PATRONS

A
Arthur W. Abbs
Margaret Stoughton Abell
Lon Accola
Robert M. Allen
Theodore R. Allen
B. L. Allison III
Karl M. Anderson
Raymond Anderson
Charles W. Andrews
Donald G. Arganbright
W. H. Arlen
W. D. Arnold

B
Walter T. Bagley
Dean P. Baker
Donald R. Ball
Fred C. Battell
Chuck Beatty
Bruce M. Bebensee
Lad W. Belehrad
Ken Benda
Dwight W. Bensend
R. A. Blaser
Duane G. Breon
Curtis Burger
James R. Burns

C
M. E. Chelstad
Russell L. Chipman
John I. Christensen
Randy and Sharna Clark
E. H. Clocker
Joe Colletti
Gilbert L. Comstock
H. C. Freeman Cook
B. M. Cool
Royce G. Cox
Fred Cubbage
Vern H. Cutler

D
W. W. Dannenberg
Micheal Dawson
Jerry L. Day
Frank DeVaul
Albert F. Dodge
Lee W. Dowd
William A. Duerr
Warren T. Doolittle

E
George H. Ebert
Thomas Egan
Lawrence Ehlers
Dean W. Einspahr
M. L. Ellison
Robert Ethington

F
Richard R. Faltonson
Bert Fellows
Jim Ficke
Roger Fight
Dean Finch
Gary F. Firch

G
Ed Garman
Russell E. Getty
William Duncan Giffen
R. Earl Gingerich
Dean Gjerstad
Richard Goins
John Gordon
Kurt W. Gottschalk
Edwin A. Grau
Robert B. Grau
Phil D. Grimes
Richard P. Grist
Harry L. Grove

H
Steven C. Hagman
Richard B. Hall
Leland F. Hanks
Stephen Harrell
George B. Hartman
Mike Hathaway
John Haygreen
E. F. Heacox
J. W. Helschner
Gene Hertel
Grover R. Hertzberg
Mr. and Mrs. J. P. Herzog
Clark E. Holscher
Clyde C. Hoover
Fred Hopkins
Lowell E. Horton
Robert N. Hoskins
John P. Hough
John W. Hubbard
Roger F. Hunziker
Donald L. Husman

I
Lyle E. Jack
Doug John
H. C. "Chuck" Johnson
Robert C. Johnson
William A. Johnson
Robert E. Jones
EDITOR'S NOTE

Here we are—still together, despite the fact that we've tried to prove we are not Siamese twins! We do make a good team though.

With this issue we've tried to present an optimistic future for forestry. It is important for us, as professionals, to plan for the future to ensure that resources will continue to be available for generations to come. Beyond this worldly view— we at least like to think there are jobs out there for us.

We'd like to take this opportunity to thank all that helped us put this issue together— Kris Slumpf, Lori Zipse, Brent Olson, Sid Munford, those who contributed articles, our patrons, and our advisor- Dr. Jungst.

THANKS!

Sincerely

Darla Forbes
Sharon Houar

1987 Ames Forester co-editors

TABLE OF CONTENTS

Professional Articles
Modifying Forestry Curricula to Fit Future Needs
by Steven Jungst ................................ p. 5
The Making of a Forester: Field Experience for the Nineties
by George Thomson ................................. p. 8
Into the 21st Century: Employment Opportunities for the Professional Forester
by Frederick Hopkins ............................... p. 11
Multipurpose Windbreaks
by Walter T. Bagley ................................ p. 13
Forestry Through the Years
by Bill Farris ......................................... p. 16

Faculty and Staff .................................. p. 18

Forestry Activities and Clubs
Summer Camp ....................................... p. 28
Forestry Camp ....................................... p. 30
FPRS ................................................ p. 31
SAF ................................................ p. 32
Xi Sigma Pi .......................................... p. 32
Christmas Tree Sales ............................. p. 33
VEISHEA ........................................... p. 34
Firesides ........................................... p. 35
Game Banquet ...................................... p. 36
Awards ............................................. p. 37
Summer Around the Country .................... p. 38

Students ............................................ p. 41
Graduating Seniors ................................ p. 44
Graduate Students ................................. p. 50

