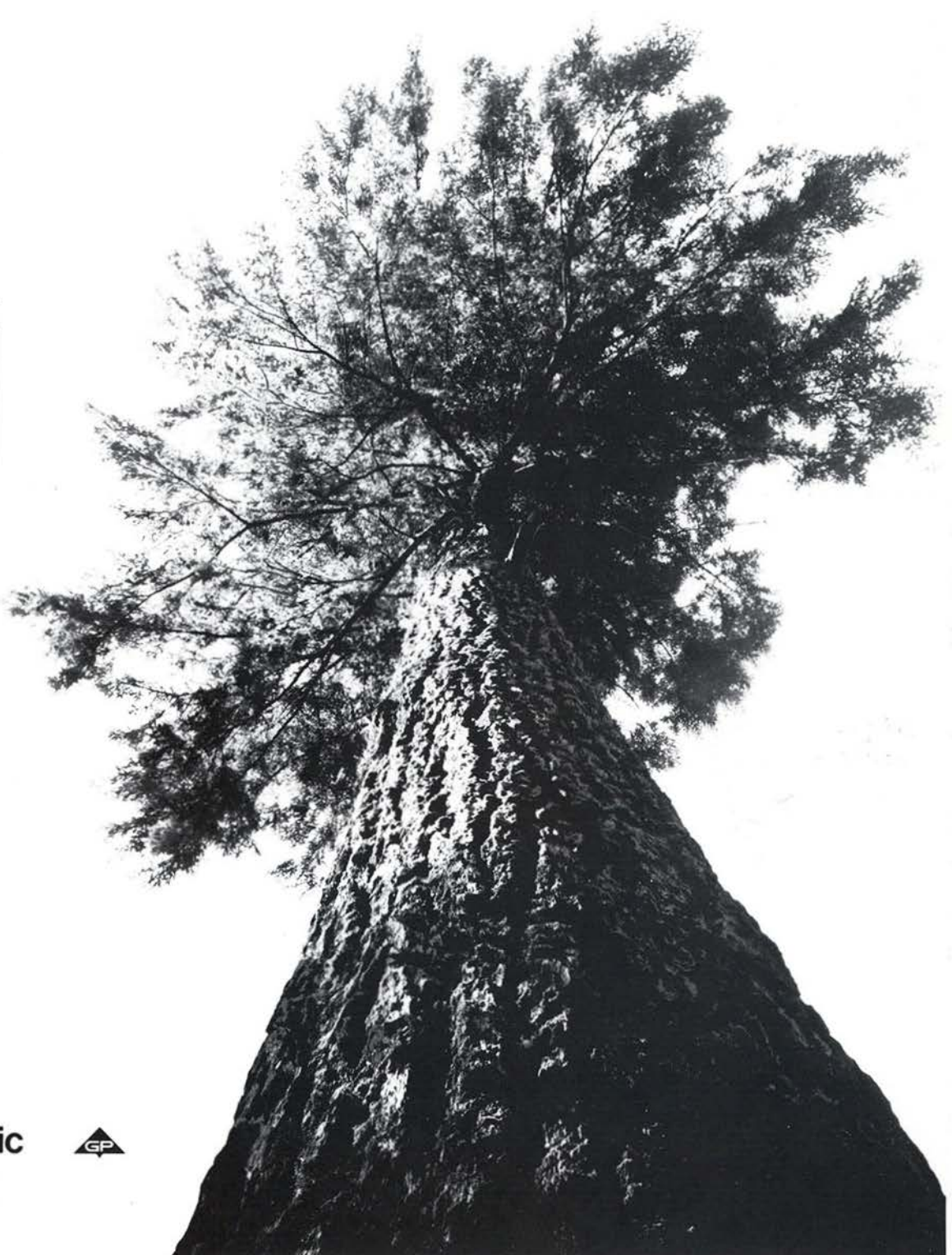
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knowledge by providing students with an understanding of the subject. If I have learned anything, it is that knowledge is only a part of the picture. Students should be growing all the time, not only in their chosen fields, but also in other areas. Person-to-person contact in the classroom and out is also essential. The best way to teach is by example. Students can tell if you mean what you say by what you do. Leonard Johnson exemplifies this approach. He is well-liked, and what he says goes across very well.

