

IDAHO FORESTER



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1993

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 University of Idaho

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*"Come forth
into the light of things.
Let Nature be your
teacher."*

— WILLIAM WORDSWORTH

IDAHO FORESTER



An annual publication by the students of the
College of Forestry, Wildlife and Range Sciences
at the University of Idaho

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Our Graduates Are Highly Trained in Renewable Natural Resources

Fishery Resources

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

Forest Products

The forest products graduate is well grounded in all phases of forest business operations, including timber harvesting, logging-engineering, transport of goods to market, processing, computerized sawmill operations, wood construction and design, 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.

Resource Recreation and Tourism

The resource recreation and tourism graduate is skilled in parks and recreation resources management, natural sciences, geography, land economics, conservation of natural resources, human behavior, public administration, communication and tourism. Specialization is available in resource communication, outdoor leadership, resource-based tourism and wilderness management.

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 know of job openings, or plan to hire someone in these fields, please contact Carol Spain, College Placement Office, College of Forestry, Wildlife and Range Sciences, University of Idaho, Moscow, Idaho 83843, phone (208)885-6441.

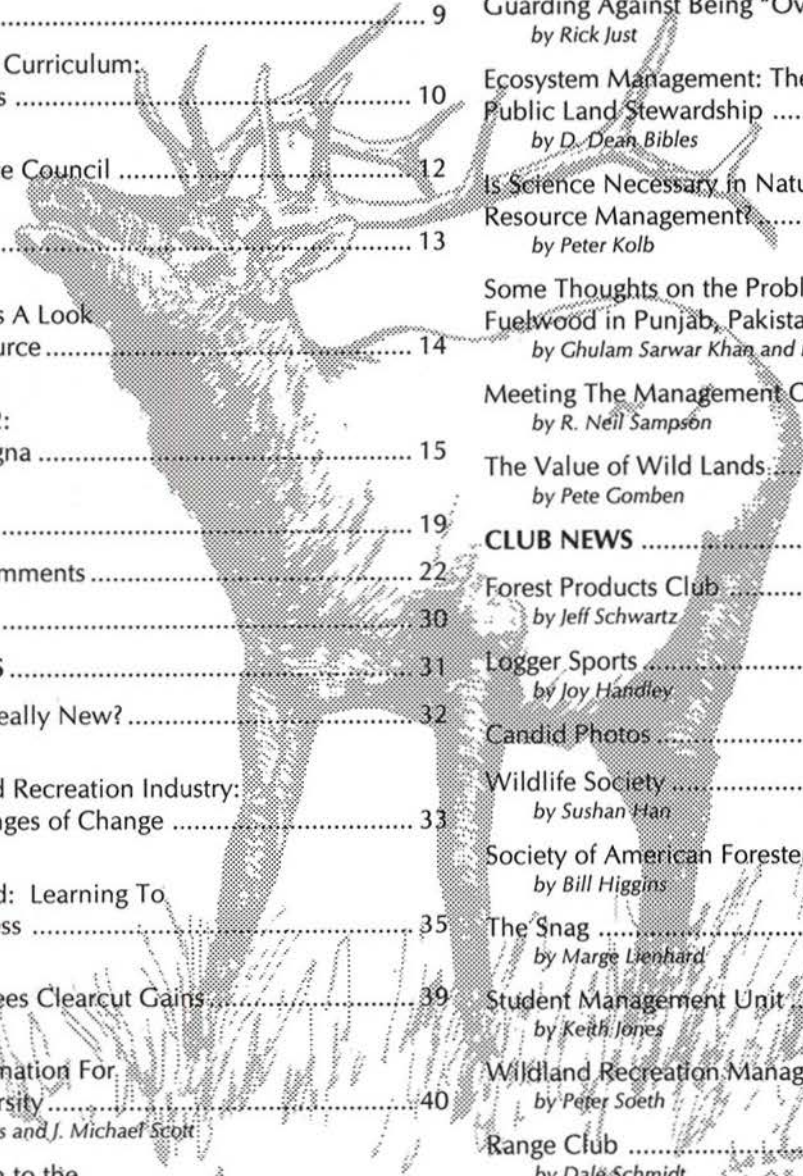
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Philip Habib Dies

by George Savage

What a small world it is that a kid from the streets of Brooklyn enrolls at a little agricultural university way out in Idaho and spends his days roaming the globe and planting peace.

-Bill Hall, *Lewiston Morning Tribune*, May 27, 1992

For six days in May, flags at the University of Idaho stood at half staff, at once honoring the memory and mourning the death of one of the university's most accomplished graduates.

Statesman, ambassador, Idaho Forester Philip C. Habib (BS - Forestry, '42) died of a heart attack in France on May 25, 1992, only a month after his return to Moscow and to the UI where he spent four days enjoying with some of his oldest friends at a reunion of the Class of '42.

He was born in Brooklyn, New York, on Feb. 25, 1920, the son of Lebanese Christian immigrants.

Dr. Habib was generous with his time. He attended the FWR Awards Banquet, where, drawing on his perhaps unparalleled international experience, he spoke on America in a changing world, reminding his listeners that, even with an apparent easing of international tensions, the U.S. must maintain its worldwide responsibilities, must remain a force for peace and human betterment.

He likewise attended a reception bringing together the FWR Alumni Association Board of

Trustees and the Class of '42 members attending the reunion. He was, as always, unpretentious, friendly, humorous, and to his classmates he was, as for the last 50 years and more, just "Phil."

After all, they knew him when he was the boy from the Bensonhurst section of Brooklyn, who had somehow found his way west to study forestry. They knew him through wee hours poker games—and lighter pockets. They knew him through McCall Summer Camp—and the camaraderie, and the shenanigans. They were friends, as young men sharing a depression, an impending war, and youthful hope are friends.

"It was a close-knit life," he said during a 1983 campus visit.

The outlines of Philip Habib's life are well known. As most of his classmates, he graduated from the UI right into World War II as a private. When he mustered out in 1946, he was a captain in the Airborne Engineers. And, as he later put it, "horizons had changed."

At war's end, he remained a time in Paris, studying at the Sorbonne. Returning to the U.S., he entered the University of California, receiving a Ph.D. in agricultural economics in 1952.

In 1949, while working on his doctorate, he joined the Foreign Service Office, being posted to Ottawa. And here he soon confronted a professional crossroad.

After a short time in Ottawa, he was offered two positions: U.S. Forest Service economist in the Washington, D.C., headquarters; or a post in the U.S. Diplomatic Service. He chose the Diplomatic Service, saying later that it sounded more adventurous.

It probably was.

He rose quickly up the State Department career ladder, along the way serving in New Zealand; Washington, D.C.; Trinidad and Tobago; Seoul, and Saigon. During the Vietnam conflict he was deputy assistant secretary for East Asian and Pacific Affairs, and from 1968 to 1971, served as senior advisor, under Henry Kissinger, to the U.S. delegation at Paris peace talks.

"He was one of my heroes," said Kissinger in a May 27 *New York Times* article. "I might not do what he said. But I wouldn't make a move without finding out what he thought."

He would also serve as ambassador to Korea, as undersecretary of state for political affairs, and as assistant secretary of state for East Asian and Pacific Affairs.

During the Carter Administration, he played an important role in the historic Camp David meetings between Anwar Sadat and Menachem Begin.

In late 1979, in response to a request for information for the "Reunion" section of the first *FWR Alumni Newsletter* (Spring 1980), Dr. Habib wrote, "I'm now in my

31st year as a Foreign Service Officer, Department of State, having served all over the world. It will soon be time to retire, a prospect that pales by comparison to the exciting and satisfying life I have led over the years."

Wrong.

Instead of placid retirement, he was called back to service and dispatched to the troubled Mideast. Seldom did a day pass during the spring and summer of 1981, when opening a newspaper, one was not confronted by a photo of Philip Habib and an article on his peacemaking efforts in Israel, Lebanon, or Syria.

For those efforts, in 1982 he received from President Ronald Reagan the Medal of Freedom, the nation's highest civilian award.

But still no retirement. As Special Presidential Envoy, he subsequently undertook difficult assignments in the Philippines, Central America, and the Caribbean.

Said U.S. State Department spokesman Richard Boucher, "His accomplishments in the Middle East, East Asia, and Latin America made a profound contribution to U.S. foreign policy and left an

enduring legacy."

Said friend and New York Times writer Leslie H. Gelb, "He was the most outstanding Foreign Service officer of his generation."

In 1988, he retired, again, almost a decade later than he had anticipated.

Over the years, he returned several times to the UI. In 1974, he



Philip Habib, Distinguished Idahoan, takes a triumphal stroll with then UI Alumni Association President Shirley Strom. Silver and Gold Days, May 1983.

attended the commencement to receive an honorary Doctor of Law Degree. He came again in 1983 during Silver and Gold Days in April to receive the UI Alumni Association's Distinguished Idahoan Award, the association's highest award. At that time, the Philip Habib tree, a limber pine (*Pinus flexilis*) was planted in his honor on the Administration Building lawn.

He returned again in 1986—between missions to the Philippines and Central America—to moderate the UI's annual Borah

Symposium, providing uncommon expertise for the topic, "Finding Peace in the Middle East."

And he returned again last fall to the McCall Field Campus and in April 1992 to Moscow—just to see old friends.

Despite the fact of his movement into the international scene, into the rarefied circles of policy making on an international scale, it is clear that the university, the college and his classmates remained always special to him, touchstones of a sort.

During his visit to Moscow some 9 years ago to receive his Distinguished Idahoan Award, he spoke to a group of students in a forest policy class, ranging humorously over his own student days.

After yet another anecdote, he fell silent for a moment, then said: "The four years I spent at the University of Idaho were the closest thing I ever had to roots."

Perhaps those Idaho roots, those Idaho friendships, had something to do with the fact that no matter how high he rose, his feet remained firmly on the ground.

As his friend Leslie Gelb wrote: "He believed in an older American dream and epitomized it—as the outsider who was the ultimate insider, the consummate professional."


Philip Habib is survived by his wife, Marjorie W. Habib; two daughters, Phyllis and Susan W. Michaels of Vestal, New York; and a granddaughter, Maren K. Michaels.

Contributions to Dr. Habib's memory may be made to the Philip C. Habib endowment in the College of Forestry, Wildlife and Range Sciences. The endowment was established by Dr. Habib for the study of environmental and

world peace issues. Checks should be made payable to: "The College of FWR/Habib Endowment."

Honors bestowed upon Philip Habib besides those noted above include the following:

- University of Idaho Alumni Hall of Fame, 1969
- Rockefeller Public Service Award, 1970
- National Civil Service Award, 1970

- Department of State Distinguished Service Award, 1977
- Presidential Award for Distinguished Federal Service, 1979
- Commander, Legion of Honor, bestowed by the nation of France, 1988
- Xi Sigma Pi, UI School of Forestry, 1940
- Editor, the *Idaho Forester*, 1941-1942 



Editorial

by Marge Lienhard

The Forest Service says "logging cutbacks, above and beyond those planned to save the northern spotted owl, are necessary to protect hundreds of other species dependent on old-growth forests," according to an article printed on the front page of the *Lewiston Morning Tribune*, March 20, 1993.

The report, made by an internal scientific team under court order, added, "It is likely that continued reliance on a species-by-species approach to preserve biodiversity will fail," and will further impact timber harvests, grazing and big-game production.

The environmentalists are happy with these findings. A member of the Sierra Club Legal Defense Team said, "It's about time they based something on science instead of politics."

Mike Draper of the Western Council of Industrial Workers said, "It certainly shows the need for the human element to be put into the equation."

A court order banning timber sales in old-growth areas was put in place almost three years ago. The reason was the spotted owl. Since then, the marbled murrelets and several species of salmon have been added to the Endangered Species List. President Clinton is going to hold a "forest summit" on April 2nd.

Environmentalists vs. timber industry. Biodiversity vs. stability of timber industry-based families and communities. Does this all sound too familiar?

My husband, electrical supervisor for Bennett Lumber, tells people that he is going to have a

bumper sticker made up for my vehicle that reads, "This environmentalist's education funded by timber dollars." At home, I'm an environmentalist, at school, I'm an advocate for the timber industry. I say I try to remain objective, but sometimes it's hard.


Yesterday, I attended my youngest daughter's wedding. Attending this wedding was the groom (good thing), who is a logging truck driver; another son-in-law, a "brander"; a brother, who operates a line machine (his son is a "hooker"); plus several other timber-based employees, including the owner of the logging company that employs all of the above. The groom's father owns and operates his own logging truck. In memory were the bride's two grandfathers who each worked for Potlatch Corp. for more than 40 years.

I understand the need to preserve the forests for ecological purposes and the need to sustain biodiversity. I also understand the need to perhaps list loggers as an "endangered species." An entire way of life is threatened, a way of life is not as easy to change as some people might think. Families affected by timber shortages and mill closures have lived in their homes and communities for generations and do not want to be uprooted. Loggers, fighting for their very survival, do not like the changes that have taken place. But, changes are inevitable and already happening.

The most noticeable change today is rising lumber prices due to timber shortages. Expect costs to double and possibly triple over the next five years above the costs of just a year ago. The effects will be far-reaching.

Resource managers of the future are going to have difficult decisions to make. Planning for biodiversity while fitting in the human element for jobs and multiple-use of the forests and other public lands will not be an easy task. We share this planet with all other animals and all are interconnected. Resource specialists will be talking to one another and must be able to understand each side's argument.

This publication of the *Idaho Forester* is dedicated to the "Future Trends in Natural Resources," but many of those trends have been in place for several years. The curriculum of the College of Forestry, Wildlife and Range Sciences has been changed to meet the needs of resource professionals. The changes were made in order to give our graduates, the

new professionals, the ability and understanding to deal with specialists from all the resource fields. An understanding which will be absolutely necessary if solutions are going to be found for current, and future, environmental and human issues. 

This we know. The Earth does not belong to man. Man belongs to the Earth. This we know.

All things are connected, like blood which unites one family. All things are connected. Whatever befalls the Earth befalls the Sons of Earth.

Man did not weave the web of life. He is merely a strand in it. Whatever he does to the web, he does to himself.

Attributed to Chief Seattle, 1852.

Marge Lienhard is a senior majoring in Journalism.



*The Unreplicable Scent
(Forest Smells)*

*There is a potion
that pours down the mountain
some nights
that racoon washes
into our creek--
and it glides downstream*

*like a muskrat over the rocks
and climbs out again--
crawling through the underbrush
like tiny mice and brown spiders
infecting the forest floor
with anemone, fairy slipper, and
fireweed*

*or descending upon the trees
like flocks of quail
settling in for the night.*

*The recipe is pine needles and
moss,
cedar cones, oak-fern, and wild
columbine--
it is ram's horn, bobcat claw, and
robin's feather
it is downed spruce, cricket's
song, and pheasant red*

*and like a shy herd of elk
it roams beyond just the forest
to hayfield, garden, and orchard
wildflowers grazing the hill like
yellow elk
some heads higher to sniff the
air--*

*and eventually
it evaporates into droplets that
float up
to the ceiling of night--clinging to
it like
twinkling white moths, drying
their wings on the sky.*



Evening

*I come from a land
where the larks bring night--*

*where silhouettes are forest green
and a white-blossomed orchard
lays down her wool
like a sleeping lamb
across the hills,*

*where starlings come home to
willow
and change the yellow hum
of a thousand invisible bees--all
day
to tiny leaves that drape each
branch
as lace hanging green
on a bird's canopy bed.*

*Yes they come, they come--
one flies the way his notes goes
up*

and

down

*another high
as wing and beak
or deep in note and
low in swoop*

*till all at once
they fill the sky
with notes of purple blue,
deep evening crowded with children
of the birds--*

*one mother coughs up a worm
she has kept
one bright, white, unwigging
worm
that curves among the blue
all night*

*awaiting the beak
of the great red breast.*

Snake River

*Brown hills
kneel down to the great snake
and beside them
mountainous dog
crouches
to drink from her.*

*Denise Ortiz, Associate Editor,
CFWR Publications*

College Focus



The Integrated Core Curriculum: A Sign Of The Times



by Keith Hamby

According to former University of Idaho forestry professor Edwin C. Jahn, "A forestry school curriculum which remains static and inflexible soon fails to meet the requirements of the developing profession." These profound words were published in the 1935 *Idaho Forester* during the era of Franklin D. Roosevelt's New Deal. Dean John H. Ehrenreich echoed Jahn's sentiment in the 1973 *Idaho Forester* when he touted the necessity of bringing natural resource disciplines together under one roof and allowing for flexibility in curricula.

In the same spirit of change, the College of Forestry, Wildlife and Range Sciences alumni, faculty and students have set about phasing in a new integrated core curriculum for undergraduates. According to Associate Professor Penny Morgan, the curriculum changes took three attempts over the course of 10 years but came together in the last two years and means changes in every major.

The integrated core harkens back to the College of FWR prior

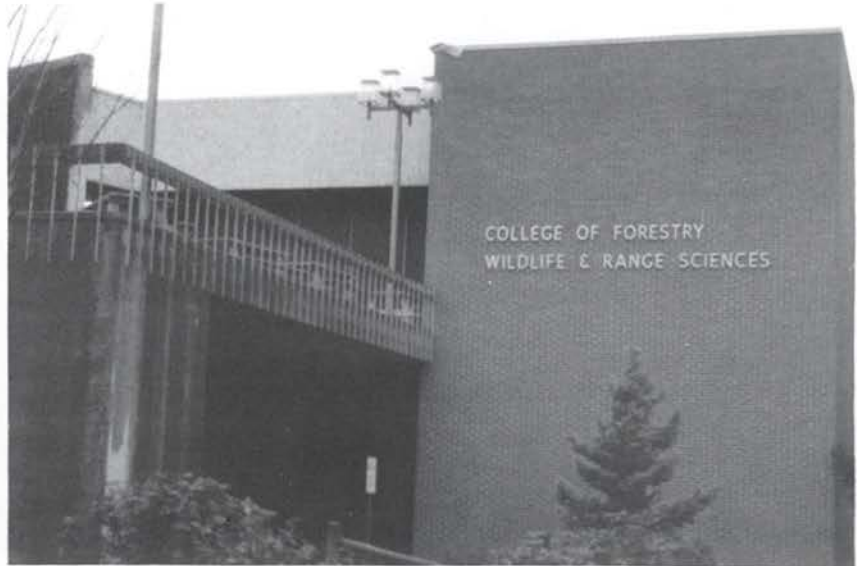


Photo by Marge Lienhard

to the fall of 1979. In the years preceding 1979 the college functioned as programs but changed to departments to accommodate an influx of students. Morgan said, "The college grew so much and so fast, not only with students but also with faculty, that it became unwieldy. Things became more departmentalized." Although the changes had their benefits, there were also some drawbacks. Forest Resources Department Head Joe Ulliman said that before depart-

ments were established there was more cooperation among faculty and less specialization within majors.

Despite the specialization of courses, professionals and alumni recognized the need for different disciplines within the college to get back together. The integrated core curriculum evolved from recommendations made by alumni, the College Guidance Council, students, faculty and employers. "The driving force was outside in the professions. There is a greater need for understanding across disciplines and a greater need to work together," Ulliman said. "The greatest advantage of the integrated core curriculum is that it provides a variety of viewpoints, forces students to work together, speak the same language

"The greatest advantage of the integrated core curriculum is that it provides a variety of viewpoints, forces students to work together, speak the same language and better understand ecosystems."

and better understand ecosystems," he said.

The College of FWR is not alone in realizing the need for an integrated core curriculum. "Many natural resources colleges across the country are grappling with changing from products to ecosystems management. We're leading a national change. There is tremendous interest in curricula that encourage interdisciplinary teaching and critical thinking," Morgan said. Curriculum planners set out to change the core in order to develop students who are integrated thinkers and to get away from specialization.

Planners established six goals for students as the basis for the integrated core curriculum. They hope students will:

1. Develop an interdisciplinary view.
2. Understand ecological principles in human and natural systems.
3. Understand and respect the philosophies, values and ideas which form the basis of natural resource disciplines.
4. Effectively participate in diverse groups.
5. Solve problems in new situations.
6. Formulate and communicate sound judgments even in conditions of conflict and ambiguity.

Planners have allowed time to accomplish the goals, therefore, the new curriculum will not be thrust on students all at once. Integrated courses will be phased in through the spring semester of 1994. The first integrated course, Society and Natural Resources, was taught in the fall of 1992. The curriculum changes have been

accounted for in each program's checklist and will appear in the university's fall catalog.

As with any program, students entering the college in the fall will be bound by the integrated curriculum. Continuing students can choose to follow the catalog in effect when they entered the university, or subsequent catalogs. The decision to change programs lies with the students. "Many current students are opting for the new curriculum," Morgan said.

Changes to the curriculum include modifying, as well as eliminating, certain courses and

"We're leading a national change. There is tremendous interest in curricula that encourage interdisciplinary teaching and critical thinking."

requiring less total credits to graduate. Under the integrated curriculum, students are no longer required to earn 136 credits, but can earn anywhere from 128 to 132 depending upon their chosen program of study.

In addition to requiring fewer credits, the new curricula allows students more flexibility in choosing courses and also allows them more free electives. Although there are less required credits and fewer mandatory courses, students won't have it easier than their predecessors. Instead they will have a broader choice of core classes. "Earning a degree shouldn't be any more rigorous than in the past, it'll

just be different," said Ulliman.

Morgan added, "It'll take more responsibility on the part of students to use electives wisely."


The modification of courses will mean an increase in class size not only due to integrating disciplines but because some courses will be taught by more than one faculty member. Ulliman said a class that had 20 students before the curriculum changes may increase to an enrollment of 100. Most of the required core classes will be team-taught with the exception of disciplinary courses, as indicated in Table 1.

Combining courses may not be the only factor that increases class size. The integrated curriculum could increase recruitment and retention within the college. Morgan said, "Under the new curriculum, students can take the principles courses as freshmen or sophomores, whereas previously these were junior level—all departments except one." She said University of Idaho regulations state that no course taken at a two-year college can substitute for a 300-level course. This is still the case, Morgan added, but now the silviculture or wildlife courses taken at a junior college may transfer and substitute for the principles courses.

Students graduating in May 1993 should not feel slighted by the changes in the curriculum. Ulliman said May graduates may not have the cross-culture integration the new curriculum provides, but they may be more specialized than future graduates. Some employers are still looking for skills the former curricula provided and see specialization as an advantage, he said.

Along with more specialized skills, May graduates also carry with them the college's rich tradition of applied learning. "The University of Idaho has a reputation for hands-on training and for producing people who know their way around on the ground," Morgan said. The hands-on training will continue under the new curriculum.

Since the new curriculum stemmed from the recommendations of professionals, future graduates should be better prepared to function successfully in the increasingly diverse fields of natural resources. The combination of hands-on training and an integrated core curriculum that introduces students to various natural resources issues should equip

future College of FWR students with the tools for success and usher in a new era of change and cooperation within the college. 

Keith Hamby is a senior Communications major.

Table 1. The integrated core consists of students in all majors (with the exception of two options in Forest Products) taking the following courses:
Principles courses—three of these six are required in addition to the one in the major department:

Principles of Forest Ecosystems Management - For 270	2 cr
Principles of Forest Products - ForPr 250	2 cr
Principles of Fish Biology and Management - Fish 290	2 cr
Principles of Wildlife Biology - WLF 290	2 cr
Principles of Resource Recreation and Tourism Management - ResRc 287	2 cr
Principles of Range Management - Range 251	2 cr
Natural Resources Ecology - For/Range/WLF* 221	3 cr
Society and Natural Resources - For/ResRc/Soc 235	3 cr
Wildland Field Ecology I - For/Range/WLF/ForPr/ResRc/Fish* 301	1 cr
Wildland Field Ecology II - For/Range/WLF/ForPr/ResRc/Fish* 301	2 cr
Interdisciplinary Nat Res Planning - For/Range/WLF/ForPr/ResRc/Fish* 470	3 cr

* These courses will be team-taught. All courses are designed to reinforce and enhance each other. Inclusion of the new core has resulted in revisions of all curricula in the college.

The CFWR Guidance Council



by John C. Hendee


As part of its Quest for Excellence, the College of Forestry, Wildlife and Range Sciences formed the Guidance Council to assist the college in the important task of keeping in touch with the needs of our many clientele groups. The Council's approximately 70 Members represent federal, state, and local natural resource and natural resource-related organizations throughout the West. To communicate some of the Council's range, current members represent the Forest Service, the Bureau of Land Management; the livestock, forest, fisheries, and tourism industries; the Nez Perce and other tribes; the Soil Conservation Service; Idaho

Department of Lands; The Corps of Engineers; and other organizations, industries, and interest groups too numerous to mention here.

We're proud that these men and women – all respected and busy professionals and executives - so freely give their time, energies, and ideas to our college.

The responsibilities of the Guidance Council include: Assisting the college to develop balanced and relevant goals, objectives, and programs; informing the college on emerging resource problems, needs, and situations that can be addressed in the college's teaching, research, and service programs; becoming

informed about college activities, accomplishments, operations, and service problems to advise on their implementation, communications, and resolution.

In addition, the counsel provides ideas and input for plans, directions, and proposals by and for the college; assists in forums to strengthen relationships between the college and constituents groups, and on issues of renewable resource concern; and provides support for the college programs among constituent groups, the public, the legislature, and the university system. 

John C. Hendee is Dean of the College of FWR.

Executive Council



by John C. Hendee

The Executive Council of the College of Forestry, Wildlife and Range Sciences is responsible for coordinating the teaching, research, and service missions of the college. While the dean is ultimately responsible for decisions, the purpose of the council is to achieve participatory management and college-wide cooperation and exchange of ideas.

The Executive Council is comprised of the dean, two associate deans, the director of administration, five department heads, one faculty representative, one graduate student, and one undergraduate student representative. Together they work as a management team to advise the dean and to recommend action on issues affecting the college. The combination of tradition, wisdom, energy, independence,

and ideas are key to the continuing productivity and integrity of the college.



Photo by George Savage

Left to right: Leon F. Neuenschwander; Leonard R. Johnson; Lynn Mineur; Charles Jones; Ernest D. Ables; John C. Hendee; William J. McLaughlin (acting for John Hunt); George W. Klontz; Kendall Johnson; Heidi Whitlach; Joseph J. Ulliman; Richard Bottger.

A New Group Takes A Look At The Oldest Resource



by Greg Gollberg

Residents of Idaho generally consider themselves lucky; they have an appreciation of what it means to live in Idaho. A common view to both natives and non-natives of the state is that Idaho is special, it offers something that has been lost in much of the rest of the country. Many Idahoans would agree that what gives the state its unique character is the abundance and diversity of its land resources. Some 4 million acres of this land has been included in the National Wilderness Preservation System (NWPS) and is protected under the Wilderness Act of 1964. Additionally, there are millions of acres of roadless land which could potentially be added to the NWPS.