Staff:
Editors
Sharon Houar
Darla Forbes
Photographer
Lori Zipse
Cover design
by Sid Munford

p.13
p.16
p.28
p.30
p.31
p.32
p.33
p.34
p.35
p.36
p.37
p.38
p.41
p.44
p.50
PROFESSIONAL ARTICLES
MODIFYING FORESTRY CURRICULA TO FIT FUTURE NEEDS

by

Steven E. Jungst

Three things would be made infinitely simpler if I knew exactly what forestry education of the future should involve. The first would be the task of deciding what the curriculum here at ISU should contain. The second would be the writing of this article, and the third would be making a living. I would simply go on the road with the answers since I am sure there are a lot of schools of forestry around the country that would pay dearly for information from an all-knowing forestry curriculum designer. The painful truth is, however, that I don't know exactly what a forestry education of the future should involve. Curriculum design, like most things in life is couched in probabilities rather than certainties. What follows is not a road map for developing the perfect curriculum to meet future needs, but rather a checklist of some things that must be considered along the way.

Although I don't know the first thing about repairing car engines, I have the feeling it would be much easier to design a curriculum to train mechanics than it is to design a curriculum for foresters. There seem to me to be three major differences in make up of the respective curricula. First, it is fairly easy to decide what a mechanic needs to know to repair car engines, and regardless of where that person may choose to work after they have completed their education, their expertise requirements are the same. Contrast that with any forestry student you wish, who may go to work for any one of a number of agencies in countless locations around the United States or in foreign countries. Some of the basics of what that person needs to know are the same regardless of where he or she may decide to work, but the particulars can be staggeringly different. Second, trainers of car mechanics can get some pretty sound information from designers about the kind of car engines that will be coming out in the next year or two, and curricula can be adjusted accordingly. Changes in forestry, while they don't occur as frequently as changes in car engines, are more difficult to anticipate accurately. Third, it seems to be accepted practice for mechanics to attend short courses to catch up on new developments. We have been doing this to some extent in forestry, but not as well as we should be.

Now lets complicate matters a little more. Those of you who have been involved in Forestry Service planning have at least heard about linear programming, even though you may not have gotten directly involved. Simply stated, the process involves trying to maximize a set of benefits without violating a number of constraints. Curriculum planning in forestry is a lot like that. Our goal, as stated in the departmental goals and objectives, is to "provide quality undergraduate education". I suppose all forestry schools have a similar goal, since I can't imagine any reason why a school would set out to provide a substandard education. One might think of quality undergraduate education as the benefit which we are trying to maximize. Now for the constraints. At ISU, we must do that with 135 semester credits. The Ag. College says that at least 11.5 of those hours must be in communications, 13 must be in mathematics and physical sciences, 6 must be in biological sciences, 6 in social sciences, and 6 in humanities. Now suppose we want to maintain our accredited status with the Society of American Foresters (I think it would be a major blunder for us to lose our accreditation). The accreditation standards say we must have course work in communications, science and mathematics, social sciences and humanities,
As society changes, the needs of society change, and that sometimes impacts on forestry. Over the years, many "hot new areas" in forestry have come into vogue, and few have remained, while many have disappeared again. The current areas in the forefront seem to be urban forestry and international forestry, and, I suspect, they are two that will be with us for a long time. Large forestry departments in good economic times can react rapidly and substantially to such new areas by redirecting resources within the department, or by hiring new faculty members. For small departments operating in difficult economic times, it is considerably more difficult to react either rapidly or substantially since we have no faculty members that can be called on to redirect major portions of their time, nor is it likely that we will be able to hire new faculty members unless vacancies occur in the existing faculty. Consequently, about the best we can hope for is that we might add a course in the new area, and if it is still in prominence when and if a vacancy occurs, hire a new faculty member to work in that area.

None of what has been said so far prevents a forestry department such as the one at ISU from making changes and offering students an excellent opportunity for an up-to-date education. It simply means that changes need to be well thought out so we are certain that we make the best use of the resources available to us, something that sounds a lot like what forestry is all about in the first place.