I feel it is also important to get our students involved off campus, with industry, for instance. That is where they are going eventually anyway. Get them out to industry, meetings, etc. They should make the transition while they are in school by involving themselves with their future work now.

The following comments were taken from evaluation forms for Dr. Howe's FWR 331 class. Most students were unaware of his impending retirement. Since students have always meant so much to John Howe, we will let them make the final comments.

Question:

What do you find particularly effective about the course or the instructor?

Comments:

"...it is not so technical as to put students off...but is a challenge..."

"John Howe is a credit to the College of FWR. His personality and mannerisms are most pleasant and conducive to a good student attitude."

"His class moved fast and was interesting...I learned a lot from the course and enjoyed being in it."

"I really enjoyed the field trips."

"Delivery of material was extremely interesting and effective. Great sense of humor helped keep

the class interested...This was probably my most enjoyable class in the College of Forestry."

"Good lecturer—has a good sense of humor. Always more than willing to help you out."

"The field trips, the movies, the guest lecturers and, of course, Dr. Howe's innovative teaching method. Used a casual, creative approach and was concerned with developing an understanding of concepts and relationships; not minute, quickly forgotten detail."

"...is one professor in FWR I feel comfortable talking to."

Question:

What do you recommend the instructor change or work on to improve his teaching?

Comments:

"Nothing."

"The lab was a little disorganized, but that was mainly due to fire. ...the instructor went out of his way to help."

"...the best teacher I've ever had...Makes a very interesting subject even more interesting."

"He is timely in everything he does."

"...the instructor, thru experience, has learned to present material in a very effective manner."

"Just fine as is."

Question:

Clarify your responses...

Comments:

"Even though the class was at 8:00, it was the best course I've ever taken. This was the most valuable class I've had at this University. It should be required for all forestry students."

"...I am privileged to have arrived here in time to be in one of his classes."

*Jim Spicer is a senior in Forest Products.*



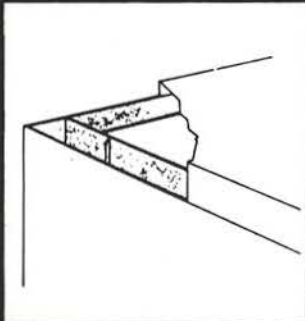


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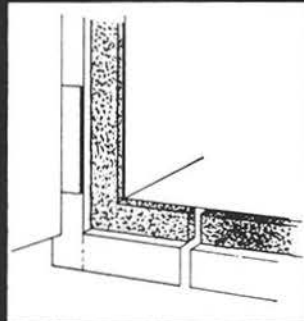
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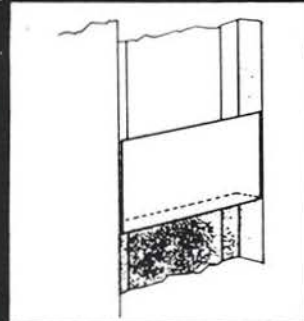
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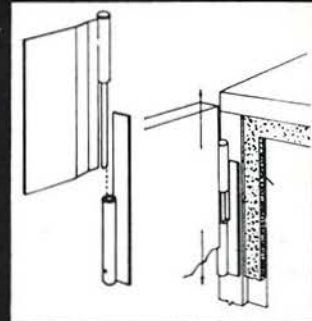
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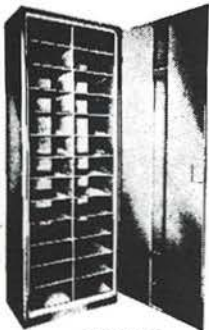
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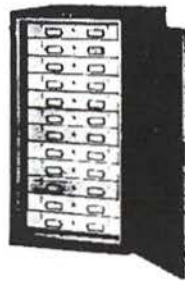
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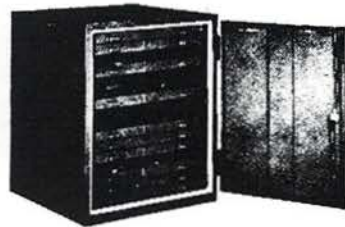
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semester and, going along with that, do you feel that the students today are getting more or less field experience compared to when you were an undergraduate?