A group of students, citizens and faculty members of the University of Idaho have begun to meet weekly to discuss issues concerning these wild lands, the oldest resource. Entitled the Wilderness Issues Colloquium, our purpose is to provide a forum for the exchange of ideas between all who are interested in the future of these lands.

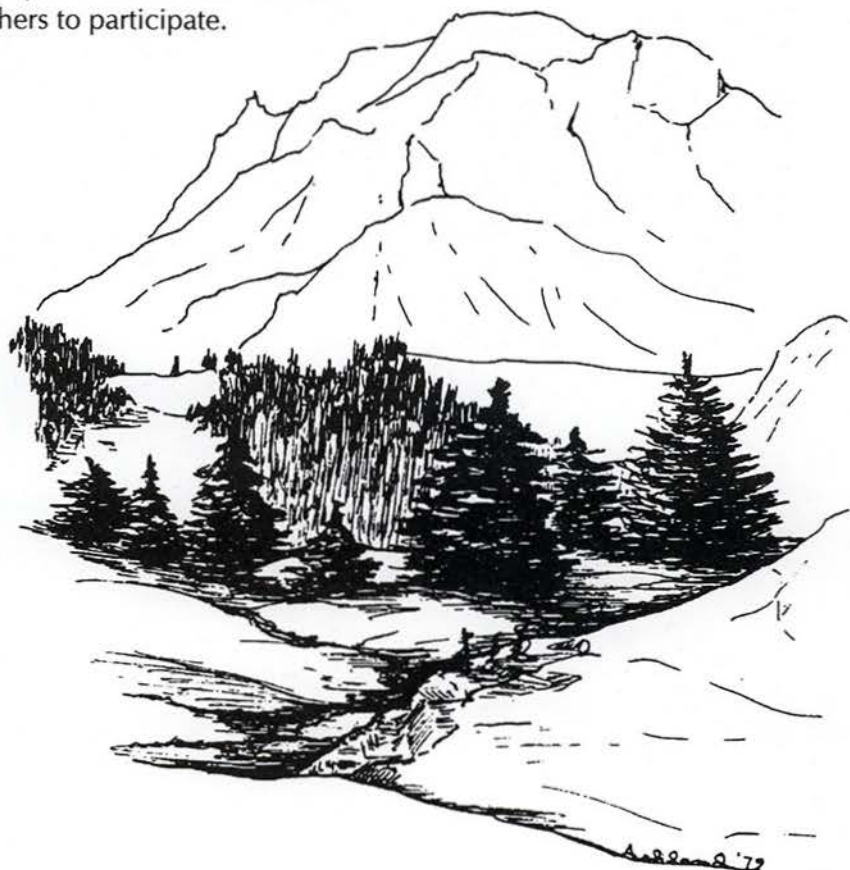
The diversity within wild lands is often considered a measure of their health. We believe that the opportunity to bring diverse viewpoints together, to discuss problems and perhaps to arrive at a consensus, is a measure of our health. We have had representatives from the Departments of Wildlife, Resource Recreation and

Tourism, Geography and Philosophy attend. We encourage people from various backgrounds and disciplines in areas such as wilderness, research ethics, the issue of "takings" (property rights), proposed legislation, wilderness user certification, the role of outfitters and guides, consolidated agency management, indigenous people and wilderness, worldwide distribution of wilderness and unique ecosystems, buffer zones, the wise-use movement, endangered species, evolving philosophical perspectives of wilderness and others to participate.

The Wilderness Issues Colloquium is an outreach program of the University of Idaho's Wilderness Research Center. Interested persons should contact either Ed Krumpke (885-7911) or Jeff Yeo (885-5779) for the schedule of topics, meeting times and places.



Greg Gollberg is a junior in Wildlife Resources.



Awards Banquet '92: Laudation and Lasagna



by George Savage

The date was April 24. The place was the Elks Lodge, Moscow, Idaho. The occasion was the annual FWR Awards Banquet. The participants included about 400 FWR students, alumni, faculty, Guidance Council members, and friends.

The entree was lasagna; the dessert included the pleasure of witnessing 15 students and 4 faculty members receive well-deserved recognition for their accomplishments of the past year.

As always, the highlight of the evening—and its reason for being—was the presentation of awards to the departmental 1991-1992 outstanding seniors and outstanding graduate students. Senior awards recipients were selected by faculty members on the bases of scholarship, extracurricular activities, and leadership. Graduate students were evaluated on scholarship and the quality of their research.

By a ballot of all departments, the college also elected an Outstanding Senior and Outstanding Graduate Student for the college as a whole.

But the faculty, too, have their place in the sun. This year, four faculty members were recognized as outstanding—in teaching, in research, in continuing education and service, and in that very important—and time-consuming—activity, advising.

Also recognized were the winners of the FWR Excellence in Writing contest, established five years ago to encourage good writing and to emphasize the importance of written communication.

Departmental Outstanding Seniors and Outstanding Graduate Students

The Department of Fish and Wildlife Resources selected two outstanding seniors, one for each of its two disciplines. Gary T. Lester, the son of Gary and Elaine Lester of Mechanicville, New York, was named Outstanding Senior in fisheries. Lori A. (Hurd) Hunter, the daughter of Dwight and Therese Hurd of Weiser, Idaho, was selected Outstanding Senior in wildlife.

Named Fish and Wildlife Resources Outstanding Graduate Student was David J. Vales, the son of Joseph and Elaine Vales of Ocala, Florida.

The Department of Forest Products voted Paul L. Clements, the son of Ed and Dorothy Clements of Idaho Falls, its Outstanding Senior. What is called today a "nontraditional" student, Clements, 35 years old, is married and the father of four. To cap off



Graduate Program Director Al Moslemi (center) presents 1992 FWR Outstanding Graduate Students Brian Oswald (left) and Greg Brown.

his collegiate accomplishments, Clements was also named Outstanding Senior for the College of FWR as a whole (see "College Outstanding Students," below).

Nathan D. Hesterman was named Forest Products Outstanding Graduate Student. He is the son of Donald and Arlovina Hesterman of Cleveland, Ohio.

The Department of Forest Resources selected Melinda S. Shelton, Pomeroy, Washington, as its Outstanding Senior. Melinda is the daughter of Dave Shelton, of Pomeroy, and Teri Morse, of Flora, Oregon.

The Outstanding Graduate Student for Forest Resources is



Outstanding Fisheries senior Gary Lester receives his award from Department Head Mike Falter.



Associate Dean Ernest Ables helps Jackie Clements display her husband Paul's two awards.



Forest Products Outstanding Grad. Student Nathan Hesterman accepts plaque from Forest Products Head Leonard Johnson.



Melinda Shelton receives her award from Forest Resources Head Joe Ulliman.

Leanne M. Marten, the daughter of alumnus Ed Schultz (BS - Forest Res. Mgt., '62) and Mae Schultz of Colville, Washington. Ed Schultz was last year's recipient of the FWR Honor Alumnus Award.

The Department of Range Resources Outstanding Senior for 1991-1992 is Michael C. Courtney, the son of Thomas and Mary Courtney of Twin Falls, Idaho.

Receiving the Range Resources Outstanding Graduate Student Award was Ph.D. candidate and now Dr. Peter F. Kolb, the son of Werner and Lieselotte Kolb of Wickenburg, Arizona.

The Department of Resource Recreation and Tourism presented its Outstanding Senior Award to Shawna L. Wilcox-Zechmann, the daughter of Larry and Judy Zechmann of Nampa, Idaho.

The 1991-1992 Outstanding Graduate Student for RRT is Gregory G. Brown, the son of Norman Brown of San Lorenzo, California, and Carol Berquist of Council Bluffs, Iowa. As of May 16, Greg Brown is Dr. Gregory Brown.

Brown was also selected as Outstanding Graduate Student for the college. He shares that recognition with Dr. Brian P. Oswald, the son of Max and Jessie Oswald of Midland, Michigan, and a spring Ph.D. graduate student in the Department of Forest Resources (see "College Outstanding Students," below).

College Outstanding Students

Outstanding FWR Senior for 1991-1992, Paul L. Clements is not what one would perhaps consider the "typical" college senior. Thirty-five years old, married, with four children, Clements enrolled at

Brigham Young University in 1978, even then a bit older than most freshmen. He left BYU the following year to pursue paying work and family needs, working as a subcontractor for flooring installation. Several years later, he enrolled at Ricks College, Rexburg, receiving in 1987 an associate degree in design and drafting engineering technology. After work in product design and development, he returned again to higher education in 1989, to the UI and the Department of Forest Products, pursuing a degree in wood construction and design.

From spring semester 1989-1990 to his graduation May 16, he was consistently on the Dean's List. Along the way, his academic abilities and energy earned several scholarships, among them the Riley Creek Lumber Co. Scholarship, the J.E. Martin Scholarship, the Ted Hoff Scholarship, and the Hoo Hoo Club of Spokane (Forest Clinic Foundation) Scholarship.

Clements and his family now reside in Burns, Oregon, where Paul has taken a position as technical representative with Tecton Laminates.

Outstanding Graduate Students for 1991-1992, Gregory G. (Greg) Brown and Brian P. Oswald, both now doctors of philosophy, have in common not only the UI, but also Northern Arizona University, from which both have degrees.

Brown's two bachelor's degrees and his MBA were all earned at NAU. He received a B.S. in history in 1980, the MBA in 1982, and a second B.S. in business administration with a major in data processing management in 1983.

A research associate in the Idaho Cooperative Park Studies

Unit, Brown thus far has five published journal articles to his credit, with two others accepted for publication. The quality and significance of his research on national forest management is reflected in the fact that last year he was invited to Washington, D.C., to present his findings to the chief of the USDA Forest Service. His dissertation addressed "The Changing Paradigm on National Forest Management."

Brown's major professor was Charles C. (Chuck) Harris, associate professor of resource recreation and tourism.

Active in conservation organizations, Brown is currently creating a wildlife refuge on his property outside Moscow. He looks to eventually teach and research on the university level.

Brian Oswald received his B.S. in forestry from Michigan State University in 1979. He went on to Northern Arizona, receiving his M.S. in forestry in 1981.

During his tenure at the UI, he's been active in several different directions. As a teaching assistant, he's been instructor for 12 different courses in the Department of Forest Resources. As a capable advisor, he's served as FWR international student coordinator. As an active UI student, he founded the university's Graduate and Professional Association and served as its president.

His research thus far yielded 2 refereed articles, 3 additional articles awaiting publication, and a research report. His dissertation is titled "Microsite Variability, Safe Site Description and Seedbed requirements for Western Larch Germination and Initial Seedling Establishment on a Grand Fir/

Ninebark Habitat Type."

His goal is to teach and conduct research on the university level.

Oswald's major professor was Leon Neuenschwander, professor of forest resources and associate dean for research and international programs.

Outstanding Faculty

Faculty and staff members recognized at the banquet were Charles C. Harris, associate professor of resource recreation and tourism; Walter W. Dunn, program manager for the McCall Field Campus; Lewis Nelson, Jr., extension professor of wildlife resources; and George W. (Bill) Klontz, professor of fishery resources.

Harris, a faculty member since 1984, received the 1991-1992 Outstanding Research Award, an honor bestowed by his faculty colleagues in recognition of his research in travel behavior, recreation and tourism impacts, resource value, and decision making and policy analysis. In the past two years, his research has produced 7 refereed journal articles, 1 book chapter, 4 papers published in national and regional scientific proceedings, 4 technical reports, and 1 article. Moreover, his research conducted throughout Idaho has in numerous ways benefitted the planning of tourism development and promotion for the state.

Dunn was presented the Outstanding Continuing Education and Service Award. Program manager of the McCall Field Campus, Dunn was cited for his creativity in bringing together a variety of well-attended summer season workshops and short



Outstanding Forest Resources Grad. Student Leanne Martin with Department Head Joe Ulliman.



Resource Recreation and Tourism's Outstanding Senior Shawna Wilcox-Zechmann displays her award with RRT Head John Hunt.



Range Department Head Kendall Johnson (right) congratulates Range Outstanding Senior Michael Courtney.



... Then does the same for Range Outstanding Grad. Student Peter Kolb.



Outstanding Researcher Charles C. Harris receives award from Associate Dean Leon Neuenschwander.



Outstanding Continuing Education recipient Walter Dunn gets congrats from Associate Dean Ernest Ables, Fish and Wildlife



Lew Nelson receives his Outstanding Advisor Award from SAC President Sandy Pike.



Department Head George (Bill) Klontz was named Outstanding Teacher

courses at McCall, as well as for his coordination of the college-sponsored, and well-respected, Executive Leadership of Social and Political Leadership in Natural Resources seminar series.

Wildlife professor Lewis (Lew) Nelson, Jr., received the college's Outstanding Advisor Award, given to a faculty member who exercises unusual skill in the important responsibility of guiding students through the academic maze. This past year, besides teaching his classes and originating and coordinating a variety of continuing education and service activities, Nelson was advisor to 68 FWR undergraduates, the heaviest advisee load in the college. Despite that load, his guidance was consistently thorough and personal. Nelson has been a member of the FWR faculty since 1978.

By a vote of the college's students, George W. (Bill) Klontz, professor of fishery resources, received the important Outstanding Teaching Award. A faculty member since 1972, and one of the best respected fishery scientists and aquaculturists in the country, Klontz makes complex subjects comprehensible to his students—both undergraduate and graduate—through a mix of personal concern, consistent good humor, and unmatched professional experience.

Writers

The three top places in the 1991-1992 FWR Excellence in Writing Contest all went to graduate students—two of whom were repeaters. First place—and a check for \$250—went to William B. (Bill) Henkel, master's graduate student in resource recreation and tourism, for his essay "Thinking Like a Bird;

Learning to Love a Swampy Mess," a plea for understanding the importance of wetlands. Peter (Pete) Gomben (MS -Forest Prod., '92) took second place—and \$125—for the second straight year for his essay on "The Value of Wild Lands," which expresses his conviction that the value of wilderness extends far beyond its economic worth. Also repeating for the second straight year, Peter Kolb (PhD - Range Res., '92) took third place—and \$75—for asking, and answering, the question, "Is Science Necessary for Natural Resource Management." His answer is, of course, yes.

These award winners were again recognized during FWR commencement ceremonies May 16. Parents and other family and friends unable to attend the Awards Banquet thus had the opportunity to enjoy witnessing them receiving well-deserved congratulations for their accomplishments.



George Savage is Director/
Managing Editor of CFWR Publications.

Photos by George Savage.



CFWR FACULTY

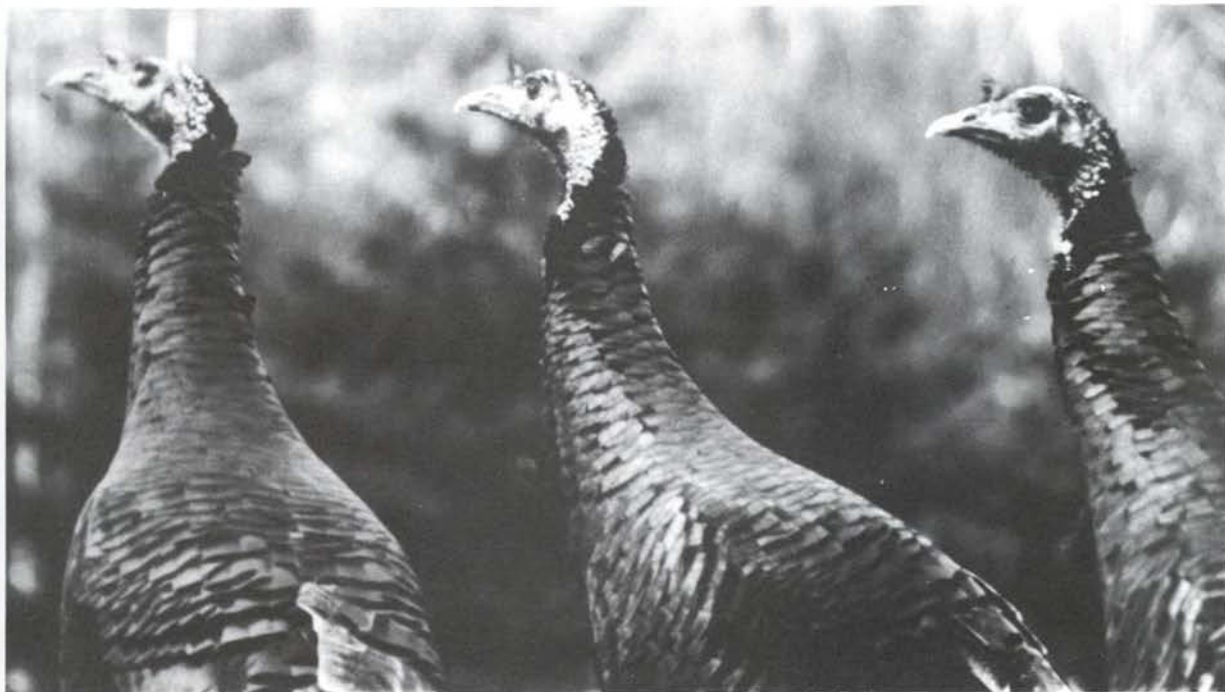


Photo by Steve Lesko



Ernest Ables, Assoc.
Dean for Academics;
Professor
Dean's Office



David L. Adams,
Professor
Forest Resources



George Belt, Professor
Forest Resources



David Bennett, Professor
Fish & Wildlife
Resources



Ted Bjornn, Professor
Fish & Wildlife
Resources



Ernest Brannon,
Director/Professor
Aquaculture



Steven Brunsfeld,
Assistant Professor
Forest Resources



Steve Bunting, Professor
Range Resources



Alton Campbell,
Associate Professor
Forest Products



Jim Congleton,
Associate Professor
Fish & Wildlife
Resources



Brian Dennis, Associate
Professor
Fish & Wildlife
Resources



John Ehrenreich,
Professor
Range Resources



Mike Falter, Professor
Fish & Wildlife
Resources



James Fazio, Professor
Resource Recreation &
Tourism



Lauren Fins, Professor
Forest Resources



Richard Folk, Research
Assistant Professor
Forest Products



Jo Ellen Force, Professor
Forest Resources



E. O. (Oz) Garton,
Professor
Fish & Wildlife
Resources



Thomas Gorman,
Assistant Professor
Forest Products



Sam Ham, Professor
Resource Recreation &
Tourism



Chuck Hatch, Professor
Forest Resources



Chuck Harris, Associate
Professor
Resource Recreation &
Tourism



John Hendee, Dean
CFWR



Minoru Hironaka,
Professor Emeritus
Range Resources



John Hunt, Professor;
Dept. Head, RR&T
Resource Recreation &
Tourism



Fred Johnson, Professor
Emeritus
Forest Resources



Kendall Johnson,
Professor; Dept. Head,
Range Resources



Leonard Johnson,
Professor; Dept. Head,
Forest Products



Jim Kingery, Assistant
Professor
Range Resources



Bill Klontz, Professor;
Dept. Head,
Fish & Wildlife
Resources



Ed Krumpe, Associate
Professor
Resource Recreation &
Tourism



Harry Lee, Assistant
Professor
Forest Products



Gary Machlis, Professor
CPSU, Forest Resources



Ron Mahoney, Extension
Forester
Extension Forestry



John Marshall, Assistant
Professor
Forest Resources



Charley McKetta,
Associate Professor
Forest Resources



Bill McLaughlin,
Professor
Resource Recreation &
Tourism



Lee Medema, Associate
Professor
Forest Resources



Chris Moffitt, Adjunct
Associate Professor
Fish & Wildlife
Resources



Jim Moore, Professor
Forest Resources



Penny Morgan, Associate
Professor
Forest Resources



Al Moslemi, Professor;
Director of Graduate
Programs
Forest Products



Jeff Mosley, Assistant Professor
Range Resources



Lewis Nelson, Professor
Fish & Wildlife Resources



Leon Neuenschwander,
Associate Dean for
Research and
International Programs;
Professor
Forest Resources



Jay O'Laughlin, Director,
Policy Analysis Group
PAG, Dean's Office



Harold Osborne,
Associate Extension
Professor
Forest Resources



Art Partridge, Professor
Forest Resources



Jim Peek, Professor
Fish & Wildlife
Resources



John Ratti, Adjunct
Professor
Fish & Wildlife
Resources



Kerry Reese, Associate
Professor
Fish & Wildlife
Resources



Ron Robberecht,
Associate Professor
Range Resources



Ken Sanders, Professor,
Extension
Range Resources



Nick Sanyal, Research
Assistant Professor
Resource Recreation &
Tourism



Dennis Scarnecchia,
Associate Professor
Fish & Wildlife
Resources



Mike Scott, Professor
Fish & Wildlife
Resources



Lee Sharp, Professor
Emeritus
Range Resources



Peter Steinhagen,
Associate Professor
Forest Products



Chuck Stiff, Assistant
Professor
Forest Resources



Molly Stock, Professor
Forest Resources



Karl Stoszek, Professor
Forest Resources



Edwin Tisdale, Professor
Emeritus
Range Resources



Joe Ulliman, Professor;
Dept. Head,
Forest Resources



David L. Verbyla,
Assistant Professor,
Visiting
Forest Products



Francis Wagner,
Professor
Forest Products



Dave Wenny, Professor;
Forest Resources



Gerald Wright,
Professor, Cooperative
Park Studies Unit
Fish & Wildlife
Resources



Jeff Yeo, Assistant
Professor; Scientist/
Manager
Wilderness Research
Center, F&W

Photographs by
Photographic Services and
Kim Tuttle
(Marge took one, too).



Alumni News & Comments



The *IDAHO FORESTER* staff would like to thank all of the alumni that responded to our request for subscriptions and comments. This year the focus was on future trends in natural resources and the alumni were asked to comment on any changes that they had seen in the natural resource professions over the years or anything else they would like to share with the readers. This they did and with a great degree of difference. Hope you enjoy the comments!

The address of the *IDAHO FORESTER* is as follows:
Idaho Forester
College of Forestry, Wildlife
and Range Sciences
University of Idaho
Moscow, Idaho 83844-1133

Any comments you may have, or magazine orders, may be sent there and a response will be made. Following you will find a list of subscribers, along with any comments, in alphabetical order.

Arthur W. Anderson, a 1967 graduate majoring in Wildlife Management is currently living in Cheyenne, Wyoming.

Mark S. Anderson, from the Class of '74 majoring in Forest Resource Management is currently living in Tyler, Texas.

Dr. Roger R. Bay graduated in 1953 after majoring in Forest Resource Management. Dr. Bay

was the 1953 editor of the *IDAHO FORESTER* and is currently living in Bozeman, Montana.

Richard J. Beier, from the Class of '62 majoring in Forest Resource Management sent the following comments: The biggest change is the great interest and involvement of the American people in the management of their natural resources. In 25 years as a forester in Wisconsin, I've observed public attitude evolve from indifference to great concern and activism.

If I can be allowed, I would like to suggest how young (and not so young) natural resource managers can deal effectively with growing citizen participation in natural resource issues. Accept willingly, and whole-heartedly, the words and philosophy of Abraham Lincoln: "...a government of the People, by the People and for the People...."

Whether we work for a public or a private entity, we serve, in a sense, all of the people. Listen carefully to our fellow citizens, talk to them and work with them. If this is done with total sincerity and honesty, your career accomplishments and your career satisfaction will be greatly enhanced.

Richard T. Bingham graduated with the Class of 1940 with a B.S. in Forest Resource Management and received his M.S. in Forest Pathology in 1942. He is currently living in Kendrick, Idaho.

Col. John W. Bohning, USMC Ret. is living at Prescott, Arizona. The Colonel graduated with the Class of 1948 after majoring in Range Management and sent the following message: People in natural resources fields today, both public and private sectors, are living and working in a highly polarized environment. They are forced to cope with individuals and groups with widely-divergent perceptions of natural resource values, capabilities and limitations. Any established or proposed action is likely to draw opposition. This has created a situation wherein public land managers and private sector operators feel threatened in their pursuits. This situation appears to be intensifying—and I can offer no solution.

Norman D. Bratlie, a 1958 graduate majoring in Forest Resource Management, is currently living in Coeur d'Alene, Idaho.

Vernon H. Burlison, a 1943 graduate majoring in Range Management, received his master's degree in the same in 1949. He is currently living in Moscow, Idaho.

Donald P. Campbell, graduating with a B.S. in Forest Resource Management with the Class of 1950, is living in Missoula, Montana.

Burton O. Clark, graduated with the Class of '46 after majoring in Forest Management, is living in Philo, California.

Bruce E. Colwell, a 1950 graduate from Forest Resource Management, is living in Coeur d'Alene, Idaho. Mr. Colwell, former Logging Superintendent, Timber and Lands Manager and now retired Corp. Vice-President of Diamond International Corp. sent the following comments:

I am enclosing a copy of a recent article from the *Spokesman Review* [a Spokane-based newspaper]. This is one of the best explanations for the need to manage highly productive timber land that I have seen. I would strongly recommend that this article appear in your 1993 *IDAHO FORESTER*. (See John F. Hossack piece elsewhere in this publication).

Our company, Diamond International Corp., was the company that performed the harvest of timber in the Deception Creek area on the upper Clearwater River. Having been directly involved in this activity, I can assure you a good job of harvesting was done and the new forest is a joy to behold. We need to see more of this productive activity on our National Forests.

John E. Crawford received his master's degree in Wildlife Management in 1960 and is currently living in Boise, Idaho.

Paul W. Easterbrook of Emmett, Idaho who graduated with the Class of '42 with a degree in Forest Management sent these words:

NEEDED—URBAN FORESTERS, America has URBANIZED! Cities are growing at geometric rates. Technology has reduced the need for farm labor. Industry creates new urban areas wherever it starts. Technology also creates more leisure time and the need for

recreation. As population increases at an increasing rate, we recognize more the need to protect the environment, and the role which trees play in that protection.

We know the many effects of trees—beauty, shade, cooling, changing the chemistry of the atmosphere, etc. The Urban Forester finds man-caused problems, as well as problems peculiar to cities to deal with. Soils are different, diseases and insects are different, even the air is different. City trees need continual and often, individual care. He must become a specialist in tree species, with all the variations thereto. Planting new parks requires careful selection, professional planting and experienced care.

The need for Urban Foresters will increase as rapidly as cities increase, and perhaps, even more so.