It is doubtful that we can accurately predict what the needs of entry level students will be 30, 20, or even 10 years from now, but we must continue to try, and adapt as rapidly as possible to changes that occur. Since we can't anticipate needs very far into the future, and prepare all students for all possible jobs they might hold during their career, there do seem to be three things which we must try diligently to achieve when ever we modify our curriculum. First, we must incorporate coursework and teaching methods into the curriculum which strengthen students' abilities to think for themselves. That's a goal that is easy to talk about, easy to agree on, and very difficult to achieve. Somehow, regardless of what we teach, we must insure that students know the material, can use their own powers of reason to see applications for the material, and have the confidence to apply their knowledge to the solution of new problems. Second, we must teach students how to learn on their own. It's not all that difficult to learn when an instructor decides what is important, sorts through the most current information on the subject, organizes it, and presents it to the student. But what happens when the instructor is no longer around to do that for the student? If, in the process of getting a college education, the student has learned how to use his or her own resources to sort through new information, digest it, and come up with new solutions, that person will stand a much better chance on the job than someone who does not posess that skill. Finally, we must somehow instill in each student, the desire to continue to learn. A college education should never be thought of as the end of the learning process that started at childhood, but
rather as the beginning of what should be a lifetime of seeking out new skills and finding new answers.

I would be selling my profession short if I left you thinking that it isn't important to try to provide the most up-to-date information on forestry to aspiring foresters. It is vitally important that we try to achieve the best mix possible of communications, ethics, mathematics, forest biology, measurements, management skills and all the other things that make a well rounded forester. We must never lose sight of the fact, however, that regardless of how good the college education is, if a student can't think independently, can't learn independently, and doesn't possess the desire to continue to learn for a lifetime, within a few short years after graduation, that student will be hopelessly ill informed and will undoubtedly be passed by.

There will certainly be differences in the forestry education of the future, just as the current forestry education is different than that offered 20 years ago. For the most part, that difference will not come about as the result of one or two major overhauls of the curriculum. It will come about through constant fine tuning of the curriculum to insure that those foresters who graduate 20 years from now will be as well prepared to cope with forestry in the future as today's graduates are to cope with forestry of today.
Foresters, when I was in college, were inclined to talk about 1980 as the future, but when I started teaching the magic year had become 2000. I am now startled to discover that the year 2030 is the year of destiny. I suppose long range planners such as Foresters are lucky in that almost no one involved in futurist activity is around to be embarrassed when some cynic realizes that the prediction fell flat. Perhaps my age will protect me as I set out to consider how the summer job of 1997 will differ from the Ag. 104 activities of 1987.

If I really thought that the only difference in the "apprentice-type" summer job would be in the type of beer can one picked up in campgrounds or that Stage II inventory of genetically improved trees was going to be different than what it is now I don't believe that I would bother making predictions. But there will continue to be changes in summer work. We lost the summer jobs on look-out towers (one of the truly great experiences of the newly-married) because of aerial surveillance and vastly improved road access. We lost brush piling and tree pruning when new concepts of economics and silviculture raised questions of the practicality of old practices. Scaling jobs disappeared as the rising price of logs made green-horn mistakes too painful. The Forest Experiment Station jobs simply disappeared under the misguided pressure of diminished funding for any effort that couldn't return immediate dollar gain.

Yes, excellent career training opportunities have disappeared in my own lifetime and the loss is sorely felt. But then polio and tuberculosis disappeared in that same lifetime, too, just as did the slide-rule and citronella. There is no need to fear change in a society as vibrant as ours.

Advancing technologies and changing demands on our forests will certainly affect our profession which, in turn, will affect our curriculum, our employment, and the nature of the experience gained from the seasonal job. Sensible prognosticators will be reluctant to predict that kind of summer work that a forestry student can expect. Who in his or her right mind would have predicted the variable-plot prism, 3-P sampling, the programmable hand-held calculator, the radio collar, the digitized map, the 3-D simulation, the computer-connected data recorders and that host of developments in areas that even now are alien to me?

Perhaps the only truly safe ground from which to launch prediction lies in the belief held by most that practical experience early in one's career is important because it broadens one's horizons, provides the neophyte with a professional view, orients one's self to the realization that a profession exists outside of books, teachers and classrooms, and puts to rest the fear that there is not life after college.