*Harold:*

I am currently involved in two directed studies courses, both essentially on the ground, practical-type situations. One is entitled "Timber Cruising and Inventory." The other is a forest workshop. The student chapter of the SAF wanted the students more involved on the forest. It was apparent that they were not getting enough of what they called "practical experience," either through various job situations or through summer camp, in cruising and inventory and just plain "walking in the woods." The students need to obtain as much experience as possible, and the Experimental Forest is one place they can get it.

It seemed that the practical field experience was minimal in the mid-sixties and up into the early seventies. The students in the past, here, got very little exposure to the school forest. The student now gets out much more on field trips and gets more involved with the forest. The opportunity is greater now for the student, and I intend to increase that as much as I can. I instituted a fall field trip with the cooperation of the student chapter of the SAF, to take incoming transfer students and freshmen to the forest on their first days here. Various members of the faculty talked with them about what was going on and what the opportunities were for education. I plan to continue this "fall field trip." I also plan to continue other types of field trips for faculty and other interested parties.

*Idaho Forester:*

What are your personal plans for the future and are you involved in any clubs or activities outside the University?

*Harold:*

In the traveling around that I have done, I have found that Idaho is a pretty good place in which to live and work. Forestry has a real future in this area. I hope to be very innovative in terms of promoting forestry efforts through this job, through the Experimental Forest and through teaching. I have an inclination to stay more in the operation end of things and not get bogged down with a lot of teaching and administration.

I am currently involved in the Idaho Christmas Tree Growers Association, which is a group of people involved in the production of Christmas trees. I was vice-president a few years ago, and I now serve on the board of directors. I have a Christmas tree operation on part of the family farm located near Potlatch. I own a circular sawmill which I plan to set up and run as a part-time business for manufacturing our own timber.

continued on page 79

# 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.

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Kathy Dewoody

We would like to recognize and thank Lewiston Equipment, Inc. and Clark Equipment for jointly donating to the University of Idaho a Clark 667C rubber-tire skidder. The only cost to the University is that of shipping the machine to the Experimental Forest. The skidder is replaced on a two-year basis, and this is the second one donated.

"The intent of donating a skidder to the University of Idaho is to introduce student foresters to the latest concepts in logging equipment," states Steve Wood of Lewiston Equipment. In a year, up to twelve students actually become proficient on the Clark skidder, but many others are exposed. It is firsthand experience such as this that puts our students "one step ahead."

\*\*\*\*\*

*Maryanne Staubach is a senior in the Forest Resources Science option.*

*continued from page 78*

I am also involved in consulting work, specializing in management planning and site-stand analysis. I prefer to work with small landowners and cater to their specific set of goals and problems.

As a participant in the Continuing Education in Forest Ecology and Silviculture (CEFES) program, I intend to use those credits toward a Ph.D. I do not formally have a research project now. I will be doing something along the silviculture lines over a five-year period, and while working and picking up credits, complete the requirements for the Ph.D.

I can see this job as very challenging for a number of years. When I cease to grow professionally with this job, then I will look elsewhere.



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the uplift of mountains, and a lake  
like an emerald set in granite  
faceted by eons of time.*

*"Leave nothing but tracks.  
Take nothing but memories"\* of  
the unrehearsed songs of birds,  
the play of light on needled paths,  
the fragrance of moss-sweet springs,  
and a mantle of jeweled peace.*

—Frances P. Reid

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A Magazine of Natural Resources



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future stand development for managed stands. The program was developed by the Intermountain Forest and Range Experiment Station and the FWR College. A workshop on the computer user services is planned for foresters this summer.

In September, a Natural Resources Youth Camp, sponsored by Cooperative Extension, will be held in northern Idaho. The students will spend a week learning about resource conservation.