Valerie R. Elliott, a 1972 graduate in Fisheries Resources, is currently living in Beaverton, Oregon, sent the following message:

I have seen many changes in the natural resource field since I graduated. As a fishery biologist, I have noticed diversification even in fishery specialties. There has been a change from looking solely at fish species to also looking at what the species needs to continue to exist. The emphasis seems to be on habitat requirements. This change requires more diversification and knowledge by the professional. Fishery biologists need to understand practices and principles of forestry, mining, recreation, grazing, artificial propagation, and ocean harvesting (commercial and recreational) to name a few subjects. Biologists are also becoming

more involved with the laws and legal ramifications of their decisions and actions. Today, biologists have more contacts with other professionals and the public. They must not only have knowledge, verbally and in writing, but must also be able to react appropriately to comments on the subject(s).

People appear to be realizing the limitations and values of our natural resources, but many resource utilization conflicts still exist. This puts more pressure on natural resource professionals to assist in maintaining a balance between natural resources and other considerations e.g., jobs, economics, etc. One of the most important methods of accomplishing this is by changing college curriculums and starting future natural resource professionals in the right direction to handle forthcoming career challenges.

Lori Fagan, a 1984 graduate majoring in Wildland Recreation is currently living in Bremerton, Washington.

Joe Orlando Fore, Class of 1936 graduate with a degree in Forest Management. He currently resides in McMinnville, Oregon.

Richard G. Furman, of St. Maries, Idaho, graduated in 1974 with a degree in Forest Resource Management.

Brian Glodowski graduated in 1992 from the Department of Forest Resources and lives in Cornell, Wisconsin. He says for us to "keep up the good work!" (We're trying to, Brian!)

Roger Guernsey, of Garden Valley, Idaho, graduated for CFWR with a degree in Forest Management and sends the following message:

Yes, there have been some big changes since I started my forestry career in 1939. My last station that summer was atop a tall tree, a makeshift lookout tower on Charles Butte in the St. Joe National Forest.

Then, the year before I became Idaho's State Forester in 1948, the State had made a big timber sale on Joseph Prairie out of Grangeville. Unheard of stumpage prices made rancher's mouth water—\$4/M for yellow pine and \$1/M for Douglas fir. In 1978, Forest Manager Harold Osborne sold fir stumpage at PINESTIA (The University of Idaho-Guernsey Outdoor Classroom) for \$95/M or 95 times the price so exceptional 30 years earlier.

Such updraft changes in stumpage prices generate tremendous pressures for liquidating timber stands. This in turn has fostered perhaps the most startling and far-reaching change in the perception of just "What is Good Forestry?" A very small but very vocal and misguided minority seem to challenge the cutting of any tree. This is obviously ridiculous to the extreme and one has to question the intelligence and practicality of such persons.

All trees eventually die, whether they be the short-lived lodgepole pine growing like giant corn, or ancient and stately, long-lived redwoods. The essence of good forestry and good ecosystem management is to make thinnings in young stands to promote rapid and quality growth, and to harvest mature trees before they die and are wasted to mankind forever. Those who think otherwise should move out of any house that contains one stick of wood, should stop reading newspapers and

magazines, should junk their computer printer, refuse delivery of anything packaged, stop drinking milk from cartons, and boycott all fast food stops, including pizza parlors.

(Ed. note: Roger, Margie is my "Mom"-in-law. She said to tell you hi and hopes to see you and Billie at your Class Reunion).

G. Lloyd Hayes, who received his Master's Degree in Range Management in 1978, lives at Fort Collins, Colorado.

Howard Heiner, graduating with the Class of 1951 in Forest Resource Management, lives at Bethesda, Maryland and is the Associate Director of the International Society of Tropical Foresters, Inc. He sends the following: I have attended the recent Society of American Forester's Convention and have certainly been proud of the University of Idaho students and the awards they have won. I was editor of the 1951 Idaho Forester so I know the hard work you are doing.

As a member of the graduating class of 1951, I had little forbearance of the tremendous changes that would transpire during the next forty years. In four decades, the population of the world has more than doubled—from 2.6 billion to 5.4 billion.

This massive increase created a world without frontiers. For the first time in human history vast tracts of fertile land are no longer open to migration when the homeland becomes crowded.

Within the same period the global economy has increased fivefold. The technologies used to achieve these goods and services, plus the demands of an ever-

expanding population, are damaging the planet.

Throughout the world, there is growing distress about the ecological imbalance modern civilization has created. Technology has allowed humankind to *drastically* alter world conditions. The news media confront us about the problems of atmospheric pollution, ozone depletion, acid rain, and deforestation—all elements of a complex relationship which may result in climate change. Farmers and foresters around the world are deeply concerned over loss of vital top soil, the lack of *available* food and fiber, and the maintenance of adequate water supplies.

In June 1992, responding to this global environmental crisis, the United Nations Conference on Environment and Development (UNCED) was held in Rio de Janeiro, Brazil. UNCED, commonly called the Earth Summit, was the first massive attempt to address the need for radical changes to halt global environmental destruction.

Five documents were ultimately presented to 120 heads of state for their signature. All of these documents provide us, as natural resource managers, the guidelines to start the hard process of confronting the root causes of environmental degradation.

Hard questions will be asked of us in the future!

Are we ready to acknowledge that the present world economic development model is biologically unsustainable and has resulted in one billion people living in absolute poverty? Or are we yet ready to concede that deforestation is a symptom of a social/economic problem (poverty) within the

structures and values of a particular country? And finally, that individual countries are closely tied to regional and international economic patterns which cause them to mine their natural resources?

The political will for these changes will only come with the participation of people at the grassroots; whether they live in Potlatch, Idaho or Potosi, Bolivia. In the post-industrial age we have to relinquish our frontier mentality to a vision of coordination and cooperation in natural resource management. The understanding of interdependency is a key to the survival of all humankind.

Kenneth E. Herman graduated in 1952 after majoring in Forest Resource Management. He currently lives in Vancouver, Washington.

Dick Hodge, living in Moscow, Idaho, graduated in 1962 from the College of Forestry after majoring in Forest Resource Management.

Bruce Hronek, a 1958 graduate with a degree in Forest Resource Management, is living in Bloomington, Indiana.

Edwin J. Jankowski received a B.S. in Forest Management in 1941 and lives in Cloquet, Minnesota. He sends the following comments: When I graduated from Idaho, I was proud to say I had majored in Forest Production—growing trees for multiple use with emphasis on commercial uses. Currently growing trees for consumptive uses, particularly on the national forests, is a very low priority and, in many cases, not even a consideration. Hopefully, the Idaho College of Forestry will not be taken in by this new environmentalism and continue to teach Forest Production as a major reason for managing our forests.

Loring M. Jones, received a Master's Degree in Forest Management in 1972, currently lives in Moscow, Idaho and sends the following: I have been involved with a native, wildland seed business since 1975. We collect, buy and process seed of trees, shrub and forb (wildflower) species for distribution to both public and private sectors for reclamation, revegetation, landscaping and nursery propagation. Within recent years, I have seen a tremendous increase in demand for landscaping both xeriscaping and wetland restoration.

L. George Kimpton, a 1960 graduate with a degree in Range Management, currently lives in Middleton, Idaho.

Henry (Hank) Kipp, a 1960 graduate from the College of Forestry with a degree in Forest Resource management is living in Burke, Virginia was pleased to be able to attend the University of Idaho 1992 Society of American Foresters gathering at Richmond, Virginia where he won the raffle. The staff would like to thank him now for his contribution of artwork for this publication.

David S. Klehm of Kalispell, Montana is a 1951 graduate in Forest Resource Management and tells us the following: I am retired and Nan works a couple of days a week just to keep her feet wet. We have two pieces of forest land that we prune, harvest and provide game cover for elk, deer, moose, bear and maybe a wolf or two. One tract is split by U.S. Highway #2 between Kalispell and Libby and on this we are developing a Par 3, or Executive Golf Course. This is being done to reclaim about 18 acres of land that was a gravel pit. It will take a few years to

complete. It is not a commercial venture, but for our friends and us to play cow-pasture pool. We also have R.V. hook-ups across the highway with electricity and water. The large tract has good thermal cover with several springs and lots of browse. The land surrounding this tract was clear-cut in the early 60's and now has 20 to 30 foot reproduction timber coming back, but the game stays on our tract, also for security. It's a happy retirement.

Cliff Lathen, a 1940 graduate in Forest Management, lives in Moscow, Idaho.

T.H. Laurent, a 1950 graduate in Forest Resource Management, currently lives in Douglas, Alaska.

Russell K. Le Barron, a 1931 graduate from the College of Forestry, lives in Tahlequah, Oklahoma and sent the following to keeps us up on his busy life: My main actions in 1992 were to take five chartered tours that ranged in duration from one to fifteen days. These tours included visits to the Cherry Blossom time in Washington D.C.; the northern Rocky Mountains; "autumn leaves" time in New England; and by far the most significant event to me, a visit to the grave of Dr. Francis LeBaron, buried in 1704 in the burial grounds of the Pilgrim colony. Dr. Francis was my first forefather in America and I am a ninth generation descendent. As usual, I also attended the annual national meeting of the Society of American Forester, held this year in Richmond, Virginia.

Dr. W. P. Lehrer graduated in 1946 with a Master's Degree in Animal Science, again in 1955 with a Master's in Range Management and currently lives at Hayden Lake, Idaho.

Edward C. Lownik, a 1936 graduate in Forest Management, lives at Lebanon, Oregon and sends the following comments: An editorial writer I am not—but I do enjoy the high elevations in the Wilderness areas. I and my horse, Dusty, make eight or nine trips per year to the various areas in the Willamette and Deschutes National Forests, which, of course, includes the Three Sister, Mt. Jefferson and Mt. Washington Wilderness Areas. It's my opinion that fewer backpackers and horse people are enjoying the back country as in years gone by. My other enjoyment is working with 10 acres of Douglas fir trees that I set out in 1985. The stand looks real good. I guess the average tree would be 18 feet tall and 3" to 4" d.b.h.. I keep the trees free of limbs to seven feet and mowed or pastured so there is no debris on the ground. I'm afraid I'm not following the present idea of leaving all the junk and debris on the ground for fertilizer. But, I like to see my park-like stand rather than a peek-a-boo stand with a few tree tops standing above the ferns and blackberry brush.

William H. Mason, a 1940 alumnus majoring in Forestry is currently living in Henderson, Nevada sent the following: I grew up around logging and sawmilling businesses in Montana. Enrolled in the University of Idaho Class of '40 in Forestry. I elected to do ROTC summer camp instead of Forestry summer camp, then out of money, I worked for Potlatch & Boise-Payette, but ended up in the Army. I did 30 1/2 years and retired from the military in 1972. Then, I worked five years in Korea and Saudi Arabia for various contractors. Finally, I "retired from working for money" in 1978 and

now live in Nevada. We used to douse every fire, now burns are beautified. Found trucks hauling logs UPHILL, formally this would get one fired! Always have, always will, love the out-of-doors, hiking, etc. Now I'm learning desert shrubs, up to the bristle cone on mountains. Maybe got the boy out of the forest, but never got the forest out of the boy. Hope to see some of you at 1993 Golden I Reunion.

Lee P. McConnel graduated in 1963 with a degree in Forest Resource Management and received his Master's Degree in Forest Management in 1967. He currently lives at Avery, Idaho.

Henry McCormick of the Class of 1935 passed away in August of 1992. We regret the loss to his family and friends.

Joseph P. Naras, graduated in 1980 with a degree in Forest Resource Management and currently lives in MillBrae, California.

Vince Naughton graduated in 1962 with a degree in Forest Resource Management and currently lives in LaGrande, Oregon. He sent the following comments: I graduated in 1962 and, as most people at that time, learned to fight fire and build trails for the USFS. I worked for the BLM for a few years, but quit when they told us we couldn't work overtime (without pay) or pack guns.

I have worked for industry ever since and am lucky enough to work for a company that has done an excellent job of forestry and land management. What I have seen happen to BLM and USFS is remarkable. It was run by foresters that were generalists that got the job done. The USFS and BLM were the model of land management.

Now, especially the USFS, and the BLM somewhat, is being managed by committee. No one understands the other specialist's problems and they really don't give a damn. Consequently, we plan and plan and talk and very little gets done. This has to change before all the old role models that met their goals either retire or give up in desperation.

I no longer pack a gun in my pickup, I'm afraid some one will steal it, but I do get to work all the overtime I want as most salaried industry foresters can understand.

I hope the next 30 years will bring a stable economy and population to the Northwest. [I also hope] the government will follow one of their plans long enough to see if it will work.

Arthur W. Nelson, Jr. graduated in 1938 with a degree in Forest Management. He is living in Meridian, Mississippi and shares the following: CHANGES I HAVE WITNESSED AS A NATURAL RESOURCE PROFESSIONAL SINCE GRADUATION IN 1938: The most profound changes have been political. In 1962, the Supreme Court, in the case of Baker vs. Carr, issued it's one-man-one-vote ruling, saying, in essence; acres, trees, and cows don't vote; people do.

This ruling resulted in the complete re-apportionment of legislatures and the congress with the result that most legislators now come from an urban background with no first hand experience or appreciation of natural resource problems.

Urban dwellers have different conceptions and expectations from the forest; many being preservationist or aesthetic in nature. Being

urban, they have lost their sense of connectiveness with the resource that provides their housing, paper and a myriad of other forest-based commodities on which our civilization depends. It's like the "Dennis the Menace" cartoon, where Dennis is showing his grandpa's farm to his pal, Joey. Dennis exclaims "these folks live so far out they have to get their milk from a cow!"

Many of these urban viewpoints are issued in the name of "the environment" or "ecology." As professionals, we have failed to educate the urban public that no forester can be successful unless he understands the ecological and environmental requirements of the trees that he is working with.

Preservation is not conservation. We have not told urban people that trees grow, and respond to culture, and that if not harvested and put to constructive uses, nature will inevitably harvest through fire, insects, or disease as is being so dramatically demonstrated in the west.

The media are part of the problem. In their search for sensationalism, they often show a picture of a clear-cut taken about 5 minutes after the last truck leaves—claiming "forest destruction!" How often do you see pictures of a new forest growing in it's place? Not much excitement there—is there? Is it any wonder that people think our forest is "almost gone" and that drastic measures must be taken to "save it?"

Planting trees or natural re-seeding is not very sensational, yet it is the core of successive tree crops that much of our country depends on today.

Dealing with this "disconnect-ness" that results from the cultural gap that distances rural America where the resource is located from the cities where it's products are consumed is the major task confronting resource professionals.

Dennis G. Nelson graduated in 1966 after majoring in Range Management and currently lives in Stone Mountain, Georgia.

Ken Nygren, a 1989 graduate majoring in Forest Resource Management currently resides in Aloha, Oregon.

Joseph Pechanec, graduating in 1932 with a degree in Range Management, presently lives in Boise, Idaho.

Lew Pence, a 1964 graduate majoring in Range Management, lives in Gooding, Idaho.

Charles (Chuck) Roady, a 1975 graduate majoring in Forest Resource Management presently lives in Bonners Ferry, Idaho.

Wallace M. Saling, Class of '28 with a Master's in '29 in Forestry, passed away in February, 1992. His son reports that he enjoyed all the material received from the UI.

A. Ward Smith, Class of 1942 in Forest Management, resides at Hood River, Oregon.

Lawrence O. Smith, Class of '63, Forest Resource Management, lives at Sandpoint, Idaho and tells us that "you guys and gals are doing a great job!" Thanks, Larry.

Ralph S. Space, a 1925 graduate of the College of Forestry majoring in Wood Utilization and living at Orofino, Idaho reports: I graduated from the UI in Forestry in 1925. I believe I am the oldest

UI Forestry graduate now living. My son, Jim, is also a graduate (1962). He is on the Chief's staff in Washington, D.C. (Ed. note: Is there any earlier graduate than Mr. Space out there?)

J. R. Stillinger, a 1944 graduate majoring in Wood Utilization and living at Corvallis, Oregon shares the following comments: There must be a better balance among the reactionary "Environmentalists" approach to management of our forest resources and the Forest Products' Industry's more practical and sensible economic utilization of our resources.

To set aside millions of acres of over-mature timber to protect one or two species of birds at the expense of "thousands of jobs" and allowing mature trees to stand and eventually die without any attempt to utilize the high quality, badly needed wood is absolutely asinine!!

Clarence E. Stilwell, Class of '34, Forestry, is currently living in Seeley Lake, Montana reports he retired from the USFS in 1968 and that he and his wife, Mabel are living in Swan Valley, Western Montana.

Bill Stormont, a 1984 graduate majoring in Wildland Recreation, currently lives in Hilo, Hawaii.


Wayne Syron, of Carriere, MS, graduated in 1972 with a degree in Wildland Management.

Sherman D. Town, a 1942 graduate majoring in Range Management, currently resides in Vale, Oregon.

Col R. T. van Kleeck, Ret., a 1952 graduate majoring in Range Management, received his Master's in 1953 and is currently lives in Ukiah, California. He shares the


following: October, we were on tour of the Canyonlands of Arizona and Utah, a first for us. We experienced twelve Parks, Monuments and National Forests. Each is a unique and wondrous display of natural earth displays!! What memories!!

There should be a field trip here to solidify university classes in plant ecology and geology. My university classes in each would have been much more meaningful, i.e., a hands-on experience. After 35 years, I regret that my recall was not as good as it would have been if I solidified my fresh knowledge of 1950 via a field trip. (Signed, Robbie).

Charles Wellner, a 1933 graduate from the College of Forestry, resides at Moscow, Idaho. 




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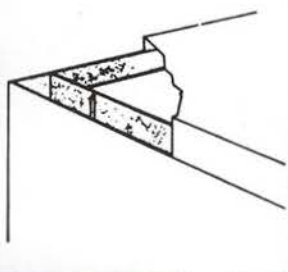
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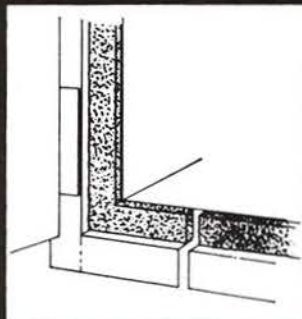
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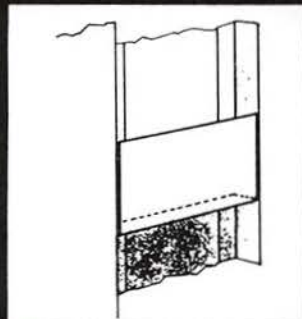
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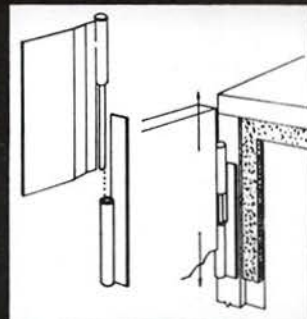
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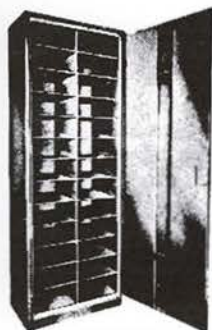
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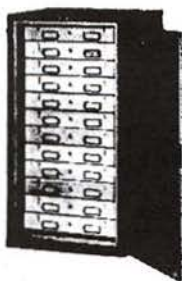
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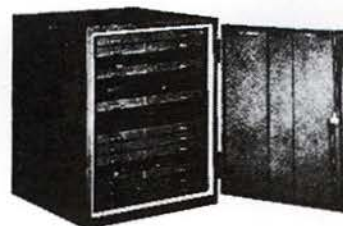
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Vertebrae of CFWR



Photo by Kim Tuttle

Left to right; front row: Jory D. Shelton, Jana Schultz; 2nd row: Nancy Matthews, Kathy Rumelhart, Cindy Gardes, Molly Burnam, Lynne Kittner, Christi Amonson; 3rd row: Brenda Haener, Blanca Harvey, Jerri Vaidyanathan, Sherri Sweeney, Michal Pierce, Linda Kossman; 4th row: Joan Klingler, Kathy Mallory, Linda Geer, Carol Spain, Nancy Graves, Sue Cann. Not pictured: Kathy Merk, Pam Bell, Vanessa Dobbins, Lorraine Ashland, Denise Ortiz.

Feature Articles



Bob Hindox

Is "New Forestry" Really New?



by David L. Adams

Much attention has recently been focused on something called *New Forestry*. On the surface one would assume that an entirely new forest land management concept has been discovered and that more traditional approaches are no longer acceptable. In my judgment, *New Forestry* is primarily greater application (particularly on Federal land) of some well-known, but less commonly used, silviculture practices—not the invention of something really new. These practices have the potential for reducing conflicts between wood production and other objectives, and for providing greater forest diversity through the more thoughtful application of ecological knowledge.

New Forestry developed primarily in the west coast Douglas-fir region. By far the predominant silvicultural system has been to clear-cut, prepare the site (usually by burning the slash), and plant. This rather simple system has been successful for dealing with mature and over-mature coastal Douglas-fir. However, the landscape is now dotted with artificial-looking patches of very uniform single-species plantations. The forest no longer "looks like a forest." Under *New Forestry*, clearcutting might be replaced in some situations with what is called *irregular shelterwood* in silviculture textbooks. Under this system, perhaps two-thirds of the mature

trees are removed in the initial entry. After regeneration has become established by natural seeding and/or planting under the remaining shelter, most of the residual mature stand would be removed. But even after this second harvest entry, some of the original stand—perhaps 10 trees per acre—would be retained through all or part of the next rotation. This system maintains continual tree cover, creates more structural forest diversity, and *looks like a forest*.


Other *New Forestry* variations may be appropriate depending on the specific stand and site conditions. Management for uneven-age units through selective silviculture is also being touted as *New*. What is new is greater application of such practices. Much non-industrial private forestry (NIPF) management in the Inland Northwest already resembles *New Forestry*.

Forest Service silviculturists often feel the pressure of the federal Forest Management Act of 1976 which mandates regeneration within 5 years of harvest. To ensure rapid regeneration, the clearcut, site preparation, and plant system is the way to go. Natural regeneration systems (either even-age or uneven-age) require much more application of ecological knowledge, more time and care in preparation, and more patience—regeneration will not always occur immediately. Widespread applica-

tion of more natural-appearing systems will mean greater management costs. The more sophisticated methods will require more site preparation time and will mean that the best silviculturists are doing the marking—not inexperienced summer crews. Site preparation and logging are often more difficult (particularly on steep ground) and this means added costs. More frequent stand entry is another artifact of most partial cutting systems; this could cause soil compaction problems, may mean more roads and more road maintenance, and again, higher management costs.

Establishment of even-age plantations is still a logical practice in many situations and the only rational alternative in some, but public interest in a more natural approach to forest land management will undoubtedly lead to greater application of silvicultural systems. Also, a greater emphasis is being placed on management of entire drainages instead of prescribing for 10 or 20 acre units. This allows for better integration of ecological values and commodity production.

The focus on *New Forestry* is drawing attention to forest practices and is causing foresters to be more innovative in prescribing practices which are ecologically and socially acceptable. This will certainly be beneficial in the long run, but let's not assume that

everything we have been doing has not been sound management—there are many examples of *New Forestry* in the Inland Northwest which have been around for a long time. 

David L. Adams is a Professor of Silviculture at the University of Idaho. Article reprinted with permission from Extension Forestry, University of Idaho, Woodland Notes, Summer 1990, Vol.2, No. 3.



Photo by Gene Phillips

Idaho's Tourism and Recreation Industry: Meeting the Challenges of Change



by Georgia Smith

All of Idaho's natural resource based industries—timber, agriculture, mining and tourism—have and will continue to face many challenges in the years to come. Challenges such as global change, a fluctuating national economy, increased federal regulation and the economic effects of endangered species designations.

One of those industries, tourism and outdoor recreation, is

currently experiencing rapid growth. Lodging receipts from Idaho's hotel, motel and private campgrounds and inquires for vacation information have averaged double digit increases since 1988. We already see 7 million plus travelers within the state each year. National marketing specialist tell us we can expect to see more as people look for economic value and seek trips that off "real and enduring" experiences.

What most of us don't know is 37 percent of Idaho's travelers are Idahoans and that some of those Idahoans are working together as a coalition to ensure that the land that makes Idaho such a great place to visit does not suffer from recreation overuse or exploitation.

Partners in the coalition—referred to as the Idaho Recreation Initiative—include employees from several departments of state gov-

ernment, land management agencies and private industry.* The groups' efforts focus on providing well-coordinated visitor services and achieving a balance between recreational land use and promotion. A balance considered essential in order to preserve and protect the very reason why so many Idahoans choose to live here—the beauty of the land.

The group meets six times yearly, sharing ideas, efficient land management practices and creating cost-effective, cooperative programs. Programs that save taxpayer dollars and provide essential visitor services. Programs like:

- An expanded toll-free 800 visitor information phone system that represents all of Idaho's public lands and provides information on a variety of Idaho tourism and outdoor recreation opportunities.

- The installation of ten video kiosks at visitor centers around the state. This interactive system, funded in part with support from private industry, provides information on all of Idaho's publicly-owned recreation lands and scenic attractions. Gathering and changing information contained on the kiosks is based on input from all the agencies involved—ensuring that areas facing potential overuse are not included.

- A statewide wildlife viewing system marked by highway signs features a binocular logo at 94 strategic locations dispersed across the state. The sites are described in the Idaho Wildlife Viewing Guide, a 104 page, full color book available to the public.

Working together to streamline costs and supplement services whenever possible is another goal

of the Idaho Recreation Initiative. When the Idaho Department of Parks and Recreation faced a budget shortfall curtailing their operations at three department-managed state visitor centers, the Bureau of Land Management, the USFS and the Bureau of Reclamation came to the rescue with \$12,000—reducing the impact of curtailed service to the traveling public.

Currently, the Idaho Recreation Initiative is working on a Statewide Comprehensive Outdoor Recreation Plan (SCORP). Working with Idaho's citizens and all levels of government, the group plans to inventory all public and private recreation areas, assess future public demand and create an action plan for balanced industry growth and promotion.

This kind of "meeting of the minds" is not new to Idaho's natural resource based industries. In 1982, Amoco Minerals began construction of the Cyprus Thompson Creek Mine in central Idaho and the interagency Task Force—a group of agencies representing lands impacted by the project's development—was formed. That particular group and their charge = = ensuring compliance with the mitigation measures outlined in the project's Environmental Impact Statement—is still in place today as the company scales back operations.

Another group, the Idaho Water Supply Committee, is made up of representation from water users associations and several state and federal agencies. The group meets regularly during the winter months, sharing future plans of actions and monitoring Idaho's annual precipitation and its impact on agriculture, recreation and

domestic use.

There are many other "working alliances" effecting change and balanced development in Idaho—too many to mention here. Groups whose interests and efforts are all based on equal ground.

Groups made up of people who live and work in Idaho and have no interest in seeing their state's natural beauty diminished—yet they understand the importance of a diversified, vibrant economy. They know Idaho is a state large in land area, small in population, but rich in human resources. Human resources, that when combined for a common cause, cannot be matched in terms of effectiveness.