A second belief, possibly less sound than the first, is that practical experience will become even more important than it has been in the past. The student can readily agree with this statement on financial grounds
because the apparently endless increase in the cost of going to college demands more dollar outlay than one's family can readily afford. The forester-educator and the employer of foresters, however, might see more to the "experience is good" assumption than just the defraying of the cost of school because the new employee makes the best impression when he or she can exhibit practical skills. But students now have less opportunity to participate at home in those "dirt-oriented" activities common to forestry and farming. It is simply less likely that the forestry student of 1987 will have worked with tractors, trucks, chain saws, sharp tools, livestock, fences, soil, water, stinging insects and non-fun sweat because the increasingly urban, father-employed-away-from-home (and probably mother) life style of the pre-collegiate days precludes these experiences.

Although there is no reason to expect that forestry graduates will only work on horse districts or will pull boards from the green chain and thus need "farmer/blue collar" skills, there is something to ponder in Leopold's comment that people appear to have forgotten where breakfast comes from. Resource managers, particularly at a time of great dissension as to which use of our resource is the most important, need to be aware as never before of the gritty side of multiple use.

We come readily to the conclusion that we now live in a society more urban than the one into which forestry was born. It is therefore appropriate to say that foresters should have the chance to become more urbane in order to address the concerns of the city dweller who feels that the amenities of the forest are continually being endangered by pocket practicality. The once contemptuous disregard of "dickey-bird watchers" by public and private foresters alike has now been matched by the equally contemptuous disdain of that highly vociferous and reasonably literate public whose personal income seems not even remotely related to the cutting and marketing of trees, the grazing of cattle, the shooting of elk, the impounding of water and the mining of mineral.

Obviously the forester in college can't get exposure to much more than a tiny portion of the problems, attitudes and customs of his or her future profession so it is probably more realistic to discuss ways of improving the experience than to predict what the experience may be. The trend in public service, unless Congress and the Presidency make another of the pendulum-like swings that characterize political motivation, is toward lessened employment with emphasis on hiring fewer, but better prepared, people. Such a trend can scarcely be criticized so long as the truly qualified are retained rather than those elements of voting blocs that are currently "popular". None-the-less, the emphasis on getting more from fewer should bring attention to better grades, advanced degrees and to quality work experience. If the European concept is a realistic fore-runner to what will be done in the United States we may see an increase in experience requirements such that one could have to have a year long practicum in another country before graduation or that one may have to have had two years of career work before being admitted to a forestry school. In other countries there may be a two-year military committment before going to college. Any of these already-in-place requirements tend to make a single summer of work, as now required, seem insignificant.

Supposing, though, that the United States forester does not have to face such stringent requirements for an "apprenticeship". Would we not seek an experience that was as productive as possible? My own hypothesis is that there have been, are, and will continue to be, really excellent Ag. 104 jobs available. To my mind the only condition presently missing from summer work is that of the employer exerting the effort to provide an experience by which the student will either be improved as a future employee or will become a sympathetic and knowledgeable supporter of the agency or company providing the experience. Either of these conditions are much to be desired for there is no surer end to a profession than the continued employment of the disinterested or incompetent on the one hand or, on the other, trying to progress to profitable and productive ends when surrounded by an ignorant or unfriendly populace.

How then to improve the work experience in the future? Past procedures of proven effectiveness need merely be reestablished. Unfortunately, procedures that were commonplace for the quarter century after 1950 have fallen into disrepair or, by imagined or real political pressures, have been demolished. Here are listed six recommendations for the future that worked well in the past in optimizing the benefit to
students from a summer's employment:
- Return personnel officers to their former level of authority so that hiring decisions can be made at the agency or company level where the work takes place.
- Let personnel officers work directly with the forestry faculty member assigned to placement so that those who hire can learn directly from those who best know the interests and competencies of each student.
- Assign interested employees to the task of providing a rounded, professionally stimulating and result-producing summer of work. The exposure of the summer student or disenchanted perennial seasonals devoid of hope for themselves is as debilitating an experience to the young professional as one could invent.
- Demand and recognize productive, full-time effort from the summer student. Provide correction, evaluation and a private critique that becomes a matter of college and employer record.
- Compensate fairly by budgeting the necessary salaries for the training officer and the wages for the summer student. Volunteerism is a notable trait and may well utilize the talents and selflessness of the non-professional but without the incentive of wage and the knowledge that work effort is recorded the day after day devotion to labor by the career oriented young professional can easily be abrogated.
- Select professionally challenging forestry training tasks for the improvement of the young forester. Time after time we find students returning to campus from jobs where the rest of an inventory crew, for example, was made up of the unprepared and the undedicated who had no education, or plans to continue in, forestry. If technical work is to be done assign it to those who know the rudiments and can improve from the practice.