Looking to the future, both Mr. Burlison and Mr. Hanley are concerned about non-industrial private woodland management. As the larger woodlots are being subdivided into 5-acre plots, efficient management is becoming impossible. Over 50% of the timber cut last year in Idaho came from privately-owned land. Private land in Idaho comprises only 21% of the state. With the shift toward subdivision and recreational land use, we are facing a decrease in timber production from private lands unless intensive management is implemented.

So it looks as though Don Hanley has his work cut out for him. Good luck in future years; keep that enthusiasm strong.

Vern Burlison, we at the FWR College can only say, "Thanks very much for a job well done." May your retirement be enjoyable.

*Barb Schrader is a senior in Wildlife Resources.*

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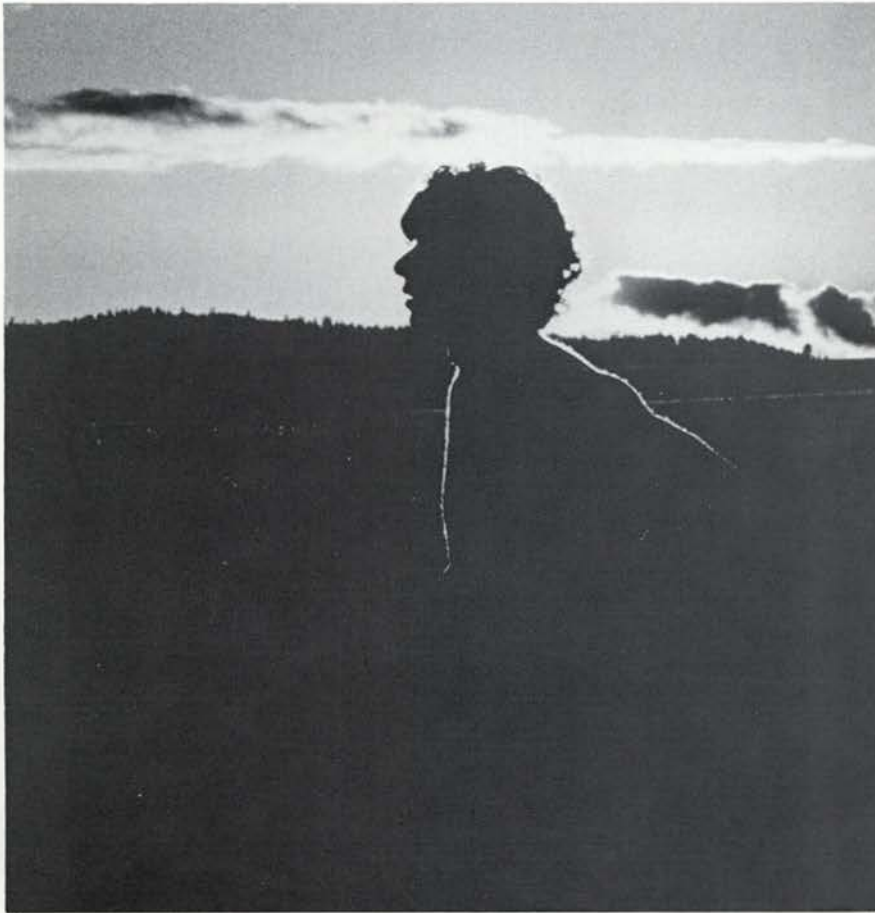
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*Photo by Dr. Ernest Ables*





Leon Neuenchwander

*I sit beside the fire and think  
of all that I have seen,  
Of meadow-flowers and butterflies  
in summers that have been.*

*Of yellow leaves and gossamer  
in autumns that there were,  
Of morning mist and silver sun  
and wind upon my hair.*

*I sit beside the fire and think  
of how the world will be  
When winter comes without a spring  
that I shall ever see.*

*For still there are so many things  
that I have never seen:  
In every wood in every spring  
there is a different green.*

*I sit beside the fire and think  
of people long ago,  
And people who will see a world  
that I shall never know.*

*But all the while I sit and think  
of times there were before,  
I listen for returning feet  
and voices at the door.*

—Song from J.R.R. Tolkien







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*Special thanks to Sharron Spence for typesetting and Don Coombs for technical assistance.*

*Kaon '79*