Georgia Smith is the director of the Idaho Dept. of Commerce.

*The Idaho Recreation Initiative is made up of representation from the Idaho Department of Commerce, U.S. Forest Service, Idaho Department of Fish and Game, Bureau of Land Management, Idaho Department of Parks and Recreation, Idaho Transportation Department, U.S. Bureau of Reclamation and the National Park Service.



Thinking Like A Bird: Learning To Love A Swampy Mess



by Bill Henkel

While we humans of the northern hemisphere feel the strange and ancient tug to pack our kids off to school, rake the leaves in our yard into neat piles, and browse L.L. Bean catalogs for early Christmas specials, the Arctic tern feels an even stranger, and even more ancient, tug. Something in his brain clicks and tells him to move on from his summer home in the Arctic towards the Antarctic, 12,000 miles away. Along the way, he probably sees fewer hours of darkness than any other living being, as he travels from the 24-hour sun of the Arctic summer to the 24-hour sun of the Antarctic summer.

Though the Arctic tern is outwardly much like the more restlessly ambitious segments of the human population (he is literally always on the go), scientists would warn us against attributing human motivations and qualities to a migrating bird, or even generalizing amongst species of birds. In this tireless circling of the globe, we might suspect some form of extreme sun worship, but the Arctic tern's peregrinations are much more logical and essential to his survival than that. Also, the tern's hidden motivation and drive is much different from those that cause, for example, the blue-winged teal to leave his breeding ground in northern Canada and fly to Ecuador for the winter.

Be that as it may. Though it

may be bad science to assume birds think alike or think like humans, no one said we humans couldn't try thinking like a bird.

Nearly all of the 775 or so species of birds in the United States migrate to some degree. Migration is diverse, confusing and impossible to neatly categorize. But the generally north-south migration of millions upon millions of waterfowl which descend upon the lower 48 each fall to spend the winter with us in temperate latitudes captures our attention and has a special effect on our imagination. The countless waterfowl arriving in their arrow-like formations achieve Herculean feats and migrate over tremendous distances. Some, like the lesser snow goose, fly 2,000 miles or more, and have been observed traveling at heights of up to 20,000 feet. Their twice-yearly efforts are remarkable deeds of determination, strength, coordination and navigation.

Getting at the origins of migratory movement is a murky business, but we may be able to blame some of it on the adventures of youth. Many young animals exhibit what we would call curiosity in a human child—a period of intense adolescent exploration, of testing boundaries. Theoretical biologists surmise that this continual testing of an environment is a key to the flexibility and survival of a species, particularly if things go awry at home. It also might

help explain the origins of such a bold and varied development as long-distance migration.

There are a few general forces that may have encouraged this widely scattered exploration. The intense competition among species at the tropics encouraged an expansion north, especially during the breeding season when a bird must find an undisturbed nesting area with abundant nutrition. Birds able to move their breeding range north discovered excellent areas to nest and give birth to young, but winter often forced a retreat south, and thus annual movements were initiated. Certain birds move south out of their breeding range regardless of a mild winter climate. Biologists conjecture that they are reacting either to other environmental stresses, or they may be still reacting to the last ice age. The advancing glaciers of the Pleistocene 20,000 years ago created a climate at the mid-latitudes similar to that of the far north today.

Of course, theories on the origin of migratory movement can only explain so much. The forces mentioned may neatly explain why a cardinal leaves the tropics to spend the summer at our latitude, or why a lesser snow goose departs his breeding ground on Wrangle Island in Siberia to winter in the Central Valley of California. But the theories don't claim to resolve everything, such as east-west

migration, or even the travels of the Arctic tern. The tern's continuous motion is not quite captured or adequately explained by the northward force of competition at the tropics nor by the southward force of glaciation. He doesn't migrate up and down, he circumnavigates the globe. Indeed, one might say that the tern is more of a nomad than a migrant.

However, we can say that in each case of movement, animals are traveling to find an environment more conducive to their survival. Whether a nomad or a migrant, a traveler up latitudes or along longitudes, a goose on its thousandth mile or a hawk descending a few miles out of the high-country for the winter, all animals are intertwined in a vast web of past and present climatic conditions and environmental forces. So are humans, though we are only vaguely aware of the endlessly interconnecting motion occurring around and above us, and even because of us; it is too vast, pervasive and varied to hold in the brain all at once (and we, as a species, aren't always noted for being observant). The world of constant motion is the skein of nature. Out of this whirling motion arise a number of surprising niches in which animals fit.

As extraordinary as the Arctic tern's feat is, his restless wandering is nothing more than an elaborate example of "nichation"—of a species exploiting an opportunity. The tern is a shorebird. He follows shorelines and expends little energy floating with the prevailing coastal winds. Why should he stay put when the timing of his continuous voyage takes him to the Arctic and Antarctic at the precise moment of the tremendous productiv-

ity of those two regions? From a bird's point of view, he's got it made.

My introduction to bird watching was in the Klamath Basin, a wetland-waterfowl wonderland straddling the California-Oregon border. Over a million migrating lesser snow, Ross and Canada geese, mallards, widgeons, green-winged teal and tundra swans (to name a few) stop over in the shallow lakes and swamps of this region in the spring and fall on their yearly north-south journeys. Though their travels are less ambitious than the tern's, the 2,000 to 3,000 miles the lesser snow geese (for instance) might have traveled non-stop from Siberia is enough to zap the reserves of the healthiest goose. They arrive exhausted, skinny and depleted. What they are searching for is a wet, temperate, muddy or quick-sandy area that can protect them from most predators and provide them with an abundant supply of carbohydrates to replenish their energy. What they want is a lovely, murky, reedy marsh.

For a lover of the wilds, the Klamath Basin was a revelation and a bit of a shock. In my experience, wilderness meant deep forests, mountain peaks, or desert canyons, through or over which I tromped, climbed and explored. Klamath Lake, however, stymied my every step. The mud claimed my boots and sucked off my sandals. When I finally strode boldly into the reeds bare-footed, I was up to my knees in mud and sinking when I abandoned the thought of forward progress and began estimating my chances for extrication and (as I continued to sink) survival. Even swimming across the channels separating

solid ground from the islands of tule grass flush with waterfowl seemed a fool-hardy escapade. I wasn't sure how, or even if, I'd be able to haul myself out of the sucking mud on the other side. And I did not want to test how much farther beyond my knees the sucking mud would take me. In this unlikely wilderness, I was learning the advantages of being a waterfowl.

At first glance, the Klamath Basin isn't a bold or dramatic wilderness. On the California side, like the rest of the state, much of the area—up to 85 percent—has been "reclaimed" (by the Bureau of Reclamation) for irrigation. Tule Lake and Lower Klamath Lake resemble irrigation channels more than anything. The lakes are sectioned off into management zones with names only an irrigation engineer could appreciate, like "Sump 1b" and "Unit 12." For those accustomed to lonely, windswept granite peaks with views of forever, it is a great disappointment. But, for the wetland birds who rest, nest and feed there, it is paradise.

The basin boasts six separate National Wildlife Refuges, including Lower Klamath Lake, the nation's first waterfowl refuge (established in 1908 by the consummate outdoorsman and bird-lover, Teddy Roosevelt). While it is true that only a small percentage remains of what was once an extraordinarily rich area for wildlife, the Klamath Basin is still far better off than the wintering grounds in the rest of the Central Valley of California. For a bird.

If a visit to the basin is timed with the arrival of migratory waterfowl, the drama in this marshy wilderness becomes

overwhelmingly evident. A good portion of the million migratory birds passing through the area in mid-October through November flock to Lower Klamath Lake and Tule Lake, to the west. The swampy lakes and channels overflow with bobbing, honking waterfowl and flapping wings. In the evenings, great numbers retire to the surrounding fields, thousands lift off in unison, twice that many duck and geese wings beat madly, but alight in graceful unison. The sky darkens with rising, swirling flocks. In the grace of this perfect synchronicity, it is difficult to separate individual birds from the flock.

In his book "Arctic Dreams," naturalist Barry Lopez describes the migrating flock as transcending the single animal, as one greater animal. If we are to think like a bird, this is a difficult step for a human—to "think" communally; to intuit. I came close. I remember floating in a canoe on Upper Klamath Lake, and a moment which has stuck in my mind: Above me 24 American white pelicans rose with primitive grace, as large as pterodactyls with their six-foot wing span, but with a motion as seamless and indivisible as rising smoke. It was a beautifully wild moment. It was also a reminder of how segmented and individualized humans had become. In all that we've achieved as a species, we have lost the ability to act in that natural unity.

Migration cannot always be understood as a selfish event; it must be for the good of the flock and the species. Any self-serving waterfowl imbued with even a trace of dangerous human logic would probably refuse to leave a good thing if he found it; or rather,

he would probably talk everyone else into heading north, and sneak back to Tule Lake with his mate to laze around all summer gorging on grass in Sump 1B. But we're discussing waterfowl, not human adolescents.

Still, segments of some migratory species aren't as single-minded about migration as we might suspect. If conditions are favorable, some wood ducks and hooded mergansers, for instance, stay put in the southern portion of their breeding range. Certain mallards and Canada geese will shorten their migrations considerably if winter conditions are good. The feed and cereal grain left on fields by mid-West farmers is enough to entice a substantial number of ducks and geese into spending the winter in Iowa, Minnesota and Michigan, whereas a few decades ago none wintered north of coastal Louisiana and Texas. In fact, there is some tension between southern and northern bird-watchers over this. Fortunately for southern bird-lovers, Louisiana, in turn, has benefited from hurricanes which has opened the dense coastal marshes, making them more attractive as wintering areas. Tens of thousands of blue-winged teal, shovelers, pintails, gadwalls and widgeons now winter there instead of crossing the Gulf of Mexico to the Yucatan.

This ability to react to changing environmental conditions is called "plasticity" by wildlife biologists, and it varies greatly between species and even segments of populations. As environmental change accelerates, plasticity may be what saves a population from extinction, particularly if—in addition to the already severe loss of

wetland habitat to agriculture, development and drought—global warming changes climates as extensively as many predict it will.

In general, those birds who react quickly are responding to changing food supplies, whereas those who migrate regardless of conditions are more influenced by urges to flight programmed in their endocrine system. The photoperiod—the amount of light in a day—influence the pituitary gland, which sets running the "annual clock." Migration, courtship, breeding and molting all must occur before the clock can be reset. It is, of course, neither a highly flexible nor a quickly adaptable system. The populations still reacting to the retreating glaciers of the Pleistocene 20,000 years ago are evidence of how slowly these genetic reactions may change.

One of the most plastic of species (excuse the negative connotation of the word) is man, which explains why we are so successful. If it gets colder, we put on more clothes; if resources are scarce, we either migrate to where they are more abundant, or more likely, we have them brought to us. The limits to our flexibility, we are finding, are the limits of the flexibility of everything else. It is a peculiar state of affairs. Still, with all of our dexterity, we are slow to grasp that not everything else on the earth is as quick to react as we are, nor does everything else value and think as we do. Often, in seeing a wetland or swamp, we regard it as useless, or a nuisance to development and agriculture, or even an ugly mess. Birds be damned: we drain it. The birds must go elsewhere.

The problem, I would suggest, is that most of us don't try thinking

like birds. This shallow, muddy, ugly mess is essential and even lovely to wetland waterfowl, and to much more. Not only are wetlands home to countless waterfowl—by this I mean numbers beyond imagination—wetlands also feed and provide protection for approximately one-third of our endangered wildlife species. They recharge ground water, reduce flooding and purify water.

Our ignorance of the importance of wetlands is especially pronounced in a state like California, where only about five percent of the original have escaped draining for agriculture and development. In the relatively unscathed Klamath Basin, the 15 percent which remains mirrors the percentage decrease of the basin's wetland waterfowl in the past 100 years (from six million to one million). Still the birds come each spring from their wintering grounds in southern California and Central America, and in the fall from their breeding grounds in northern Canada and Alaska. They are unabatedly enthusiastic for the basin, even in its diminished form, because it is the first extensive and relatively temperate marsh area they come across on their trip south.

It is also an area blessed with good timing. The fall barley harvest in surrounding fields is finished by the time the majority of waterfowl arrive. The exhausted waterfowl arrive searching for carbohydrates to replenish their energy. They happily gorge on a combination of the spillage from the harvest and seeds from the annual marsh grasses.

In the spring when the seeds have been eaten or have rotted, the flooded annual grasses are

excellent habitat for tiny invertebrate life, a delectable diet for a duck on his way to northern breeding grounds. The invertebrates provide a good source of the fat and protein a duck will need for the long voyage, as well as calcium, which will be important for shell formation. The ducks linger in this plenty. Meanwhile, the geese graze in the nearby pastures on the protein-rich new green shoots. Fortunately for the waterfowl of Klamath Basin, agriculture's effect hasn't been entirely negative.

Not all areas are blessed with such fortuitous timing. On the farms of Canada and the northern U.S., the untimely arrival of thousands of big-footed, hungry geese can do thousands of dollars of crop damage a year. In addition, the soil under wetlands is often rich, and makes excellent farmland when drained. Rising land prices and falling profits make it extremely difficult for a farmer to leave wetlands be. Meanwhile, developers often see wetlands as unsightly or little more than breeding ground for flies and mosquitoes. In the lower 48, about a half-million acres of wetlands are drained off each year for agriculture and other development.

As is often the case with disappearing wilderness and wildlife, the conflict that arises is complex because wilderness values run contrary to human values, priorities and economic realities. If wilderness cannot change its way, then it is expected to go elsewhere. Our

intractability expects flexibility on the part of wildlife. Some segments of waterfowl populations can and do react to changing conditions, but even their flexibility is limited. There is simply not much left for wetland waterfowl. Hunters and conservationists are making impressive efforts to preserve our wetlands. But if more of us don't start seeing things from a bird's point of view—start seeing the beauty and drama in a messy, muddy, swampy marsh—it is unlikely that efforts at preservation can stem the pressure to drain and fill-in wetlands. 

Bill Henkel is a graduate student in Resource Recreation and Tourism.



Photo by George Savage

Bill receives the first place award for the college's essay writing contest from Ernie Ables.

Clearwater Forest Sees Clearcut Gains



by John F. Hossack

Timber harvest during the past three decades had three primary objectives: put the wood to a useful purpose; interrupt the fire cycle; and ensure that the new crop of timber can be brought to maturity.

The Clearwater National Forest is one of the most unique pieces of real estate in Idaho, characterized by the greatest timber-growing potential of any forest in Region I, one of the largest elk herds in the United States and, most importantly, the most erosive soils in Region I.

The major challenge on the Clearwater is to achieve the least amount of sediment in the water while maintaining the productivity of the forest. Most forests in the region can simply follow the dictum of "keep the soil in place and the water clean." But the Clearwater requires greater care, attention to detail and professionalism than other forests.

This does not preclude timber harvest, however. Maintaining the productivity of the forest in fact requires vegetative manipulation under a managed regime. Browse burning and timber harvest are the most common methods.

If the goal is to create a healthy forest and maintain the productivity of the land while minimizing adverse results to soil and water, we won't reach it by doing nothing or by maintaining the status quo.

If dead and dying stands of timber aren't harvested, the resulting fuel buildup contributes to the region's highest potential for a major fire. A major timber stand replacement fire will displace far more soil and cause more siltation and degradation of the water than managed timber harvest will. The timber destroyed in a fire of this magnitude will never be used to benefit our citizens.

To appreciate the loss of productivity caused by a major fire on erosive soils, travel the Lochsa Highway in the area of the 1934 Pete King Fire. It is just now showing signs of recovery.

Contrast that area with managed timber harvest in clearcuts on the North Fork of the Clearwater in the 1960s through the 1980s. These clearcuts are now the productive, healthy portion of an otherwise decadent, dead and falling down forest.


Or, contrast Cook Mountain with a thousand-acre-plus clearcut in Deception Creek. Cook Mountain burned in the 1930s, fueled by a dense decadent stand of large, over-mature timber. The Forest Service has spent millions of dollars in unsuccessful reforestation efforts there. The productivity of the land was destroyed by a natural fire. Deception Creek was a thousand-acre-plus clearcut in dense decadent timber stands exceeding 1 million board feet per

40 acres. The timber was harvested, milled and put to useful purposes by our citizens. At present it is growing blister-rust-resistant white pine combined with other tree species to create and maintain a healthy forest.

One of the two areas was managed, the other was a "natural" occurrence. That's the only difference between them, but the difference in benefits is obvious.

The forest supervisor should make implementing the forest plan his first priority. Commiserating with Forest Service employees for environmental ethics over management targets is unproductive. The targets are realistic. The productivity of the forest is at stake and demands treatment and professional management.

The first step is for the forest staff to identify how the forest plan can be implemented and not waste time in reviewing reasons why targets cannot be met.

(Ed. note: This article appeared in *The Spokesman-Review* Guest Column on December, 13, 1992 and was reprinted with the permission of the author). 

John F. Hossack, now retired, was supervisor of the Clearwater National Forest from 1980 to 1983 and a Clearwater Forest Range Wildlife and Fire Management staff officer from 1967 to 1972.

Gap Analysis: Information For Conserving Biodiversity



by Michael Jennings and J. Michael Scott

Gap Analysis is a U.S. Fish and Wildlife Service project being implemented by Cooperative Fish and Wildlife Research Units across the U.S. and with the help of over 140 cooperating organizations, including private business corporations, non-profit groups, and other government agencies. The project seeks to identify the degree to which plant and animal communities are, or are not, represented in areas being managed for the long-term maintenance of biological resources. Natural communities not adequately represented in such areas constitute the "gaps" in biodiversity conservation.

Gap Analysis is the first state- and national-level attempt to complete the following, at resolutions usable by land managers, policy makers, planners and scientists:

- map all existing vegetation;
- predict present animal distributions
- define and map existing plant and animal community distributions;
- determine extent of and rank places of species richness
- compare places of species richness with existing land uses;
- provide an objective basis for a national biodiversity management strategy

The project is conducted by combining the distribution of actual natural vegetation, mapped from satellite imagery and other records, with distributions of vertebrate, butterfly, and other taxa (depending on available data). The data are manipulated and displayed using a computerized geographic information system (GIS) using Arc/Info software. Maps of species-rich areas, individual species of concern, and overall vegetation types are generated. This information is then overlaid on maps of land ownership and land use, thus showing where land-based conservation efforts need to be focused in order to achieve conservation of overall biodiversity most efficiently.


Presently, Gap Analysis projects are being completed on a state-by-state basis, and projects are now underway in 23 states. Because it provides a standardized method and format, as state projects are completed the data can be edge-matched with adjacent states to reveal, for the first time, actual patterns of biodiversity at scales relevant to both the magnitude of present day changes and the multiple levels of biological organizations.

One result from the project is the generation of large amounts of geographic data. Some initial digital products are available for the states of Idaho, Oregon, Utah and California, and are already

being used by state and local agencies, schools, research institutions, non-profit organizations and other federal agencies for many different purposes. For now the data is being disseminated either directly from the Service's research units or through the Cooperative Research Unit at Utah State University which is serving as a national repository for the maintenance of GAP data as well as for nationwide analyses. However, computing and telecommunications technology is providing opportunities for geographically decentralized operations.

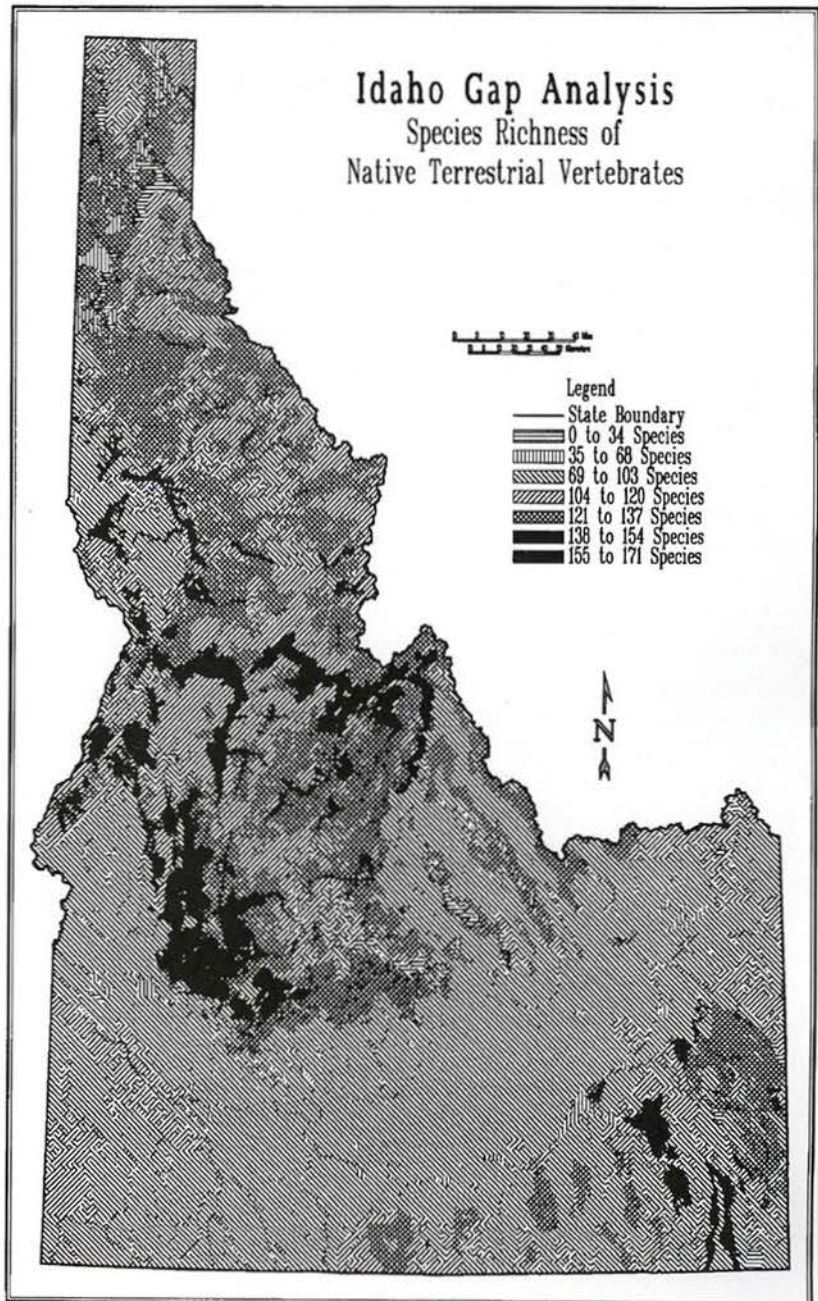
As GAP is completed across the 48 states, a network of regional data centers coordinated by a national center may become more effective. File transfers takes place using a wide variety of mediums, from direct file transfer over Internet to mailed tapes. Discussions are underway with the U.S. Geological Survey for publication and distribution of the data on read-only memory compact disks (CD-ROM). If funding is available, national-level datasets could be completed by 1998.

At the University of Idaho, scientists in Forest Resources, Penny Morgan, Joe Ulliman and Dave Verbyla are involved in developing the methods for the Gap Analysis projects as well as using the results for a variety of projects.

Oz Garton, Mike Jennings and Mike Scott, in the Department of Fish and Wildlife, are heavily involved in various aspects of the Gap Analysis project ranging from national leadership to neotropical migrants. 

Michael Jennings is a biologist for the Idaho Fish and Wildlife Cooperative Research Unit. J. Michael Scott, Professor of Wildlife Resources, is head of this project.

Thanks to Joel Hall in the GIS lab for the graphics.



A Balanced Solution to the Northwest Forest Crisis



by Jim Moorhouse

Can the middle ground be found in resolving the Northwest forest crisis? Is it possible to arrive at a balanced solution that meets economic, social and biological needs? The answer is "yes." The basis for this optimism is contained in Resource Management Plans (RMPs) released in August by Bureau of Land Management Districts in western Oregon.

In the preferred alternative for the RMP, our objective was to design a management approach that would maintain and enhance forest ecosystems and the values and products they provide to local communities and to the Nation. Teams of field-level resource specialists from a wide variety of disciplines originally considered six different alternative management approaches that ranged from emphasis on commodity production to emphasis on a broad range of non-commodity values. After considering the effects of each of these alternatives, the preferred alternative was developed. The proposed plans are based on the belief that resource use and the protection of the environment can occur in harmony.

Historically, the forests under BLM stewardship were administered to get the most production of wood fiber by harvesting older forests and converting them to fast-growing, younger forests. At the time, this policy enjoyed widespread support among foresters,

politicians and the public.

During the last decade, much has happened that has caused us at BLM to reexamine our management of the forest. Scientists have come to better understand that older forests have a unique ecosystem. There is now a national dispute over how to meet the need for timber production and the need to maintain old growth. The northern spotted owl and marbled murrelet have been listed as threatened species by the U.S. Fish and Wildlife Service, and other sensitive species are currently being considered for possible listing. There is also a growing concern over declining fisheries.

The most dramatic event affecting BLM forest management was a court injunction that essentially halts all BLM timber sales. The judge found out that our old plan was inadequate because it did not consider much of the new information that has developed over the last 10 years.

Fully recognizing that thousands of jobs and the welfare of families and communities would be affected, BLM has stepped into the center of the heated debate with our preferred alternative.

Don't be misled by labels used in criticizing our plan, such as "lock-up." That is not what we are proposing. All of the lands that the BLM manages will have some form of regularly scheduled timber

harvest, except for special management areas which include traditional set asides for stream buffers, fragile areas, etc. We believe that active stewardship and management is essential for ecological health.

It is also misleading to call our proposal a "spotted owl plan." Although it compares favorably with other scientific approaches to maintaining spotted owls, our plan uses a landscape ecosystem approach rather than a species-by-species approach. This approach to management would support a full array of forest species, thus reducing the long-term likelihood of more species being listed as threatened or endangered.

Many Douglas County residents have advocated traditional forest management, similar to what was practiced in the past on BLM administered lands. This was analyzed in Alternative B of our draft plan. Since the BLM is under a court injunction because our old plan was found to be inadequate, it would not make sense to return to the court with a "new" plan that was essentially the same as the one the judge threw out. There are strong legal, as well as biological reasons why we need to come up with something different.


Although our proposal does not provide for timber harvest at the historic level, it provides for economic stability by providing a

much more reliable timber supply. We would be complying with the O&C Act, which calls for "contributing to the economic stability of local communities and industries..."

Although it will be a challenge, it is possible to provide for all uses in our Northwest forests. We can continue to provide forest products that are so important to our communities. We can continue to protect our endangered species. The ecosystem approach to total forest management offers the best chance for a win-win solution.

BLM's preferred alternative could hold the key to the long-running debate over how our forests are to meet the social, economic and ecological demands that are being placed on them. Although our proposal is complex, our objectives are clear. We want to assure that great grandchildren of Americans yet unborn will be able to see a productive western Oregon with forests thriving, and with the full range of native plants and animal species. We want them to benefit from wood products and other forest resources that

have been sustained through good stewardship over the years.

Our preferred alternative is a middle ground solution to meet these objectives. It will allow timber to flow from the forests while meeting other legal and biological demands. We think it makes long-term economic, as well as biological sense. 

Jim Moorhouse is District Manager of the Bureau of Land Management, Roseburg District office, Roseburg, Oregon.

Interpersonal Communication Skills: A Personal Experience



by Taj Muhammad

When I came to the United States in May 1991, the most frequent word I heard was "poor communication." Even before coming to the States, something was striking my mind that I always forget most of the points of discussion, lectures, or any similar happenings. Whenever I was asked to discuss the past events, I faced difficulties doing so because of my *superficial listening habit*, which I knew from a course in Interpersonal Communication Skills at the University of Idaho.

In July, 1991 I was admitted as an M.S. student in the Department of Range Resources, University of Idaho. On my first visit to the department, I saw a flyer on the notice board showing comments of the students who participated in one of the Interpersonal Communication Skills courses. I read the

complete flyer, and realized the importance of the course. I discussed this with my academic adviser Dr. John Ehrenreich, Professor International Forestry and Range Management, University of Idaho and he strongly recommended it for me.

On the first day of the course, we learned about listening. After knowing the difference between listening and hearing, and four categories of listeners: NON-LISTENER, MARGINAL LISTENER, VALUATIVE LISTENER, AND ACTIVE LISTENER, I understood that listening is much more than merely hearing. The spoken word as carrier of information contains less than half of the information in oral communication. The majority is contained in the voice, eye contact, facial expression, word patterns, silence, and body lan-

guage (non-verbal communication). And active listening is the most effective level of listening. An active listener is alert for the intent and feelings being communicated as well as getting facts, and also notices what is not being said. Active listening is critical to success in almost everything we do. From the first day's lesson I learned that the reason for my being poor in communication is my superficial listening habit. *I need to give each speaker my conscious attention, maintain eye contact, and work at concentration.*

On the second day of the course we learned about interpersonal skills. These skills deal with understanding self and others. Knowing our own and other people's behavioral patterns and understanding the meaning and underlying motivations of their


personal strength and communication styles can aid in personal growth and team-building efforts. We were also told about the formation of organizations. Organizations are made up of individuals. Therefore, the success of any organization is dependent upon the successful performance of its individual members, clear understanding of their strengths and weaknesses, their importance as team members, and their responsibilities both to themselves and others. When these factors are understood by each individual and shared in a group or team environment, the group is able to function as a dynamic, progressive unit quicker than if these elements are not understood nor shared. At this stage of group development, working in a group can produce an effect greater than the sum of individuals within the group. This is known as "synergy" which we learned by using "Desert Survival Situation" (an airplane accident) exercise. In two different groups, 15 questions regarding the situation were answered individually as well as by each group. In both groups, the group's result was better than individual result. Someone has well said that:

- *Coming together is a beginning...*
- *Keeping together is progress...*
- *Working together is success.*

Conflict and risk are two other factors which affect the productivity of an organization. Conflict can be productive if the disputants do not judge each other and focus the conflict on the basic issues by concentrating disagreement on facts. Similarly, risk is also a strong force that accelerates the process of productivity. The person who

risks nothing, does nothing, has nothing, and is nothing. Finally, all skills discussed above require a driving force—the *goal setting*—to make an individual or an organization successful.

In summary, the interpersonal and communication skills discussed above can increase the productivity of an individual as

well as an organization if these skills are learned and practiced regularly. I personally feel that I can overcome my weaknesses in communication and improve my working capability by using the skills which I learned in this course. 

Taj Muhammad is a master's student in Range Resources.



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Photo by Steve Lesko



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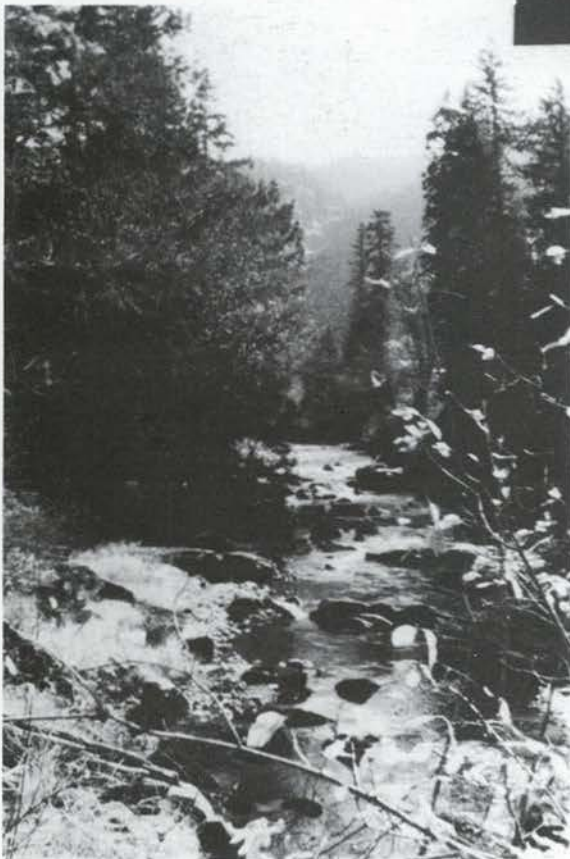


Photo by Fred Johnson



Photo by John Lamb



Photo by Fred Johnson



Photo by David Verbyla

*O Lord, how many are Thy works!
In wisdom Thou hast made them all;
the earth is full of Thy possessions
living things both great and small.*

PSALM 104:24-25



Photo by Kim Tuttle

How do Boise Cascade
foresters know when logging has
been done carefully?



Sometimes the birds tell us.

On Boise Cascade land at Garden Valley, Idaho,
we selectively logged some trees last fall.

This spring, a pair of ospreys, goshawks and a great gray
owl were among the wildlife spending time in these same woods.
To our foresters, that's a compliment.

Boise Cascade. We care for our forests . . . naturally.



Boise Cascade

"Great Things"

by Paul Armbrust

Once upon a time, in a land not so far-away, the rivers flowed from the mountains to the oceans, uninterrupted by anything except the occasional mud-or-land slide. In these rivers dwelled a multitude of living creatures called salmon. These salmon had lived and reproduced for many centuries. Natural catastrophe had been overcome and the salmon were none the worse for wear.

One day, a few "great men" got together and thought, and after taking many aspirin to relieve the headache all this thinking caused, they decided they should take advantage of all the electric power the river could produce. So, with more thought and more aspirin, these "great men" decided that a dam should be built. The dam was built and after it was completed these "great men" all stood back and said, "What a 'great thing' we have done."

Out of the crowd came a quiet voice, a little voice, of a child named Conservationist. Conservationist said, "This is really a 'great thing' you have built, but what about the salmon?"

The "great men" heard the small child and being the "great men" that they were they said, "We'll think about that."

The "great men" returned to their home far away from the "great thing" and thought about the question posed by the child,

Conservationist. After some time, much thought, and yet more aspirin, these "great men" came up with the concept of a "fish ladder." So, a fish ladder was added to the "great thing" and the "great men" stood back and said, "What a 'wonderful thing' we have added to our 'great thing'."

Again, a small voice was heard from the crowd. "This is truly a 'wonderful thing' you have added to the 'great thing,'" said the young Conservationist, "but where will these salmon that climb this ladder spawn now that the small streams where they once spawned are flooded?"

The "great men" took the comment into consideration and returned to their homes far to the East of the "great thing." Many years past and the old "great men" gave way to younger "great men" because "great men" are not "great" for very long. The younger "great men" carried on the tradition of thinking and consuming aspirin.

The Conservationist, however, was still around and now a college graduate. He began to get rather annoyed with the younger "great men" because of the declining numbers of salmon.

The new and younger "great men" took very few journeys to the West and thought little about the peril of the salmon. One day the Conservationist wrote a letter to

the younger "great men" explaining that he didn't think they were so "great" after all. He explained that all of the "great things" that had been built on the rivers were destroying all the salmon.

The younger "great men" traveled to the West and gathered much information. Then they returned to their homes in the East and began thinking about the problem posed by the Conservationist.

Years passed and the aspirin companies got richer until one day the younger "great men" came up with the idea of a "fish hatchery." Plans were drawn up (not by the younger "great men" as there was not that much aspirin available) and a "fish hatchery" was built. The younger "great men" came to see the "marvelous thing" and said, "What a 'marvelous thing' we have created."

Again, a voice was heard from the crowd. It was the same Conservationist who this time said, "This 'great thing' and this 'wonderful thing' and this 'marvelous thing' are all well and good, but what about the wild salmon that are near extinction?"

The younger "great men" heard the Conservationist and said, "We will consider this question," and they once again returned to the East.

It took many years for the "great men" (not young anymore)

to come up with another idea, and another generation of aspirin makers became rich from all of the thinking that was going on. Finally, the "great men" decided to create a piece of paper, that would protect the vanishing salmon, called the Endangered Species Act.

The "great men" stood back and said, "What a 'good thing' we have done, the fishes shall be saved forever."

The now very-aged Conservationist spoke out one more time, "It is amazing what a few 'great men' can do with the help of many bottles of aspirin. You have created a 'great thing' called a dam, a 'wonderful thing' called a fish ladder, a 'marvelous thing' called a fish hatchery and a 'good thing' called the Endangered Species Act. And yet, with all these 'great things, wonderful

things, marvelous things and good things' working on our side, we have still ended up with 'NOTHING.'" And with that, the Conservationist walked off into the crowd and disappeared along with the wild salmon.



Paul Armbrust is a Junior in Wildlife Resource Management at the University of Idaho.

The Habitat Improvement Program: Will the Sun Set?



by Denny Dawes

Summary

The Habitat Improvement Program (HIP) adopted by the Idaho Department of Fish and Game (IDFG) provides cost share funds, generated through the sale of upland bird and migratory bird stamps, to landowners interested in improving habitat for these groups of birds. The HIP bill passed in 1987, spurred by declining pheasant populations. The program provides cost sharing for such activities as: woody cover plantings, creating shallow water ponds, planting nesting cover and food plots, and fencing critical wildlife habitat areas.

The public instrumental in urging passage of the bill were sportsman groups such as Pheasants Forever and Ducks Unlimited, as well as federal farm agencies and committees. Few opponents existed, however, deleting an original measure that required

cooperators to allow hunting, and placing a sunset clause in the bill aided its adoption.

The program has helped to fund two million dollars worth of projects on forty thousand acres of land in Idaho. The sun will set on the program and come up for renewal in 1997.

Introduction

It began in the early 1980's. Grain prices plummeted, and to remain profitable, Idaho farmer's improved practices became more and more intensive and efficient. With that, habitat losses were staggering. More than ever, fence rows, ditch banks, and previously uncultivated areas were put under the plow. These losses, combined with several severe winters, significantly reduced Idaho populations of pheasants, gray partridge, quail and chukar. (6) Pheasant harvests alone had declined by almost 75 percent in 20 years.

Along with that, waterfowl numbers were also in decline. Mallards, which make up 70-80 percent of Idaho's duck hunter harvest had dropped steadily for 10 years. Populations of other ducks had also declined with much of the decrease attributed to dry weather and poor habitat conditions in Canada where many ducks harvested in Idaho are produced.

Game managers and sportsmen alike were concerned. While some advocated stocking game farm reared birds, and others felt that predator control would solve the problem, game managers knew that these procedures have proved costly and marginally effective in bird populations elsewhere. They knew that improving habitat was the key, and also that the majority of this habitat was located on private agricultural ground. This knowledge spawned the Habitat

Improvement Program, or HIP for short.

Description

Through HIP the IDF&G will cost share with private landowners, state and federal agencies, farm programs and conservation agencies throughout the state to improve bird habitat in areas where the wildlife benefits would be substantial. The Department will pay up to a maximum of 50 percent of the landowner's share of the cost to establish nesting and wintering cover (plant perennial grasses, forbs, trees, and shrubs), fence areas to protect habitat, install watering devices for birds, build small ponds and shallow water areas with necessary fences to protect them, create islands, improve wetlands and build and install nesting structures for waterfowl. Additionally, the Department will pay up to 100 percent of the cost to establish food plots for upland game and waterfowl. All developments will be arranged through special cooperative agreements on a case-by-case basis and they will cover at least a five- or ten-year period (1).

Specifically, projects the Department looks for are:

- woody cover plantings, including farmstead and field windbreaks and shrub thickets;
- shallow water ponds that can provide brood-rearing habitat for ducks and winter cover for upland game.
- planting tall grasses for nesting cover. CRP, ACR and other federal farm program set aside areas are often suitable for this type of project.

- food plots in areas where ample cover is available but deep snow makes food scarce, and

- fencing of critical wildlife habitat areas (3).

Funding

Funds for the program come from the creation and sale of a state upland bird stamp as well as a state migratory bird stamp. Modeled after the federal waterfowl stamp, the design of which is determined by an art committee, the stamps are required by all hunters over the age of 16 to hunt upland game birds (pheasant, quail, grey partridge, and chukar) and/or migratory ducks and geese. Cost of the stamp, originally \$5.50, is now \$6.00.

Jim White, HIP Biologist at the Lewiston office indicated the funds are allotted as "on the ground dollars." In other words, the monies that are received go directly back to landowners for cost share projects. "The money may also be used for land acquisitions," Jim indicated. Administration of the program is covered by the sale of general license dollars.

Problems and Publics

Tom Hemker, Wildlife Game Manager with the Idaho Department of Fish and Game has been with the HIP program since its inception. In several telephone interviews and discussions Tom told me, "The HIP bill didn't pass the first couple of times through (the Legislature)." Those defeats, he thought, "were due to a clause that required hunting access be allowed by those who cooperated in the program."

"After those first couple of defeats," Tom said, "we knew we

had to educate people to the importance of habitat." Presentation of a multi projector slide show, "Bring Back the Birds" to sportsman clubs and civic groups along with federal farm programs and committees, Tom is convinced, "helped swing the tide." That, along with the exclusion of the requirement that cooperators allow hunting, led to passage of the HIP bill in October 1987.

"We had developed rapport with the farm groups," Tom added. "In the past we had taken those people for granted. By dealing fairly with depredation and other situations we enlisted some happy customers." When asked if he or other Department members had contact with lobbyists or legislators Tom said, "What we did do was work closely with the federal farm programs and committees. All those committees know us. They have a lot of political support, and they in turn contacted their people when the time came."

"The sportsman groups also made a difference," Tom said. "Input from Pheasants Forever and Ducks Unlimited, two key parties, definitely urged passage."

"Another step that aided passage of the bill," Tom said, "was the agreement of running it with a limited time frame." Enacted like a pilot program the bill will essentially expire after ten years. In political terms, the "sun sets" on the program in 1997. This type of legislation is much more favorable for passage by politicians than a program that is carved in stone, Tom said.

Follow up was also an important consideration, Tom added, "We did 200 to 300 slide shows that first year at Lions Clubs and

SCS meetings." Along with that, we worked closely with the federal farm groups, supplying support, education and habitat information, he said. He indicated that the sportsman groups too, promoted the program by enlisting landowners and actively searching out and completing projects with volunteer help.

Opponents

"Other than a few advocates of stocking and predator control, very few opponents exist," Tom said. "Of course there were a few who didn't like the additional fees, but for the most part everyone felt it was going for a very much needed cause." Political correctness and wording seemed to be some of the greatest stumbling blocks, and, could possibly be again when the bill comes up for renewal, Tom said.

Jim White along with Miles Benker, HIP Wildlife Technician, both told me they were aware of very few if any opponents. Now that the program is five years old, keeping people interested seems to be their major obstacle. "It seems the interest is still there, and certainly the funds are still there," Jim said, "but people get busy, and its just seems difficult for people to take the time to commit to the projects." They both indicated they are looking for ways to make it easier for cooperators to enlist and complete planned projects.

Projects Completed

According to Tom Hemker approximately 2000 projects totaling 40,000 acres have been completed to date. Nearly \$1,000,000 has been allocated to cooperators which indicates that over \$2,000,000 hard dollars have


been put directly on the ground for improved habitat.

Conclusion and Prediction for the Future

Has the program been a success? "We think so," said Tom Hemker, "though there is still a long way to go." Even though we've enlisted a large number of cooperators, we're still probably not keeping up with habitat destruction, he said. "We've definitely made a lot more people aware of the importance of habitat, and that is a success in itself." Tom saw no problem with renewal of the HIP bill in 1997, but admitted that predicting political futures was a very risky business.

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Denny Dawes is a junior in Wildlife Resources.

Public Relations Problems in Wildlife Management WLF-400/501 November 31, 1992



Beware of Environmental Commentators Who Never Leave Their Desks



by Pete Gomben

Environmental issues have recently been splashed across the opinions sections of newspapers throughout America. Political writers who once commented only on matters of foreign policy and gross national product have begun scrutinizing issues ranging from the renewal of the Endangered Species Act to the legitimacy of livestock grazing on public land.

Unfortunately, those in the media who try to frame any environmental debate in strict economic or political terms while ignoring biological factors frequently miss the point. Although they may have great influence in setting government policy, they lack an understanding of the ecological aspects of environmental issues. Their efforts often serve to further muddy waters that have already been clouded with misconceptions.

For example, in the fall of 1992 the *Wall Street Journal* published an article by Ike Sugg about preserving endangered species through game ranching. In the article, Sugg, who was listed as a fellow at the Competitive Enterprise Institute, argued that the private sector can best preserve the genetic diversity of a species—indeed, of all species—by maintaining large populations of animals in captivity.

“Those with an economic stake in a natural resource have every

reason to conserve and care for it,” Sugg wrote. “With wildlife, the pursuit of profit motivates the rancher to maximize that which is valuable, which means increasing wildlife numbers. It means preserving the genetic purity of the species, from which its value is often derived. And it means taking care of the land—a collateral ecological benefit.”

Like many other commentators who lack a background in natural resources, Sugg falls victim to faulty logic and inaccurate wording. Move wildlife onto vast game ranches and it will cease to be wild. Sooner or later it will become domestic and docile, not unlike a herd of herefords placidly chewing their cud. Preserving endangered species means very little if they cannot be preserved in their native habitat.

The same profit motive that leads the rancher to maximize the number of animals on a ranch may eventually lead to overgrazing. Then, just like on commercial cattle ranches, feed will be purchased to keep the animals healthy as more individuals are crowded into the same area. Contrary to Sugg’s assertion, as game ranches begin to resemble feed lots instead of nature preserves, the fate of the land *won’t* be high priority.

What would happen to an endangered species if it suddenly lost its value to humans? Would

the remaining individuals be killed or released? Would the species become extinct? Sugg conveniently neglects to answer these questions.

Some of Sugg’s comments are cause for alarm among natural resource professionals. “Game ranching,” he wrote, “(is) perhaps the most promising approach to wildlife conservation yet devised.” Implicit in his argument is the belief that only large, ungulate species merit protection. He recites a list of the species—mostly exotics—that game ranching has helped preserve, including the blackbuck antelope and the scimitar-horned oryx. To Sugg, predators and small, non-economically important animals are an entirely different story. He does not mention how the northern spotted owl might be preserved in private forests, nor the best way to use free market economics to insure the survival of the grizzly bear.

To answer critics who find fault with using game ranching for preservation, he makes a comparison between passenger pigeons and chickens. According to Sugg, “there were three billion passenger pigeons when Europeans arrived, and no chickens. Today there are no passenger pigeons, yet millions of chickens are harvested every year. A price tag was put on both species.... The crucial difference was that chickens were allowed to

remain in private hands ... while pigeons belonged 'to all citizens in common.'"

Students in natural resources know that any discussion of a species' extinction that does not mention loss of habitat is incomplete. Although Sugg's implied analogy between passenger pigeons and ungulates is merely an ecological slight of hand that won't fool wildlife biologists, many people who are untrained in environmental sciences undoubtedly took it as a valid comparison.

Alston Chase is a syndicated columnist who writes mostly on environmental issues. Unlike Sugg, Chase has credentials in the field of natural resources. However, he too falls into the trap of trying to justify, or denigrate, environmental policies based solely on economic and political concerns. Never a big advocate of attempts by government agencies to manage natural resources, Chase took off the kid gloves in a recent

column about the U.S. Forest Service's decision to cut back on timber harvesting in California spotted owl habitat.

In response to a threatened lawsuit from the Natural Resources Defense Council, the U.S.F.S. decided to reduce harvests in 10 forests by roughly 50 percent. Chase saw this as a capitulation by the U.S.F.S. to the demands of radical environmentalists. Yet he unwittingly provided a logical reason for the action in his extended diatribe against the government agency. "(The California spotted owl) is not listed as threatened or endangered," he wrote. "Rather, the agency is curtailing harvests as a preventative measure, to ensure the bird won't need listing.... Call it pre-listing, a new strategy fermented in the evergreen bureaucratic mind."

Of course "pre-listing" is a new strategy, and it is probably a wise one at that. Managing a species

before it becomes endangered or threatened may, in the long run, prove less costly than waiting till the number of individuals reaches a critical threshold. That's the point.

However, any kind of biological rationale for working to preserve a species before it becomes threatened is completely lost on Chase. He seems content to peck away at environmentalists and the U.S.F.S. while proposing no alternatives of his own.

Chase and Sugg are not the only two commentators who try their best to mislead an innocent public. Any environmental commentary that is written by someone poorly acquainted with natural resource management, or who has some other economic and political goals in mind, should be read with caution. It may contain inaccuracies and untruths, and it is up to the reader to beware.



Guarding Against Being "Over Discovered"



by Rick Just

For years, Idaho has been promoted as "the undiscovered America." Guess what? We've been discovered; perhaps "over discovered" in some cases. With that discovery, tourists are as inevitable as cheat grass, another non-native. But tourists present far more economic opportunities than that ubiquitous grass, and they are much easier to manage.

Management of people is one of the major challenges of the '90s for resource agencies like the Idaho Department of Parks and

Recreation (IDPR). In Idaho, with few exceptions, tourism is outdoor recreation. People visit our state, or choose to live here, so they can fish, camp, hunt, backpack, kayak, ski and just have fun in the outdoors. An ever-increasing influx of recreationists is wonderful news for the economy. For resources the news is not always so good.

Nature is resilient. It can recover from the trample and tracking of people, the pollutants we send spinning into the air and the waste that works its way into

water. But nature is not infinitely pliable. Every recreation site in Idaho has its own carrying capacity. By definition, if pushed beyond that capacity the resource will not just bounce back.

If, for the sake of short-term economic gain, we overuse the resources that draw recreationists, ultimately the resource and the economy will suffer. With planning we can prevent that.

Managing People

Americans in general, and Westerners in particular, love freedom. We don't like to be told where we can and cannot go. The thought of being "managed" makes us bristle. Knowing that, IDPR's strategy is to take a less restrictive approach, promoting areas that can accommodate additional use, while down-playing areas which already receive too much pressure. Occasionally, that marketing approach isn't enough. We sometimes close parks for short periods when they have reached their established carrying capacity.

Our 22 state parks are an important part of Idaho's recreation picture. But even though we serve almost three million people a year—roughly the same as Yellowstone National Park—other private and public sites across the state serve even more. Although we don't manage those federal and private sites, we are in a position to help shift use away from overused areas.

IDPR operates Idaho's three gateway visitor centers located on interstate highways at key entrances to the state. Our visitor center supervisors keep in close touch with resource managers so they can help travelers plan their trips to avoid overcrowded campgrounds and other attractions that are reaching capacity. Since most vacationers are trying to get away from crowds they appreciate the service.

Managing Conflicts

With more people visiting the state and more residents using its resources, conflicts are bound to increase. This shows up most clearly on the trails of Idaho. The

same mountains that draw hikers appeal to riders of off-highway vehicles. The deserts that call to equestrians also entice mountain-bike riders. People love Idaho's trails. They choose to use them in different ways, and those uses are not always compatible. One of the issues in the debate over user conflict is whether or not to set aside certain trails for certain kinds of uses. Wilderness areas, for instance, are already restricted to use by hikers and equestrians. Motorized and mechanical use—including mountain bikes—is prohibited. But what of the remaining trails? Should they all be multiple use? And how do you meet the needs of different kinds of recreationists on the same trail?

The Idaho Department of Parks and Recreation is completing a state trails plan that will help us answer some of these questions. We expect it will also raise additional questions regarding trail maintenance, construction of new trails and the need for mobility-impaired access. Public comment will be taken through March 31, 1993.

Meeting Demands

Idaho's natural resources can survive the additional pressure of increased tourism and a growing population if we prepare for it. Hardened campsites, dispersed use, well-marked and maintained trails, additional rangers and interpretive programs that instill an appreciation of nature are some of the ways we can accommodate people while protecting resources. But it all takes money.

Funding

The Idaho Department of Parks and Recreation received about \$4.5 million from the State Federal

Fund for Fiscal Year 1993, about \$4 from every Idahoan. Securing general fund appropriations is increasingly difficult. The agency is being pressured to generate more revenue from users. Surprisingly, the users don't always balk. Although an increase in camping fees is almost always unpopular, other users have gone out of their way to tax themselves for the benefit of their sport.

Idaho's Park N' Ski program was created by cross-country skiers themselves. Under the program, skiers purchase a \$15 annual permit that is displayed on their windshields. With that sticker, they can ski at 22 sites statewide. Revenues generated go into the plowing of parking lots, marking of trails and creation of other cross-country skiing enhancements. Skiers can even designate which area is to receive their funds.

Snowmobilers see 85 percent of their registration fees go right back into their sport. Over 5,500 miles of trails are groomed each year in Idaho under the program. A similar registration program raises money for off-highway motorbike trails.

Boaters, snowmobilers and off-highway vehicle users receive a portion of the state gasoline tax to provide facilities and services. RV users see a little over half of the money they pay for registration stickers go into an IDPR program that provides campground improvements, dump stations and other amenities and services for RVs.

These successful programs do not cover all the needs, though. Equestrians and mountain bikers are not well-served. Disabled recreationists are just beginning to

see their needs met. Hikers have seen a dearth of funding for decades. Cities and counties need help meeting the parks and greenway needs of their citizens.

The Land & Water Conservation Fund

In 1965, the United States Congress passed legislation that was to become one of our nation's most important conservation initiatives, the Land and Water Conservation Fund (L&WCF) Act. The Act clearly outlined a course of action to, 1) meet the need for increased outdoor recreation opportunities, 2) share in a federal-state-local responsibility to finance land acquisition/development projects, and 3) emphasize the need to provide for these needs in and around areas close to home. L&WCF is funded primarily from a portion of the receipts from Outer Continental Shelf oil leases. No tax dollars are involved.

In Idaho, the matching-fund program has provided over \$65 million in recreation improvements since its inception. However, Congress has chosen to appropriate only a fraction of the available funds in recent years as a way to ease the federal budget deficit.

Without a healthy L&WCF program, much-needed state, county and local projects are on hold. Additionally, maintenance of existing facilities is falling behind.

Water Issues

Conflicts are also increasing on the water. Unlike trails users, water users are not all recreationists. Consumptive water users, such as farmers and hydro developers, compete with whitewater enthusiasts, anglers and

nature lovers. Even when consumptive use is out of the picture, such as on the Main Salmon, rafters often compete with each other for a limited number of slots.

Will more river recreation be regulated with permit systems like on the Salmon? Almost certainly. There are other ways to mitigate damage from recreation use, though. Improved put-in and take-out sites that keep bank degradation at a minimum and construction of sanitary facilities to minimize pollution will take some pressure off rivers like the Payette. But how do we pay for that? There is currently no dedicated funding source for non-motorized boats.

Planning

When you hear the word "planning" do you envision stapled reams of paper moldering in storage boxes or stacked on dusty shelves? Many plans meet that fate. IDPR is determined to see that doesn't happen to the two major plans the agency is developing. While we realize there are hundreds of ineffectual and ignored plans, we also know that without planning the challenges we face will be insurmountable.

Our agency is currently working on a Statewide Comprehensive Outdoor Recreation Plan (SCORP). Working with all units of government and involving citizens every step of the way, we are evaluating Idaho's outdoor recreation needs. The plan includes: 1) a brief description of factions which influence recreation; 2) an inventory of public and private recreation areas; 3) an assessment of demand for outdoor recreation; 4) statements of recreation needs to guide the efforts of planners and decision makers; and 5) an action

plan outlining steps to implement Idaho's outdoor recreation goals.

Included within SCORP will be the Idaho State Trails Plan, the Idaho Wetlands Prioritization Plan, the Recreation and Tourism Plan and various river recreation studies.

On a smaller scale, but still of statewide significance, we are developing a strategic plan for the agency itself. In contrast to comprehensive planning, which is intended to identify everything that needs to be done, strategic planning focuses on specific objectives to be achieved. Our strategy for making the department's plan successful is to ground it in public involvement, structure the plan to be dynamic so it can respond to changing conditions and involve everyone in the department in the development of the plan.

As this article is being written, we are about halfway through a series of statewide town meetings where citizens have the chance to tell us their concerns about the future of parks and recreation in Idaho.

Conclusion

"The undiscovered America," is a promotional line that few in Idaho would believe today. However, the Idaho Department of Commerce is now using a slogan we can take to heart: "Idaho is what America used to be." It is yet unspoiled. Tourists and recreationists come here because of that. Ironically, if we are unprepared, they will love Idaho to death. But their coming is no secret. We have only ourselves to blame if we lose what we love. 

Rick Just is the Information Chief of the Idaho Department of Parks and Recreation.

Ecosystem Management: The Future of Public Land Stewardship



by D. Dean Bibles

This nation has come to expect a diversity of values from our public lands, from wood products and recreation opportunities to wildlife habitat and taxol for cancer treatment. As stewards of more than 270 million acres of public land, we at the U.S. Bureau of Land Management recognize the need to chart a new, innovative course for the future of America's ecosystems, a course that not only balances competing resource uses, but provides for additional benefits out of our available resources.

In designing the BLM's new Resource Management Plans for western Oregon, we have made dramatic changes in how we look at the lands under our care.

We began with a traditional focus, designing alternatives based on developing board foot outputs, spotted owl habitat, water quality, habitat for game and non-game species, and air quality.

This foundation was natural, because the laws under which we operate lead this way. The Clean Air Act, the Federal Land Policy and Management Act, the Clean Water Act, the O&C Act, the Endangered Species Act, and the Migratory Bird Treaty Act all focus on specific goals, species and products.

Our on-the-ground managers looked at a variety of alternatives, ranging from those focused solely on protection of the spotted owl

and old growth forest to one emphasizing high timber production.

But society's needs are changing. We knew we had to broaden our view. Rather than looking at individual pieces of the forest, we knew the time had come to consider the big picture, the next logical progression in human efforts to manage native communities of species in natural habitats.

The challenge is to go beyond a species-by-species approach to preserve the wholeness of ecosystems. Through this broader vision of resource development, we improve the vitality of the environment as a whole, ensuring the vitality of all native species.

My involvement with the Keystones Center's Biodiversity Dialogue helped me understand the need to define biological diversity not just in a philosophical way, but as a concrete, hands-on management approach. As a result, BLM developed a biological diversity alternative.

This gave us a new way to look at the forest. We quit looking at timber stands, and began to consider watersheds on a landscape basis. We stopped looking at single species, in favor of an ecosystem approach. Rather than clear cuts, riparian zones, or recreation sites, we began to consider land treatments. In short, we changed the way we look at

forest management.

These plans are the result of the highest level of technology and the most thorough analysis ever applied to any planning effort. Our automated data analysis capabilities, including our Geographic Information System has given BLM professionals the most comprehensive study of land use data assembled to date.

We have put together a sophisticated computer system that allows us to track some 60,000 stands of trees and "grow" them under different scenarios for hundreds of years. More than 100 physical and biological themes allowed "what if" analyses of variables. This is not a plan that looks only at the short term, but also decades into the future.

From all this analysis, BLM field professionals have developed preferred alternatives that I believe are the best approach to long-term stewardship for the land and resources entrusted to our care.

The BLM's proposed plans for western Oregon develop a full ecosystem based approach to forest management. No longer will we manage for one species or for any other single user. Instead, we will look at the total forest, working to enhance the development of mission or scarce characteristics, such as old growth, through new scientific techniques.

By utilizing an interdisciplinary approach, it is possible to provide a greater compatibility between uses that, in the past, have been pitted against each other. The practical outcome is the ability to transcend many of the either/or choices of the past in order to provide more of the resource values that people are interested in.

Most importantly, these plans focus on adaptive management, allowing resource professionals on the ground to react to environmen-

tal situations as they evolve. Forests and our understanding of them are changing, not static, so resource management plans need the flexibility to deal with unique situations in pursuit of long-term goals.

In developing these new resource management plans, we weighed a wide range of alternatives – and we're proud of the result. These are some of the most forward thinking plans since forest management began, balancing the human need for forest resources

with the maintenance of a sustainable ecosystem.

This is the future of resource stewardship. The time has come for foresters, wildlife biologists, botanists to forge new pathways in ecosystem management and in developing biological diversity in forest landscapes.



D. Dean Bibles is the BLM State Director for Oregon and Washington.

Is Science Necessary in Natural Resource Management?



by Peter Kolb

There are few sensations that can equal the thrill, sense of power, and apprehension of flying, from commercial planes to space shuttle missions. The building of such complex interactions of metals, mechanics and electronics is a tribute to human ingenuity, intelligence and scientific understanding. Even more amazing is the fact that this was accomplished in one human life span. I can only imagine how my grandfather felt, who saw his first automobile when he was 16 and lived to see man walk on the moon. This rapid advancement in technology is largely due to science, defined as the systematized gathering of knowledge. Developed by the Greeks over two thousand years ago, reliance on intuition and belief blocked most science

advances until the late 19th century. Even modern society, while reaping the benefits of science in some disciplines, does not apply to others.

Since Rachel Carson's "Silent Spring" more than thirty years ago, the United States has been embroiled in an emotional battle between ecoprotectionism and economics. Scientific innovations have been responsible for continued industrial productivity and a reduction in pollution. While the environmental movement has had a tremendous positive impact since the 1960s, certain indicators such as ozone depletion, global warming and an increased species extinction rate, suggest that more needs to change. One of the major current issues concerns the

long term effects of land use practices. The gradual development of huge agricultural crop monocultures currently provide resources for most of the world, but also reduce plant, animal and genetic diversity. The permanent loss of potentially beneficial organisms and their interactions within the environment is the major concern of most scientists.

Forests, particularly those that have been minimally impacted by human use, are one of the last vestiges of a natural, biological system. They provide examples of complex interactions lost on most other land bases due to development, as well as clues to the processes necessary for long-term ecosystem sustainability. Intuitively, many people feel the need

to keep these ecosystems intact. The aesthetic qualities of an ocean, a wild river or a forest seems to invoke an instinctive reverence from mankind. Though other land uses may encompass larger areas and are potentially much more damaging to natural ecosystems, forests have become one of the focal points of land use reform.


Of the initial (pre 1600) forested area in the United States, only 55% remains, which comprises approximately one-third of the continental land area. Of this, 66% is classified as commercial forest land of which 18.5% is state or federally owned, the majority being located in the western United States and Alaska. Wilderness accounts for only 1.7% of the entire forested area. Estimates show that because of modern practices, the average annual wood fiber production per acre on commercial forests today is 3.5 times what it was in 1920.

The ability to turn forests into highly productive, marketable

stands of trees is the result of forest science research, the impetus most often being economic benefit and community stability. Seedling production and planting techniques, genetic selection, harvesting technology, and wood processing have been vastly improved in the past 60 years. The scientific understanding of the physical principles that collectively create a forest ecosystem are in comparison, poorly developed. Most forest practices are based upon empirical studies with the objective of growing trees. Management practices, while amended to include multiple "human" uses, do not account for nonhuman interactions that may be critical for long term forest stability.

Forest ecology has consisted primarily of mapping vegetation associations based upon dominant plant species. Understanding species function and interaction with each other and the associated microbial, fungal and animal fauna has been pursued largely by

botanists and biologists in systems other than forests. This research, largely mechanistic in purpose, needs to be incorporated into forest management. Understanding the underlying processes by which an ecosystem functions can allow the manipulation of natural systems for human gain while maintaining the integrity of the system. Changes such as "new forestry", unless backed by solid scientific research, and forestry professionals that are ecologically literate, will be perceived as ineffective.

Currently environmental protection groups are using species such as the spotted owl, timber wolf and grizzly bear as indicators of ecosystem health. Implementation of the Endangered Species Act will force a major shift in forest use. This approach has polarized the economically affected communities against a distant yet concerned public. It would be unfortunate if these issues would be resolved to appease social tensions rather than to ensure a responsible and sustainable use of the forests in question. Foresters should be leaders in the effort to accurately inform the public of the best solutions. As trained professionals, they should know more about the ecology of "forest systems" than anyone else, and should be leaders in improving management practices. Beliefs and intuition that are not backed up by good science, lead to crashes of airplanes, space shuttles and forest ecosystems. 

Peter Kolb is a Ph.D candidate in Range Resources.



Photo by George Savage.

Associate Dean Ernest Ables presented Peter the third place award for this entry in the college Essay Writing Contest.

Some Thoughts on the Problem of Fuelwood in Punjab, Pakistan

by Ghulam Sarwar Khan and Dr. John Ehrenreich

Pakistan is a Muslim country in Asia with a population of more than 118.8 million in an area about the size of Texas. The national economy is based on agriculture, which comprises 70 percent of the total GNP (3). Like other developing countries, Pakistan faces many problems including illiteracy, poverty, food shortages, and shortages of wood fuel. The fuelwood shortage is so severe that the people are forced to burn cow dung, packing materials, crop residue and industrial waste for cooking and heating. The public forest provides only 10 percent of the fuelwood and 20 percent of timber needs of the nation (1). The balance comes from growing trees on cultivated lands.

Agroforestry is a land-use system that involves a socially and ecologically acceptable integration of trees with agricultural crops and/or animals simultaneously or sequentially, to get increased total productivity of plants or animals in a sustainable manner from a unit of farmland. Farmers have the impression that trees decrease crop yields as much as 50 percent, even though there is no research to support this idea. Farmers do recognize, however, that trees provide needed fuelwood, an additional cash crop, improve the environment and provide soil and watershed protection.

Punjab is the biggest province of Pakistan. Out of the total

population of Pakistan, 57 million are in Punjab, ranking it the top position in population. Population density is 230 persons per square kilometer. About 80 percent of the population live in villages. Fortunately, this area is blessed with a well-developed irrigation system and is capable of producing good crops. Due to increased profits in agriculture and delayed returns from forestry, the private plantations were replaced with cash crops. Increasing population and a decreasing forest has caused a serious fuel shortage. As the fuel becomes scarce, women and children are the first to suffer because they are responsible for cooking and heating (2).

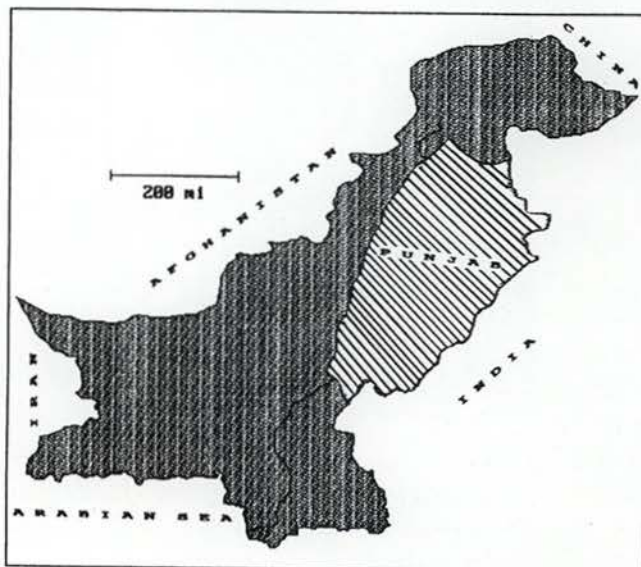
The school age kids spend much of their time gathering fuel. Most of them don't go to school which results in higher illiteracy rates. The housewives and other women also spend part of their time in fuel gathering, dung collection and making dung cakes for burning. The situation deprives these people from making better use of their time.

The fuel shortage in Punjab has resulted in many problems with the forest being the first victim. The people

cut fuel legally or illegally from the forest. The cost of living in cities has been increased due to expensive burning wood. At present, cost of one kilogram of wheat is equal to the cost of three kilograms of fuel wood.

Burning of cow dung, crops residue and tree leaves adversely affect the fertility of the soil resulting in decreased agricultural production. Burning rubber, coal tar, polyethylene, etc., not only produces an obnoxious smell, but also damages the health of persons inhaling the smoke. There is also little control on the heat of leaves and paper, etc. Therefore, it costs more in labor and energy is wasted. Accidental fires also occur.

To have a better understanding of the situation, it is necessary to make a cross-section of the land use, socio-economic environment and culture of the area. As men-



tioned earlier, agriculture is the major land use.

Agriculture

The agriculture of the Punjab can be divided into three main parts. The irrigated agriculture in central Punjab includes rain-fed agriculture in the northern sub-mountainous area and rainfed agriculture in the desert plains of Thal and Cholistan to the south. Due to meager rainfall, the cropping intensity and production in the rain-fed zone is low. Livestock grazing is the major land use in these areas.

The central Punjab is blessed with a well-developed irrigation system and is capable of producing good crops. Wheat, rice, sugarcane, cotton, maize, oats, fodder and vegetables are common crops, with cotton and rice being a good source of foreign exchange. Wheat, the staple food of the people, is consumed inside the country. Punjab produces wheat for about 80 percent of the population.

The big landlords follow the recommendations of the extension office staff. They use good seed, fertilizers and crop protection chemicals. Mechanization is common on such farms. All of these factors help them get maximum benefits from their land. They have no problem with fuel.

Size of Holding

Subsistence holding is 12.5 acres in Pakistan with 87 percent of the farms being below this limit. The number of small farms is increasing due to our law of inheritance. Average farm size at the present time is only six acres. In certain cases, the farm size is only one acre. The people below

subsistence level have all the problems associated with agriculture. These are the people who need help from agricultural extension and other government agencies.

Social Status of the Farmers

To be a farmer is a sense of pride in Pakistan. This is good in some cases but in many others it creates problems. Especially when farmers with a low income prefer to stick with unproductive farming methods rather than working elsewhere. This is the main reason for their poverty. Even being poor, they never admit their poverty. They overspend on marriages of their sons and daughters. Due to their good past, they always overspend on their guests to make them comfortable. For all the above-mentioned facts, they get loans either from the government or from friends.

Forests

The forest area in Punjab is only 0.63 million hectares (mh) which is only 3.1 percent of the total area. Out of this, the productive forest is only 0.34 mh, the rest is protected—kept for soil and water conservation. This tiny forest is under pressure from human and livestock population for fuel and forage, in addition to its own role of planting. Unfortunately, there is no hope of increasing the forest area or increasing its production potential.

Livestock

Pakistan is blessed with approximately 100 million head of livestock. The production potential is low and the livestock are not healthy due to numbers exceeding the carrying capacity of the region. There are heavy losses during the

drought because of feed shortage. There is room for improvement of livestock through selection and breeding. Unfortunately, there is a status symbol associated with the number of livestock owned.

Traditional Agroforestry

The traditional agroforestry in Punjab was a kind of home gardening. The trees and crops were grown side-by-side in the same field. The farmers were self-sufficient in most of their necessities. I still remember the saying of my grandfather that a "farmer should purchase only salt from the outside, the rest of everything he can produce from his own farm."

The trees supplied fuel, construction wood, forage, fruits, honey and other such items. At the same time, the trees kept the water table at safe limits. The farmers, and their livestock, enjoyed the pleasant cool shade of trees in summer. There was no concept of agriculture without trees.

This type of agroforestry continued until the farmers were introduced to commercialization. High-yielding varieties with high inputs changed the entire ecosystem. The trees were considered competition to field crops and were cut down.

Problems of Fuel Wood

According to the statistical survey of Pakistan in 1989, Punjab has a population pressure of 57,292,000 persons. Population density is 230 persons per square kilometer. All of these people need food for eating and fuel for cooking on a daily basis. Fuel is one of the basic human necessities, next in importance to food, and is required every day for cooking.

Pakistan is not rich in commercial fuels like natural gas, electricity, mineral oils and coal. The limited commercial fuels available are not accessible to the majority of the population as industries use almost 90 percent. So, there is no chance of availability of commercial fuel to the rural population in the near future.

Urban dwellers pay out a major part of their income for fuel. The prices of wood fuel range from Rupees (Rs.) 1.00 to 1.25 per kg. when the price of wheat is Rs. 2.00 to 2.5 per kg. The situation is worse for low income groups. Many poor families collect waste papers, packing materials and anything else that can be used for fuel. Women and children spend much of their time in fuel collection.

Different Sources of Fuel

Pakistan is blessed with solar radiation, but not the technology to use that energy. Cow dung and crop residues, which are good sources of soil fertilizer, are being used as a fuel. A detailed list of different sources of energy appears in reference 2.

Existing Fuel Wood Trees

A detailed list of tree species for fuel is given in reference 5. Among this list *A. nilotica* and *D. sissoo* are very common. Both of these species are indigenous of this region and well-suited to the environment.

Future Energy Trees

A detailed list of future agroforestry trees is shown in reference 4. All of the trees mentioned there are future energy trees of Punjab. The importance of all these species vary with environmental factors, type of farm and

farmers. Many of these species are already in fields and farmers are familiar with their good or bad points. Little technical knowledge is needed for their growth. These are best for the farmers who are reluctant to change. *A. nilotica*, *A. modest*, *L. lococephala* and *P. juliflora* are all drought-resistant species, best suited to the rain-fed plateau and the deserts of Thal and Cholistan. The other species are best suited to the irrigated areas.

Hesitation Toward Agroforestry

The farmers are reluctant to grow trees in their fields, for the following reasons:

Long-term enterprise: Due to their long rotation, the farmers are reluctant to grow trees. Traditionally, agroforestry trees were managed mostly for timber production. Due to this reason, they stand a longer period in the field and damage the field crops. The farmers do not think to grow trees especially for forage, fuel production and soil conservation. The farmers cannot wait for such a long time for returns. They need immediate benefits. Fast-growing multi-purpose species can help them in this respect.

Low income due to poor marketing: The second reason farmers avoid agroforestry is low returns. The wood and wood products are fetching a high price in cities, but farmers are not getting their due share because of poor marketing. Standing trees are purchased mostly by the middle men. These middle men harvest and transport wood to big cities and get more profit. The farmers are not in a position to take their produce to a nearby market due to small production levels.

Competition for nutrients and light: The trees compete for space,

nutrients and light with other crops. The situation becomes worse when competition increases by the longer stay of trees in the fields. Traditionally grown trees such as *Dalbergia sissoo*, *Acacia nilotica*, and *Albizia lebbek* are long rotation trees. They suppress crops by depriving them of nutrients, water and light. With increasing age and size, harmful effects increase. This problem can be solved by reducing their rotation from 30-to-60 years down to 10-to-20 years. Even better would be to replace them with fast-growing species such as poplar, leucaena, salmania or eucalyptus where rotation is always less than 20 years, and in certain cases, less than 10 years. Trees like sesbaniz and leucaena can be harvested just like cultivated crops for forage and fuel. By selecting deciduous species in wheat-growing areas, one can reduce the shade damage to crops. The other way is to select trees with small crowns instead of large crowns.

Alternative host for insect pests: This is another allegation on trees. Certain insects use them as alternate hosts. The problem can be severe in cotton and rice fields. This is a genuine problem and with consultation to farmers and agricultural scientists, only those trees should be planted which do not attract such insect pests.

Shelter harmful birds: This is a controversial point because all useful, as well as harmful birds nest and stay in the trees. At the time, or before the damage season, there should be a campaign to get rid of such birds only. The young school children should be trained for hunting these birds. At the same time, the useful birds should be protected.

Damage to implements: Implements like the plough, cultivator, seed drills, etc., may strike or become clogged by shallow roots. This is a damage problem for the poor farmer and one of the main reasons farmers hesitate to grow trees in their fields. The root depth of trees should be taken into consideration when selecting a tree species. Deep-rooted trees are best as they will neither create an obstacle nor compete with crop roots. The trees and crop roots would be growing in two different zones.

Suggested Efforts/Techniques to Overcome the Fuel Shortage

Suggested sites for energy plantations: The best and most-suited place for energy plantations with little efforts and the most success are the cultivated fields. Common village places (shamlat), narrow strips around rivers, canals, roads and railroads are the second best place. The problem sites with soils that have been wind and water-eroded, water-logged and salt affected can be used with an intelligent selection of species. In all this business, the people should be convinced to do this, otherwise the chances of success are slim.

To encourage the farmers to follow recommended agroforestry practices, the government should develop some working models of agroforestry on government farms in all the districts of Punjab. The farmers should be invited to visit the model agroforestry practices suitable for their areas.

There should be some incentives to the farmers in the form of increased water supply or a reasonable support price of produced wood.



Pakistanies gathering leaves to use as fuel.

There should be a competition of tree growers at the district level. The farmers following suitable agroforestry practices should be recognized and honored with appropriate incentives/prizes.

Short rotation, fast-growing species like sesbania, bamboos, poplar, eucalyptus and simal should be planted instead of long rotation, slow-growing species. The trees in the fields should have some specific objectives, i.e., a tree for fuelwood should produce maximum firewood and a forage species should produce a reasonable amount of forage. The selected tree species must have the least amount of competition with the field crops.

Bio-gas plants are successfully working in China. This technology must be adopted to get bio-gas for cooking and heating at the village level. It also improves the quality of farmyard manure in addition to gas production. Our traditional stoves waste a lot of heat (FAO, 1985). These should be changed to some improved stoves.

The agricultural extension department with the help of the Punjab Forest department and the University of Agriculture can do a lot with this specific problem. The fuel shortage is one problem, but it is also responsible for many other problems. This problem can be solved with proper education and training of the farmers.

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Meeting The Management Challenge



by R. Neil Sampson

Forestry in the future will be, as it has in the past, challenged to remain responsive to the social and cultural patterns in the societies it serves. But that is not easy for the practitioners of a scientific and adaptive management discipline dealing with organisms whose lives may span centuries, while trying to serve societies whose needs and priorities may change several times in a few decades.

The early conservation movement in the late 1800s and early 1900s was based upon the utilitarian idea that America's remaining forests must be managed with scientific principles or they would be lost, primarily for the products and values important to people. Today, while that utilitarian conservation vision still has great relevance to many people, newer concepts of stewardship are now driving modern forestry.

These new concepts include the responsibility to protect and maintain the full variety of life forms found in the forest (whether or not they are of immediate economic utility), and to retain the functions of natural forest ecosystems, even on forests used primarily for economic production. Where foresters have failed to meet public demands for environmental protection and ecosystem integrity, the public has reacted by setting aside additional lands for preservation, removing them from the more utilitarian multiple-use management.

The major challenge for the future rests not on forestry's ability to meet increasing environmental preservation demands such as have proven both difficult and divisive in the 1980s and '90s, but on the fact that the future demand for resources may change much more rapidly than science and technology can follow. As one tries to envision a world of 6-8 billion humans, it is difficult to imagine a way in which ecosystems – forests or others – can be left untouched by human hands.

Will we be able to realize unprecedented human demands without destroying the natural world upon which all human life depends? Obviously, no one knows. What we do know, however, is that the demands upon all ecosystems, including forests, will increase tremendously, and that foresters, along with all resource professionals, will be called upon to meet those demands in a sustainable, responsible way. Seen in this light, the future will demand even more rapid and intense changes in forest management science than what we have witnessed in the first century of American forestry. The future of humankind, as well as forest ecosystems, may rest on the success of that venture.

To meet this challenge, it is critical that we not fall into the trap of believing that, if only people would stop messing up the land-

scape, natural processes would bring everything back into a "natural balance" and all would be well again. Modern thinking has pretty much abandoned the notion of "natural balance," as an idea based more on romantic notions than either history or science.

Instead, many leading thinkers now base their understanding of the natural world on "chaos theory." Using this theory, one quickly abandons the idea that a forest ecosystem, if disturbed or destroyed, will, if left alone, gradually proceed through a predictable succession process and once again reach a fairly stable "climax" condition. Instead, it appears that very small differences in the conditions under which an ecosystem is disturbed tend to become magnified as time passes. Like a fork in the trail or one degree's difference in initial trajectory, a small shift at the outset can make a huge difference in what destination is ultimately seen. Natural history, rather than being cyclical, is more linear than many ecologists previously theorized.

That theory, as accepted, has enormous implications for forestry, and for all manner of environmental management theory and practice. What it poses is that, if we let natural processes proceed unaffected, what results may or may not be what was there before, may or may not be useful to humans or productive in many senses, and

may or may not be what society wants and needs. In other words, if we have a vision for what we wish an ecosystem to produce, to look like, or to function as, we had better be prepared to alter and guide it in the ways we desire. And, counter to many of the notions of "natural balance" that have been popular in recent years, the areas in which we wish to retain the "natural" character, such as wilderness, may take more human care, rather than less, if we wish them to retain the appearance, values, and functions for which they are prized.


Such an approach poses an enormous challenge for scientists and managers. It demands that we know what is happening in an ecosystem and why it is happening, at an early enough stage to be able to make easy and effective adjustments. For the most part, that challenge outstrips our current monitoring and scientific capacity. As we debate what constitutes "forest health," for example, we're not even certain what to measure. Is forest health only a matter of whether or not the trees look thrifty? We doubt it, but we're not sure. Whatever we use for the indicator of health, how can we begin to spot when an apparent decline is more than a momentary setback and signals a worrisome turn toward ill health? How do we know the difference between a normal variation and a serious problem? If we can make that distinction, how will we know the impact of our interventions? What can we do that tends to help the system back toward improved functioning, and that doesn't have unforeseen negative effects? Those are significant problems for science and research.

The challenge for managers rests in learning how to "sense" the health of the ecosystems around them, so that they can add that dimension to the best science they can assemble. Watch the best land manager you know, and you'll usually see someone who has lived with the land for years, and who is sensitive to subtle signals from the land that are often lost on others. We call land management sciences names like "agriculture" and "silviculture," and it is good to remind ourselves what the root word "culture" implies, for it means that we have a deep social and human attachment with the natural environment that must supplement our science. It suggests a longer-term, multi-generational view of the values inherent in the land, and in the impacts connected with management. A forest manager who moves regularly from one forest region to another may be scientifically versed in each, but culturally attached to none, and that can be a serious deficiency. The best manager knows the land intimately, as well as technically.

Finally, for society, the challenge of the future is to find ways to let managers manage. The last few decades have destroyed public trust in professional land managers, and now, somehow, that trust must be restored. This is no easy challenge, but it is a critical one. Managers, particularly forest and range managers, must convince the public that they can manage wild lands without attempting to convert every acre into artificially-supported "production factories." Professional managers must show that sensible and sensitive management can be intensive in some places, and extensive in others, and that they can listen respon-

sively to changing public values and attitudes over which lands should be managed toward such conditions.

The public must realize that romantic ideas about "nature" have to be replaced by understandings based on science, history, and logic. They must become much more astute at separating sensational rhetoric from logical argument, and in recognizing and discounting controversies that have been contrived to serve an organizational, political, or economic purpose rather than to solve problems or educate people.

The challenge, then, is mainly one of education. But we must not let this fact lull us into complacency. While youth education is critical, many of today's issues don't give us time to educate 5th graders and wait for them to become influential decision-making adults. Issues such as old growth management or the forest health situations of the Intermountain West must be addressed immediately. Those forests need help, and they need the kind of help that only science-based management, guided by the best ecosystem and stewardship concepts available, and supported by a knowledgeable public, can provide. We must act soon, and wisely, not to save the forests in some ultimate natural sense, but to save them as valuable, productive ecosystems that perform the kinds of services, and produce the kinds of values that 21st Century societies will require. To not act, or to act based on 19th Century romantic nostrums of "nature" will do both our forests and our grandchildren an enormous disservice. 

R. Neil Sampson is the Executive Vice-President of American Forests.

The Value of Wild Lands



by Pete Gomben

The crags of the Strawberry Mountains rose to meet the mid-morning sky like an infant reaching for its mother's arms. Basking in the sunlight, the weathered granite spires of the eastern Oregon range formed a miles-long sculpted memorial to the patient power of the ages. Clouds occasionally drifted overhead, nebulous schooners under sail for an ethereal port. Though I was no stranger to the Strawberries, I knew this visit would be special. I knew it would be a day to savor.

Thousands of Americans journey into wilderness areas like the Strawberry Mountains every year. Each has personal reasons for seeking the wilderness experience. Years ago I visited my first wilderness area out of curiosity, and I left with countless questions. I returned on this day, as always, searching for answers.

During his travels around the wild lands of the Southwest less than a hundred years ago, John C. Van Dyke wrote: "to speak about sparing anything because it is beautiful is to waste one's breath and incur ridicule in the bargain.... The 'practical men,' who seem forever on the throne, know very well that beauty is only meant for lovers and young people.... The main affair of life is to get the dollar, and if there is any money in cutting the throat of Beauty, why, by all means, cut her throat. That is what 'practical men' have been

doing since the world began."

Today, just as in Van Dyke's time, there are practical people who have been convinced by the logic of money to reap nature's bounty. As can be seen wherever resource development is pitted against preservation, the urge to exploit the land is strong when balanced against both real and potential human suffering. Just outside the boundary of the Strawberry wilderness are the telltale signs of such exploitation: old clearcuts that have grown back as thick patches of brush and streambeds shredded in pursuit of gold.

Yet there are impractical people who find intrinsic value in leaving nature alone. They realize an old growth Douglas-fir that rots on the stump and provides food or shelter for a single animal is not a loss for the lumbermill, but an irreplaceable piece in the environmental puzzle.

What is the best argument for preserving wild lands? Purely economic reasons will never suffice. It is likely that extractive industries will always provide more revenue than recreation. However, there are intangible—some might say spiritual—reasons for maintaining untouched, unsullied tracts of land. These reasons consider much more than just the dollar value of the physical resource. Among wild things a

mind can regress comfortably and in great leaps, unlearning constraints and unloading worthless emotional baggage in a few short hours. Tunnel vision disappears and the broad picture of life comes into focus. Roaming the wilderness, especially alone, provides one with a startling counterpoint to modern society.

Wild areas overflow with a priceless intimacy and honesty that can be found nowhere else. There is truth in the grit that fills one's boots after a long day's hike, in the scent of a spring meadow exploding with flowers and along the mossy banks of a brisk stream. It is something that cannot be bought or sold, only changed, and never changed for the better.

There is a long-running debate over whether humans are part of nature, or whether we have somehow managed to rise above it. To some the answer is obvious. During my sojourn in the Strawberries, I paused to study the afternoon landscape as it balanced equal parts of sunlight and shadow, trying to imagine anything "natural" in the concrete and glass canyons of distant cities. Random hustle replaces serenity, tangling the delicate web of human relations. In society a person may lead the mad scramble for success for a day or for a year but, according to the rules of the game, everyone will ultimately lose. In the wilderness, however, we all have the

ability to win, for when we are detached from the restraints of other humans our only measure of success lies within.

Wild lands present us with the opportunity to step into the shoes of our forbearers and experience life through primal senses. While traversing a nearby ridgetop a few days before my visit to the Strawberries I happened upon an old Paiute archaeological site. Obsidian chips were scattered about, remnants of an arrowhead that may have brought down an elk. Whose eye was it that had spotted a hunk of the dark, glass-like rock poking through the dirt, seized it and chipped away until something practical was created?

At the top of a nearby knoll was a round ceremonial chamber, three feet high and four feet in diameter, constructed of flat stones piled one upon another, like bricks without mortar. Running a hand along the rocks which formed the rim of the chamber, my fingers absorbed the radiated heat. How many hundreds of years had passed since hands, maybe hands that differed little from my own, had carefully crafted the rock structure? For a fleeting moment I felt a bond of kinship to a person I had never met.

One hundred and fifty yards downslope stood a dilapidated homestead, probably built by settlers less than a century ago. Rotting timbers and rusty nails stood in alarming contrast to the timeless stone chamber. What is the lesson to be learned here? Will our buildings also crumble, perhaps sooner than we expect, while the evidence of civilizations that came before us remains to mystify future generations?

As dusk invaded the valley north of the Strawberries, the rolling, grass-covered hills captured the subtle glow of twilight. Vapor lights from a dozen distant ranches fought the darkness that pooled in the hollow of the land. What would it have been like to stand on a peak and look down into the placid river valley before civilization brought houses and automobiles? Better yet, how would it feel to stand on a ridge, lost in solitude, and see a flame from a campfire burning miles below? Would a person be curious or repulsed?

When night had finally overtaken the land, I searched for a comfortable spot to spend the evening. Uncountable stars spangled the sky—so many, in fact, that the recognizable constellations were submerged in the dim white light of a thousand lesser ones. The Milky Way stood out as a faint band of gray girding the heavens. The night was so crystalline one could look back almost to the birth of the universe. Above the eastern horizon, a bashful half moon climbed in a hypnotic arc, paralyzingly radiant.

A poet once wrote that the moon is a thief, stealing its light from the sun. If the sun suddenly ceased to exist, and humans somehow managed to survive, the moon would still tug at the depths of the soul by its mere presence, hanging somewhere in space, just out of sight. In many ways, the same can be said about wilderness. Wild land need not be seen to be sensed—as long as it remains, even if on the periphery of the imagination, it can be inspiring from great distances.

Free from artificial surroundings, the tranquility and distance of

the wilderness stirs thoughts that cannot be conceptualized elsewhere. Gazing up into the night, one can see starlight that is thousands, perhaps millions, of years old. It has sped across the gulf of the universe, past other stars and planets, until a single beam ends as a twinkle in our eyes.

Like trying to catch a starbeam, attempting to grasp the concept of time is difficult. Is "time" anything more than a feeble attempt to classify terrestrial cycles? In the wilderness there is no difference between a Monday morning and a Friday afternoon. Lie back on a cushion of pine needles, eyes closed, and let your thoughts wander. Try to find the relevance in phrases such as "just a minute," or "I'll be there in an hour." They lack meaning.

I was roused from my thoughts by the unblinking blip of a satellite crawling across the heavens on turtle legs; a shooting star in slow motion. Though it was merely a soulless hunk of circuitry I felt some sort of link, perhaps because it, like the stone chamber, was also the creation of human hands. As it faded from sight my detachment from humanity seemed complete, if temporary.

After centuries of struggling to reshape the land in their image, Americans are finally beginning to see the true value of wilderness. That value lies not in the timber or minerals which will be forever locked inside wilderness boundaries, but in the fountains of understanding and harmony that spring from the wild lands and which flow everywhere. The philosophy of wilderness is one of eternal patience, and can be summed in the phrase: "Things will happen as they happen." It is

a simple statement, but it contains a truth as yet undiscovered by modern societies that seem bent on suffocating themselves under unnecessary profundities.

Wilderness runs like a golden thread through the fabric of the ages, tying us to the past and guiding us to the future. Its rawness and purity are reminders that though humans may be among the most developed and conscious of creatures, there is yet something in the world that appeals to what author Barry Lopez might call our "primitive sensitivities," our umbilical cord to the past when we were more closely tied to the earth, the wind, the sky. Wilderness stirs a sense of open-endedness, of the realization that though our lives will eventually end, Life itself will continue.

On his Southwestern odyssey, Van Dyke also wrote: "The aesthetic sense—the power to enjoy through the eye, the ear, and the imagination—is just as important a factor in the scheme of human happiness as the corporeal sense of eating and drinking; but there has never been a time when the world would admit it."

If Van Dyke were alive today, one imagines he would be a bit more optimistic.



Pete Gomben is a graduate student in Forest Products.



Photo by George Savage

Pete receives the second place award for the college's essay writing contest from Ernie Ables.



Club News



Forest Products Club




by Jeff Schwartz

The Forest Products Club had an active year. Gem State Lumber Company donated a truckload of larch wood logs. Volunteers from the club turned the logs into ten cords of firewood. The donation was the second annual firewood fund raiser; Scott Logging generously provided two loads the previous year. The majority of the

proceeds were used to bring in guest speakers and help club members attend various conferences. Members had a lot of fun processing the wood and plan to make the activity an annual event.

This spring some of the members attended the Inland Empire Forest Engineering Conference in

Moscow. They listened to a variety of speakers and assisted in running the program. Topics ranged from creating man-made wildlife snags to increasing production with the cut-to-length forwarder. The club also plans to attend the Intermountain Logging Conference in Spokane. Due to a lot of persistence by Jeff Schwartz, Bob Legg agreed to be a guest speaker during Natural Resource Week in April. The club finished out the year with the Annual John Howe Pig Roast and awarded Gem State Lumber Company the sponsor of the year award, an honor which Scott Logging received last year.

Club officers include: Jeff Schwartz, President, Kim Pence, Vice President, Chad McEwan, Secretary/Treasurer, Mike Fitzgerald, SAC Representative, and Harry Lee, Advisor. 

Jeff Schwartz is a junior majoring in Forest Products-Timber Harvesting.



Photo by Marge Lienhard

Left to right: front row: Jeff Schwartz, Dave Poxleitner, Scott English; back row: Rick Noggles, Bill Higgins, Chad McEwan, Harry Lee.



Photo by Dave Poxleitner

John Howe pig roast at Professor Harry Lee's house.

Logger Sports

by Joy Handley

For those who may not know what the Logger Sports Club is, we often describe it as being to lumberjacks what the Rodeo Club is to cowboys. We turn logging skills into competitive events. We throw axes for accuracy, race up 30 and 50 foot poles, cross-cut saw and chop for speed, and run on spinning logs (an activity called burling), as well as other events. We represent the University of Idaho in meets at the British Columbia Institute of Technology, the University of Montana, Spokane Community College, Flathead Valley Community College, Treasure Valley Community College, and the annual Association of Western Forestry Colleges Conclave.

The University of Idaho Logger Sports Club has greatly increased

its membership and its success in competitions this past year. We won top team at 4 shows out of 7 last spring, and last year's team captain, Gary Lester, won top male logger at 4 shows. Michelle Bemis won top female logger at the Spokane Community College Gyppo Days. Some of our members participate in professional meets during the summer and fall. Gene Phillips, a member since 1990, did so well in the pole climb this summer that he is now considered a professional in that event and can no longer pole climb for us at the collegiate level.

We encourage people from all majors to join our club and, as a result, we now have members from all majors in the College of For-

estry, Wildlife and Range Sciences as well as members from the Colleges of Agriculture, Business and Economics, and Engineering.

We enjoy representing the University of Idaho with our fun and unique sport. Logging competitions portray some of our natural resources heritage here in the Pacific Northwest.

Officers: Richard Folk, Advisor; Joy Handley, President; Rocky Gilbert, Secretary/Treasurer; Paul Nelson, Team Captain; Gene Phillips, Co-Chairman; Chuck Jones, Co-Chairman; Mark Lesko, Coach.



Joy Handley is a junior majoring in Range Resources.



Left to right: (Standing) Allan Dickson, Lance Rea, Paul Nelson, Eric Marcellus, Bob Atwood, Gary Lester, Raini Rippy, Joy Handley, Teri Pence, Mike Waisanen, Ruth Neils, Wayne "Hutch" Hutchins, Mark Lesko, Blaine Fadness, Chuck Jones, Rocky Gilbert, Peter Schroeder; (Seated) Eric Keller, Jeff Schwartz, Gene Phillips, Richard Folk; (Not pictured) Darwin Baker, Rennee Cornell, Ed Lynn, April Mueller, Lynette Lyon, Angie Elkins, Keith Coulter, Valorie French, Lucy Jones, Tanya Kimberling, Jennifer Lang, Tim Cole, Jonathan Meier, Chrystal Middlestead, Scott Miller, Dave Poxleitner, Derek Schone, Jim Strickland.

Photo by Kim Tuttle

Candid Photos



Photo by Marge Lienhard

Claudia celebrates her ??th birthday.



Photo by Dave Poxleitner

Harry Lee hams it up at the John Howe pig roast.



Photo by Dave Poxleitner

Token drinking photo.



Photo by Dave Poxleitner

Bill Higgins and Gene Phillips compete head-to-head in the food service relay.



Photo by Dave Poxleitner

A victorious Bill enjoys the spoils of victory.



Photo by Gene Phillips' mom

Gene Phillips demonstrates the inverted pole climb.



Photo by Kim Tuttle

A.J. is feeling horny.



Photo by Kim Tuttle

Neemedas flaunts the fact he has never had a bad hair day.



Photo by Gene Phillips

Logging crew's idea of how to pick up women.



Photo by Dave Poxleitner

Wendy Albrecht demonstrates proper etiquette.



Photo by Marge Lienhard

"You mean with green eggs and . . . ham?"



Photo by Kim Tuttle

Butch wonders how much longer it will take Troy to graduate.

Wildlife Society



by Sushan Han

We kicked the Spring semester of '92 off with a volunteer effort at the Fish and Game's Billy Creek area in Hell's Canyon. A group of happy and hard working The Wildlife Society (TWS)'ers were jet-boated to the ranch for the weekend where they cleared trails. They had a great time and a lot of fun hiking and working. As an added bonus Professor Jim Peek cooked and gave a wild west show with one of his mules. The mule won. Peek got away unscathed, however, it made for good afternoon entertainment.

Over spring break TWS hosted the Wildlife Conclave at the UI. All the months of diligently constructing quiz questions and preparing for the event paid off. Members housed incoming Conclavers and showed them a great time as well as some of the natural beauty of Idaho. Participants took several tours and hikes around the area as well as a jet boat ride up the Snake River. It was a successful and rewarding accomplishment and we can't thank all those determined members enough!

A group of excited members followed Grad student Tony Apa down to Southeastern Idaho for a weekend this Spring to help him trap Sage Grouse for his master's project. It was fun as well as interesting and they all learned a lot from the experience.

Elections were held before finals week. Mark Snyder and Brian Holbrook took the Office of President for the Fall and Spring semesters, respectively. Lynne Cady was voted in as Vice-President, Rich Sonnen was appointed treasurer and I (Sushan Han), was selected as secretary. With this we said farewell to our graduating members and adjourned for the summer.

TWS was back strong for the Fall semester with a great first turnout of about 25 people and plenty of new faces. A group of avid TWS'ers went to WSU's Smoot Hill and helped pick lichen for a caribou project. Participants did a lot of picking and were rewarded by taking the project's caribou for a walk.

After the first round of tests for the new semester, the club headed down town for an evening at Rathaus Pizza. A lot of people turned out and we were all able to meet each other and plan the upcoming events. The food was excellent and the friendship great.

Graduate students Rich Fisher and Tony Apa shared with us their expertise on graduate school at the next TWS meeting. Members learned what it takes to get into the graduate program and how to accomplish their ambitions. This was informative, entertaining and helpful for a great many of our TWS members who were graduat-

ing this semester and for those who were pondering additional years at school.

Throughout November and December, dedicated club members manned a stand next to the Snag at lunch time. With it they raised club funds by selling t-shirts and wildlife calendars to friends and fellow students. Their efforts brought in money to go toward this year's Conclave and it also proved to be a fantastic way to spend the afternoon.

After Christmas break TWS was back in action to make money and brush up for the upcoming Conclave. Members spent one day a week with advisor, Kerry Reese, quizzing over and inventing Conclave questions. They learned a lot and had a great time as a group. Other members were putting some muscle into helping man the Range Club's concession stand in the Kibbie Dome for each one of the basketball games. With all this Club enthusiasm and effort, we are all looking forward to Conclave this Spring Break in Fort Collins, Colorado.

Trish Heekin came in at the next meeting and gave a fantastic presentation on her Mountain Quail project in Riggins. She answered question, showed slides and shared with us her experiences and observations on these little-know birds. It was interesting and informative and brought TWS

graduates and undergrads closer together. We thank Trish Heekin for her time and hope to stay in touch with the quail project in the future.

And this is where we're at! It has been a great year with a lot of new and active members. We wish the best of luck to our graduating members—thanks for your effort and initiative all this time! In the meantime, upcoming Spring events are stacking up and should prove to be exciting, informative and fun. Stick around!



Sushan Han is a sophomore in Veterinary Sciences and Wildlife Resource Management.



RIVER OTTER



Photo by Kim Tuttle

Left to right: Row 1: Lewis Miller, Maggie Arthur, Mark Snyder; Row 2: Ruth Neils, Chrystal Middlestead, Lynne Cady, Brian Holbrook, Kreg Coggins, Amy Gortseme; Row 3: Sushan Han, Marlin French, Matt Schuster, John Lamb, Rich Sonnen, Alan J. Jenne; Randy Martinez, Denny Dawes, April Mueller, Jason Graham.

Society of American Foresters



by Bill Higgins

The Student Chapter of the Society of American Foresters (SAF) has had a very busy and productive 92-93 academic year. During the Fall 92 semester, SAF co-sponsored a tour of the Experimental Forest for new and old students, co-sponsored a Community Forest Stewardship Day with the Palouse Chapter and had a booth at Forestry Day at a UI home football game. Another SAF activity is Adopt-A-Highway cleanup on a two-mile stretch of Highway 95.

SAF members also attended and participated in meetings with the Palouse Chapter. One student was able to attend the National Convention in Richmond, Virginia, and accept the Outstanding Student Chapter Award which UI has won three consecutive years. John Marshall, new faculty representative, held a Prof-N-Stein at his home.

Spring '93 events include attendance at the annual Inland Empire Society meeting in Post

Falls and sponsoring guest speakers for Natural Resources Week. SAF members also look forward to a visit by SAF National President, Jane Difley.

This year's SAF officers

Chairman Bill Higgins
 Vice-Chairman John Bucher
 Treasurer Lee Halbrook
 Secretary Charlene Bucha
 Membership Wendy Bromley

Bill Higgins is a senior majoring in Forest Products.



Photo by Kim Tuttle

Bottom to top; row against wall: Craig Hammanishi, Pete Stroes, Paul Nelson, Rick Noggles, Pete Schroder, Eric Werner, Anthony Starkovich, Don Long; middle row: John Bucher, Dave Poxleitner, Casey Baldwin, Dan Cleough, Dave Glass, John Marshall; right-hand row: Charlene Bucha, Wendy Bromley, Eric Keller, Syed Ghulam Muhammad, Lee Halbrook, Dave McLean, Mike Philbin; kneeling: Kevin Kansky, Ishfaq Ahmed, Jeff Fields.

The Snag



by Marge Lienhard

The Snag is a bi-weekly newsletter published by the students of the College of Forestry, Wildlife, and Range Sciences. It tries to keep the students, faculty, and staff advised of each other's activities.

The editor, Vincent Mehrer, collects articles and other materials and is responsible for getting *The Snag* printed and put out for circulation.

The Snag has had a challenging year and is currently looking for more people to work on its staff. A new feature is the inclusion of information on various geological features of the State of Idaho.



Photo by Marge Lienhard

Vince Mehrer, staff of one.

Student Management Unit



by Keith Jones

The Student Management Unit Club is for any student who is enrolled in a management curriculum (or would just like to get outside) in the College of Forestry, Wildlife and Range Sciences.

Last semester, Fall of '92, a majority of the club's time was spent on a small portion of the Student Management Unit on the University of Idaho Experimental Forest. It was logged by the Student Logging Crew until the snow pushed them out. The SMU Club prepared the piece that was logged by setting boundaries and marking which trees were to be harvested.

This semester, Spring of '93, we plan to redo the permanent plots in the Student Management Unit. We would like to accomplish this before the summer break. Increasing participation is going to be another goal for the club. Participation has been low for the past few years and we would like to turn that around. This club has great potential and we would like to use it to benefit the students of the College of Forestry, Wildlife, and Range Sciences.



Photo by Dave Poxleitner

Student Management Unit entrance.

Wildland Recreation Management Association



by Peter Soeth

This year the Wildland Recreation Management Association (WRMA) sponsored many activities to enable us to become better leaders and managers. To become better managers, we held meetings with our professors to learn how to run a ski resort. We have done some exciting things this year; too bad everyone within the College of Forestry, Wildlife and Range was not able to participate.

The first activity of the year was the annual WRMA/Department of Recreation and Tourism welcome-back picnic. Held at East City Park, it is a "must attend" in order to meet the new students and talk to your friends about what they did the previous summer. It is also a great chance to meet and discuss ideas with your professors. Nearly everyone in the department attended and, of course, we would not have accomplished it without the help of Jana. We had some good discussions, the food was great, and the volleyball wasn't bad.


This year was the WRMA First Annual Ski Trip at Schweitzer Mountain Resort. We went up the night before and stayed at the Overnighter Lodge. We talked, played pool and relaxed in the hot tub. Chan even watched skiing on television to try and figure out how to ski.

Rising late the next morning, we went up to the lodge to meet

with people from the resort. The personnel director said there were some opportunities but not a great deal of money (*that we already knew!*). The hill maintenance person described how they perform avalanche control, fix chair lifts and new additions that will be made in the next couple of years. The sales director discussed her duties and background. Overall, it was a learning experience. Finally, we hit the slopes to practice what we preach, recreating! Even though Neemedass looked like he was in the wrong place, we all had a great time.

The final event of the year was the Governor's Conference on Outdoor Recreation and Tourism. WRMA, working in conjunction with the Recreation Club, co-

sponsored an informal banquet for the professors and students from both organizations to meet and discuss issues that are affecting Idaho today. The Conference offered both clubs a great opportunity to meet professionals and possible job contacts.

The officers who coordinated events this year were: Peter Soeth, President; Pam Wilkins, Vice-President; Kara Thomas, Secretary/Treasurer; Val Felsch, Faculty Representative; and SAC Representative Mark Walker. We would also like to thank Bill McLaughlin for all his assistance. Remember the phrase: "You can always retake a class. You can't retake a weekend." 

Peter Soeth is a senior in Resource Recreation and Tourism.



Those available for photograph are (left to right): Peter Soeth, Bill McLaughlin, Neemedas Chandool, Cory Inouye.

Photo by Kim Tuttle

Range Club




by Dale Schmidt

The Society for Range Management—University of Idaho Chapter—had a very productive year. Membership increased substantially, to 28 members, and the future of the club looks promising. The club worked hard in their fund-raising efforts this year which helped send some members to Albuquerque, New Mexico for the National Society for Range Management meeting in February.

The University of Idaho plant identification team competed against some of the top universities in North America and did an outstanding job. The University of Idaho competed in the Undergraduate Range Management Exam which covered all aspects of Range Management principles. The club placed third in their display and received \$75.00. This money will be used to cover the expenses of

the display. This spring the club plans to go on a range evaluating field trip to the Hell's Canyon area.

This year's officers are as follows: Dale Schmidt-President, A.J. Jenne-Vice-President, Greg Hanson-Treasurer, and Clint Gross-Secretary. 

Dale Schmidt is a senior majoring in Wildland Recreation Management and Range Resources.



Photo by Kelly C. Crane

Left to right; back row: Chris Hiestuman, Greg Hanson, Chuck Madday, Rick Noggles, Jim Strickland, Dale Schmidt; front row: Gail Morgan, A.J. Jenne, Teri Pence, Lori Anne Webster, Clint "Cletis" Gross. Not pictured: Kim Munson, Diane Ledlin, Bob Allen, Zach Bane, Karen DeValle, Marni Dickard, Valorie French, Patty Gallo, Kelly Gorden, Joy Handley, Amy Kaser, Karen Oosterling.

Xi Sigma Pi

by Chrystal Middlestead

Twelve new, artfully decorated western white pine plaques joined the ranks of existing plaques in the reading room this fall. The plaques were constructed by the new initiates of Xi Sigma Pi. This society is the college's national forestry honorary, open to all majors in the College of Forestry, Wildlife and Range Sciences.

Xi Sigma Pi was first established at the University of Washington in 1908. The University of Idaho followed with their chapter, Epsilon, in 1920, making it the fifth of such chapters in the nation. Currently, there are 42 chapters in the nation. The society recognizes

upper-class students for superior academic achievement in the college and twelve new members were added to our chapter following our fall initiation.

We have begun some new projects for 1993, including the coordination of Xi Sigma Pi members and a local elementary/junior high school after school program to present activities/seminars on the various aspects of natural resources. We are also hosting a seminar presented by Idaho Fish and Game Dept., "Project WILD." In addition, we hope to co-sponsor a speaker with the Dean's Office for Natural Resources Week.

Our 1993 officers include Chrystal Middlestead, Forester and SAC representative; Mike Feiger, Associate Forester; Maggie Arthur, Secretary/Fiscal Agent; and Jared Juusola, Ranger/Historian.

Welcome and congratulations to our new initiates: Bryan C. Aber, Michael J. Alpe, Matthew P. Cerkel, Michael D. Feiger, William Higgins, Kara L. Huettig, Michael J. Karnosh, Brian D. Leth, Charles M. Lobdell, Chrystal L. Middlestead, Faith F. Robertson, and Katherine J. Skinner.



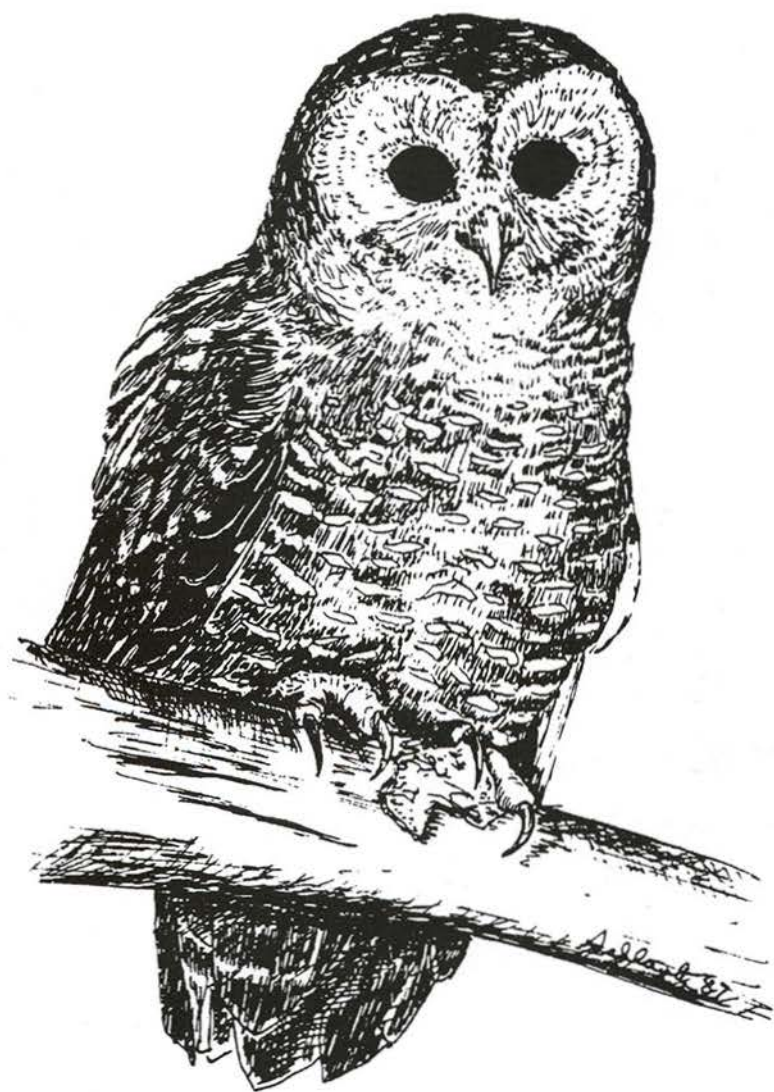
Chrystal Middlestead is a senior in Wildlife Resource Management.



Photo by Kim Tuttle

Left to right; front row: Katherine J. Skinner, Chrystal Middlestead, Maggie Arthur, Kara Huettig; back row: Lee Medema (advisor), Michael D. Feiger, Randy Zemplak, Brian Leth, and Jared Juusola. Other members include: Charles Anderson, Lorraine Blasch, Jennifer Bruner, Amy Kaser, Susan Morrison, Julie Oliver, Robbie Parke, David Robertson, Gary Vos, Shayne Watkins.

Who's Who

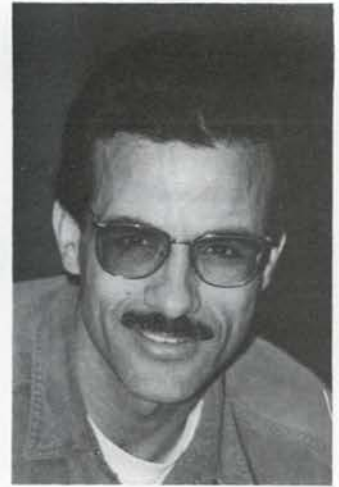




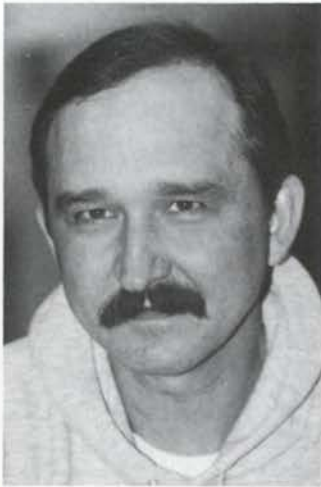
Brian S. Price
B.S., Range Resources



Sue Perin
M.S., Resource Recreation & Tourism



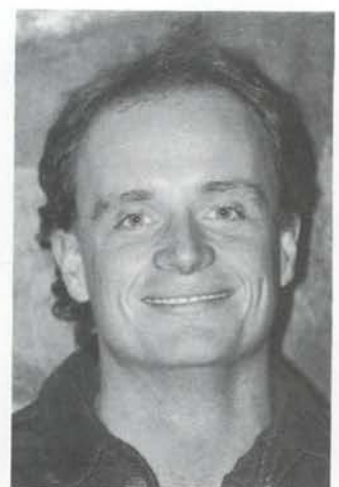
Ahmed Fahsi
Ph.D. Forest Resources



Eugene C. Delimata
B.S. Forest Resources



Taj Muhammad
M.S., Range Resources



John Lyons
B.S., Forest Resources



Thomas Curet
M.S., Fisheries Resources



Gene Phillips
B.S., Forest Resources



Ruth A. Neils
B.S., Wildlife Resources



Peter Soeth
B.S., Resource Recreation & Tourism



Steve Brink
B.S., Fisheries Resources



Jingen Qi
M.S., Forest Resources



Brian Holbrook
B.S., Wildlife Resources



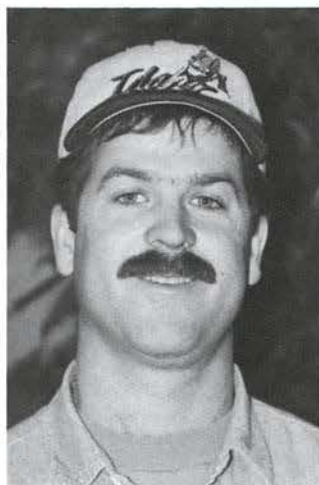
Shirley Lorentz
B.S., Forest Resources



Peter Kolb
Ph.D., Range Resources



Andy Lindbloom
B.S., Wildlife Resources



Ken Crane
M.S., Range Resources



Scott McCoy
M.S., Range Resources



Elisabeth Brackney
M.S. Fisheries Resources



Joe Duyont
M.S., Fisheries Resources



Joe Bonneau
M.S., Fisheries Resources



Matt Spaulding
M.S., Range Resources



Thomas Lance
M.S., Range Resources



Ishfaq Ahmed
M.S., Range Resources



Jim Roll
B.S., Wildlife Resources



Lewis Miller
B.S., Wildlife Resources



Dave Poxleitner
M.S., Forest Products



Teresa Catlin
M.S., Forest Resources



Dale Schmidt
B.S., Range Resources
B.S., Wildland Recreation



John Bailey
M.S., Fisheries Resources



Maggie Arthur
B.S., Wildlife Resources



Alan "A.J." Jenne
B.S., Wildlife Resources



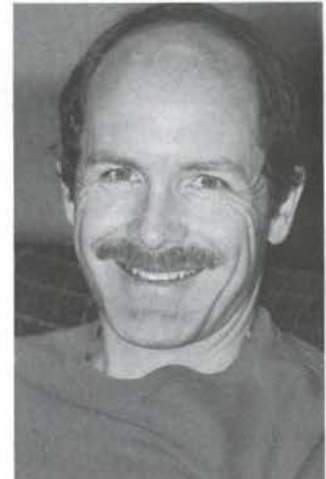
John Lamb
B.S., Wildlife Resources



Moses M. Okello
M.S., Wildlife Resources



Susan J. Morrison
B.S., Forest Resources



Randy Jacobs
B.S., Wildlife Resources



Neemedass Chandool
B.S., Resource Recreation & Tourism



Charlene Bucha
M.S., Forest Resources



Mark Snyder
B.S., Wildlife Resources



Muhammed Iqbal
M.S., Forest Resources



Pete Gomben
M.S., Forest Products



Marlin G. French
B.S., Wildlife Resources



*Photographs by Kim Tuttle,
Marge Lienhard
and one file photo.*

JOHN JOSEPH CITTA
 DANIEL MICHAEL CLOUGH
 KREG ALAN COGGINS
 TIMOTHY MATHEW COLE
 DENNIS GEORGE DAWES
 MARTHA ELIZABETH DORSEY
 STEPHANIE ANNE EIMERS
 MICHAEL DAVID FEIGER
 BETH ANN FRALEY
 GREGORY EDWARD GOLLBERG
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 MATTHEW WAYNE HALEY
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 CHARLES BRADLEY JONES
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 KATHERINE MARIE KUTTNER
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 KIMBERLY DAWN MEHLHAFF
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 DAVID RANDOLPH ROGERS
 TRAVIS DAVID ROSENBERY
 CHAD THOMAS SANDERS
 ANDREA MARIE SMASNE
 VICKI JOANN VAN TASSEL
 SUSANNE JENNY IVA VEEN
 JOHN ROBERT ZAKRAJSEK

SENIORS

BRYAN CURTIS ABER
 ROBERT JASON ALCORN
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 MARGARET KRISTINE ARTHUR
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 BRIAN LEE HOLBROOK
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 DANNY RAY TOMLINSON
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 GARY LEE VOS
 CHRISTINE MICHELLE WELLS
 KEITH DOUGLAS WILLIAMS
 DOUGLAS J. WOOD
 RHETT KAY ZUFELT

UNDECLARED CWFR

FRESHMEN

KELLY JOHN ALLEN
 AARON LEROY ARISS
 CORY D. BOWMAN
 REX ADAM MOYLE FINNEY
 JOHN PETER LIEHE
 DANIELLE MARIE MARUSKA
 KENNY CLYDE PYLE
 EDWARD JOSEPH SCHAEFFER
 KRISTIN TERI SWOBODA
 JENNIFER ANN VACHON
 JASON ROBERT WORTHINGTON

JUNIORS

KEITH M. COULTER

SENIORS

ROCKY JOE MILLER

Graduate School Students

FISH & WILDLIFE RESOURCES

ADAMS, SUSAN, M.S.
 AKENSON, HOLLY, M.S.
 ALLEN-JOHNSON, LYDIA, M.S.
 APA, ANTHONY, PH.D.
 ARNSBERG, BILLY, M.S.
 ARTHAUD, DAVID, M.S.
 BAILEY, JOHN, M.S.
 BAINES, CHARLES, M.S.
 BATE, LISA, M.S.
 BONNEAU, JOSEPH, M.S.
 BRACKNEY, ELISABETH, M.S.
 BURRIS, CHRISTOPHER, M.S.
 BUTTERFIELD, BART, PH.D.
 CARLSON, JOHN, M.S.
 CHANDLER, JAMES, M.S.
 COLLINS, CATHARINE, M.S.
 CURET, THOMAS, M.S.
 DEAL, JERRY, M.S.
 DIXON, RITA, M.S.
 DUPONT, JOSEPH, M.S.
 DURFEY, JAMES, PH.D.
 EDELMANN, FRANK, M.S.
 FAGAN, COLLEEN, M.S.
 FALER, JOYCE, M.S.
 FISCHER, RICHARD, PH.D.
 FOLLIARD, LEE, M.S.
 FREDERICKS, JAMES, M.S.
 GARRETT, JAMES, M.S.
 GARRETT, LISA, M.S.
 GREEN, GERALD, M.S.
 GRISWOLD, ROBERT, M.S.
 HAUKENES, ALF, M.S.
 HEEKIN, PATRICIA, M.S.
 HILLS, KENT, M.S.
 HOELSCHER, BRIAN, M.S.
 HUNT, JOEL, M.S.
 ISAAK, DANIEL, M.S.
 JANOSIK, BRIAN, M.S.
 KENIRY, PATRICK, M.S.
 LAWSON, TERRY JUNE, M.S.
 LEPLA, KEN, M.S.
 MACCRACKEN, JAMES, PH.D.
 MOSEY, THADDEUS, M.S.
 O'NEILL, JOHN, M.S.
 OGDEN, CATHERINE, M.S.
 OKELLO, MOSES, M.S.
 PEERY, CHRISTOPHER, PH.D.
 PETERS, KONRAD, M.S.
 PORTER, PAMELA, PH.D.
 RICH, BRUCE, M.S.
 ROBISCH, ELENA, M.S.
 ROCKLAGE, STEPHEN, M.S.
 ROPER, BRETT, PH.D.
 SAFFEL, PATRICK, M.S.
 SANKOVICH, PAUL, M.S.
 SCHNEIDER, JAMES, M.S.
 SETTER, ANN, PH.D.

SHELDON, SARAH, M.S.
 SIEGEL, DEBORAH, M.S.
 STEWARD, CLEVELAND, PH.D.
 STROHMEYER, DEBORAH, M.S.
 TANIMOTO, PHILIP, PH.D.
 TEAR, TIMOTHY, M.S.
 TOLOTTI, KENNETH, M.S.
 ULLIMAN, MARK, M.S.
 UNSWORTH, JAMES, PH.D.
 VALES, DAVID, PH.D.
 VAN DEVENTER, JOHN, PH.D.
 WELSH, THOMAS, PH.D.

FOREST PRODUCTS

ENGBRETSON, REGGINAL, M.S.
 GOMBEN, PETER, M.S.
 HESTERMAN, NATHAN, PH.D.
 JIN, FENGBIN, PH.D.
 LIU, CHANGSHENG, M.S.
 MENDES, ALFREDO, PH.D.
 MNCUBE, DINGANE, M.S.
 POXLEITNER, DAVID, M.S.
 RASMUSSEN, DANIEL, M.S.
 SEDNEY, DAMIAN, M.S.
 SOUZA, MARIO, PH.D.
 ZENG, MING, PH.D.
 ZHANG, XIAOQUANG, M.S.

FOREST RESOURCES

ALPE, DEBORAH, PH.D.
 AVILA, ROBERTO, M.S.
 BALDWIN, CALIB, M.S.
 BARKLEY, ROBERT, M.S.
 BROMLEY, WENDY, M.S.
 BUCHER, JOHN, M.S.
 BURGESS, CAITLIN, PH.D.
 CATLIN, TERESA, M.S.
 CHOUNG, SONG HAK, PH.D.
 CLARK, LAURA, M.S.
 DAMMANN, CARL, M.S.
 DE SILVA, PATABANDI, M.S.
 DIAW, OMAR, M.S.
 EL HADDAD, AHMED, M.S.
 FAHSI, AHMED, PH.D.
 FLOOD, STEVE, M.S.
 FORESTER-TEAR, DEBORAH, M.S.
 GAKOU, MAMODOU, M.S.
 GARRISON, MARIANN, M.S.
 GLOSS, DAVID, M.S.
 GREEN, DANIEL, PH.D.
 HALBROOK, LEE, M.S.
 HALLISEY, JUDY, M.S.
 IQBAL, MUHAMMAD, M.S.
 JABBES, MOHAMED, PH.D.
 JAIN, THERESA, M.S.
 JAZOULI, RACHIDA, M.S.
 KAZEMI, FATHOLLAH, PH.D.
 KEANE, ROBERT, PH.D.
 KOCH, LESLIE, M.S.

KOEHN, ANITA, PH.D.
LENDERMAN, CHARLENE, M.S.
LIM, YOUNGTAIK, PH.D.
LONG JR, DONALD, M.S.
MANTAS, MARIA, M.S.
MARANTO, JOSEPH, M.S.
MARTEN, LEANNE, M.S.
MCCONNELL, STEVEN, PH.D.
MCGOWN, MARY G., PH.D.
MCKEE, VALERIE, M.S.
MCLEAN, DAVID, M.S.
MITAL, JAMES, PH.D.
MOUSSEAU, MARK, M.S.
NEDOMA, JOSEPH, M.S.
NELSON, JENNIFER, M.S.
NEUENSCHWANDER, ROBERT, M.S.
OSWALD, BRIAN, PH.D.
PHILBIN, JR., MICHAEL, M.S.
POITEVIEN, LIONEL, M.S.
QI, JINGEN, M.S.
RAJA, RAJIV, M.S.
SABIR, SALMAN, M.S.
SAUER, GEORGE, M.S.
SCHLENKER, ANNE, M.S.
SCIALFA, MICHAEL, M.S.
SHAPIRO, NATALIE, M.S.
SHAW, TERRY, M.S.
STEVENS, THERESA, M.S.
TADY, TROY, M.S.
TONN, JONALEA, PH.D.
ULLAH, MOHAMMAD, M.S.

UNGER, DANIEL, PH.D.
WHITEMAN, MICHAEL, PH.D.
WHITLACH, HEIDI, M.S.
WILKINSON, WILLIAM, M.S.
WINTERBERGER, KENNETH, M.S.
YOO, KI JOON, M.S.
ZACK, ARTHUR, M.S.
ZHANG, JIAN-WEI, PH.D.

RANGE RESOURCES

ADAMS, JOHN, M.S.
ADVINCULA, BENNY, PH.D.
AHMED, ISHFAQ, M.S.
BALATSOS, PANAYIOTIS, PH.D.
CRANE, KENNETH, M.S.
DARBY, NEAL, M.S.
ERIXSON, JOHN, M.S.
GIBSON, CHAD, PH.D.
KENNEY, DANIEL, M.S.
KHAN, GHULAM SARWAR, PH.D.
KOLB, PETER, PH.D.
LANCE, THOMAS, M.S.
MCCOY, SCOTT, M.S.
MOUELLE, JEAN, PH.D.
MUHAMMAD, TAJ, M.S.
PETERS, ERIN, PH.D.
SPAULDING, MATTHEW, M.S.
TEETER, STEPHANIE, PH.D.
TIBE, ADAM, PH.D.
WALLACE, DAVID, M.S.

RESOURCE RECREATION AND TOURISM

BAREGALA, DASARATHI, M.S.
BECKER, KURT, M.S.
BROWN, GREGORY, PH.D.
CHAMBERS, NINA, M.S.
CHARPENTIER, CALUDIA, PH.D.
COWLES, PAUL, M.S.
COYNER, (JULIUS) JACK, M.S.
HARVEY, M. JEAN, M.S.
HENKEL, WILLIAM, M.S.
KIM, YONGHA, M.S.
KRUSE, NATALIE, M.S.
LEIDNER, STUART, M.S.
MARKUS, DANIEL, PH.D.
MATTHEWS, LAURIE, M.S.
MCCOY, (KAREN) LYNN, M.S.
MEDLIN, NANCY, M.S.
MERRILL, (WILLIAM) TROY, M.S.
O'BRIEN, THOMAS, M.S.
OTTO, MICHAEL, M.S.
PATTERSON, MARK, M.S.
PERIN, SUSAN, M.S.
PITSTICK, RANDALL, PH.D.
SHUMAN, DOROTHEA (KUNZ), PH.D.
TANGEN-FOSTER, JAMES, PH.D.
TYNON, JOANNE, PH.D.

International Students

ACHANA, FRANCIS, RRT, M.S., GHANA
ADVINCULA, BENNY, RANGE, PH.D., PHILIPPINES
AHMED, ISHFAQ, RANGE, M.S., PAKISTAN
ANTONIJEVIC, ZORAN, F&W, PH.D., YUGOSLAVIA
AVILA, ROBERTO, FOR RES, M.S., HONDURAS
BAIG, MIRZA, RANGE, PH.D., PAKISTAN
BAKSH, ILAHI MALIK, FOR RES, M.S., PAKISTAN
BALATSOS, PANAYIOTIS, RANGE, PH.D., GREECE
BAREGALA, DASARATHI, RRT, M.S., INDIA
BRACKNEY, ELISABETH, F&W, M.S., AUSTRIA
CHARPENTIER, CLAUDIA, RRT, PH.D., COSTA RICA
CHENG, HAILONG, FOR RES, M.S., PRC
CHOUNG, SONG HAK, FOR RES, PH.D., KOREA
COURRAU, JOSE, RRT, M.S., COSTA RICA
DE SILVA, PATABANDI, FOR RES, M.S., SRI LANKA
DIAW, OMAR, FOR RES, M.S., SENEGAL
EL HADDAD, AHMED, FOR RES, M.S., MOROCCO
FAHSI, AHMED, FOR RES, PH.D., MOROCCO
GAKOU, MAMADOU, FOR RES, M.S., MALI
HIMAWAN, SINGGIH, FOR RES, M.S. INDONESIA
IQBAL, MUHAMMAD, FOR RES, M.S., PAKISTAN
JABBES, MOHAMED, FOR RES, PH.D., TUNISIA
JAZOULI, RACHIDA, FOR RES, M.S., MOROCCO
JIN, FENGBIN, FOR PR, PH.D., P.R.C.
KALEEMULLAH, MOHAMMAD, FOR RES, M.S.,
PAKISTAN

KAZEMI, FATHOLLAH, FOR RES, PH.D., IRAN
KEERIO, GHULAM, RANGE, PH.D., PAKISTAN
KHAN, GHULAM, RANGE, PH.D., PAKISTAN
KHAN, GUL MOHAMMAD, RANGE, M.S., PAKISTAN
KIM, YONGHA, RRT, M.S., KOREA
LEBAN, FREDERICK, F&W, M.S., MALAYSIA
LEPLA, KEN, F&W, M.S., CANADA
LEWINSOHN, DALIA, FOR RES, M.S., ISRAEL
LIM, YOUNGTAIK, FOR RES, PH.D., KOREA
LIU, CHANGSHENG, FOR PR, M.S., P.R.C.
MENDES, ALFREDO, FOR PR, PH.D., BRAZIL
MNCUBE, DINGANE, FOR PR, M.S., S. AFRICA
MOUELLE, JEAN, RANGE, PH.D., CONGO
MUHAMMAD, SYED GHULAM, FOR RES, M.S.,
PAKISTAN
MUHAMMAD, TAJ, RANGE, M.S., PAKISTAN
OKELLO, MOSES, F&W, M.S., KENYA
OLSON, STEVEN, RANGE, M.S., CANADA
POITEVIEN, LIONEL, FOR RES, M.S., HAITI
QI, JIN, FOR RES, M.S., P.R.C.
QUADRI, IQBAL, FOR RES, M.S., PAKISTAN
RAJA, RAJIV, FOR RES, M.S., INDIA
SABIR, SALMAN, FOR RES, M.S., PAKISTAN
SOUZA, MARIO, FOR PR, PH.D., BRAZIL
TIBE, ADAM, RANGE, PH.D., PHILIPPINES

ULLAH, MOHAMMAD, FOR RES, M.S., PAKISTAN
WAJNG, QINGLI, FOR RES, M.S., PRC
XAVIER, VICTORINO, FOR RES, M.S.,
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Idaho Forester




by Kim Tuttle

When I first joined the *Idaho Forester* I didn't realize how much fun it would be. I thought it would be nice to take photos for the magazine and meet some people. Well, I met more than just "some" people and I did other jobs than just taking photos.

From professors and college staff to research associates and students, all are hard-working, warm folks. And there are so many of you! Many a time did I interrupt someone for their photo or for needed information. Thus, I wish to thank everyone at the College of FWR for their patience, input, and expertise but especially for their smiles (yes, that means you, too, Jeff Mosley).

This year's *Idaho Forester* staff was limited in number and we found ourselves wearing many hats for the various tasks that came about during magazine production: advertising, editing, designing, running here and there, and then back for more editing. We even did our own darkroom work this year. Marge and I got real silly one night while printing up some of those photos. It must have been because we were standing in there so long the blood left our heads and went to our feet. Of course, other members of the magazine staff seem to think we're on our feet all the time.

To round things up, the *Idaho Forester* has been a great experience. And with hope it will

continue to be for years to come. As long as there is interest in natural resources—there will be interest in this magazine. For it is not only a reflection of the communication that carries so well throughout this college, it is a reflection of what we care about the most. (See the poem on the inside back cover). 

Kim Tuttle is a junior who was majoring in Wildlife and is currently in nursing.

Joe Ulliman Advisor
 Marge Lienhard Editor
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 Kim Tuttle Photographer/Asst. Editor
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 Keith Hamby Literary Editor/Layout Expert/Writer
 Jo Van Tassel Assoc. Editor/Sales
 Heather Jones Assoc. Editor
 Vanessa Dobbins Desktop Publishing



Sitting: Heather Jones, Marge Lienhard; standing: Kim Tuttle, Jo Van Tassel, Joe Ulliman, Pete Gomben, Cory Inouye; (inset) Keith Hamby.

Photos by Kim Tuttle and George Savage

The staff of the *Idaho Forester* would like to thank all those hard-working and diligent people who helped make this year's *Idaho Forester* possible.

Cindy Johnson - UI Printing and Design Services

George Savage - CFWR Publications

Denise Ortiz - CFWR Publications

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Brian Price & Heather Murray - Darkroom Direction

Joe Ulliman - Idaho Forester Advisor

and a special thanks to Vanessa Dobbins for her skills, efforts and friendship.

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Swoonin' the swine.

Photo by George Savage



*"In the end
we will conserve only what we love,
we will love only what we understand,
we will understand only what
we are taught."*

— BABA DIOUM