If the foregoing old and established successful procedures were to be reinstated there would be fewer autumnal bull sessions devoted to “From what I saw this summer I sure don’t want to work for ________”.

There is one remaining improvement that has not been much used by Forestry Schools. As long as the summer experience is required to improve the education of the student there should be another investment made by the university granting the degree. It is probably not enough merely to make job possibilities known to students. The task of on-campus education should be carried to the field. This does not mean faculty supervision of the student worker but might well mean funding of one or two faculty members to visit each student on location to discuss the nature of the summer experience and to carry on non-confrontational discussions with the students's training officer to find how the student is doing and to discuss ways of improving the student or the job. Engineering schools have done a good deal of this and, very likely, some forestry schools have, as well.

And that is it—summer training carried forward on the wave of the future. Look not for what is, but what should be.
INTO THE 21st CENTURY:
Employment Opportunities for the Professional Forester
by
Frederick S. Hopkins

My target for these comments is neither forestry students nor alumni, but rather young people considering the forestry profession as well as parents, teachers and others who might provide counsel as career choices are considered. I am addressing students in secondary school who contemplate entering a university level professional forestry program between now and the end of the next decade, the year 2000. Thus, I am thinking of men and women who will look back on their own professional involvement from the 2040's. In a very real sense, this note must be a commentary on the future of forestry itself.

A basis for choice.

Without undue risk, I believe I can say that the great majority of people who now identify themselves as foresters were motivated initially by the appeal of the outdoors, of natural environments. We derived great pleasure from hiking, camping, hunting, fishing and other activities in which we took part in wide-open spaces. Motivation, for many, also included a strong alturistic component, a desire to save, to conserve, to use a dwindling resource more affectively.

The blend of these elements varies from one individual to another, and while they are important they do not assure success as a professional forester. If personal enjoyment of the forest environment is one's primary objective, then perhaps one should be a very successful ball player, stock broker, surgeon or contractor.

There are several conditions and circumstances that can be identified as essential to opportunities for professional careers in forestry:

1. People want or need things and services derived from the forest resource or conditions associated with the forest resource.
2. People are willing to accept the real cost of making forest benefits available.
3. There is a forest resource. The science, technology and institutions are available to enhance the flow of benefits derived from the forest resource.
4. There are people competent in the science, technology and institutions of forestry, people who can help to generate the product, services and conditions which others desire of the forest resource. These people are foresters.

What will people want?
The past four decades have seen a tremendous expansion in the product and use of the forest resource. From earlier emphasis on timber, watershed conditions and forage with a relatively low intensity of management, recent developments have added recreation, fish and game, minerals and aesthetics.

Conflict has increased among these groups who use different aspects of the forest resource. Each group has become more vocal in protecting and promoting its special interest and in criticizing management practices. In response to such criticism, new laws have been passed to change and modify such practices. So the effective input of people and the intensity of forest management have both increased substantially. This trend will continue. Looking ahead over the next four or five decades, anticipation of more people with greater purchasing power is generally accepted. Estimates suggest that use of the forest resource will more than double over the next four or five decades.
Will people accept the cost?

As with most things, there are costs associated with providing the kinds, quantities, and qualities of goods and services people desire of the forest resource. For some benefits, the costs are recognized but this is not the case for other benefits derived of the resource.

In part, this is because forestry, and wildland management more broadly, are in an extended period of transition from frontier to managed resource; from extraction to cultivation. Over past decades many of the forest benefits we have enjoyed have been available at little or no cost. For commodities, we have borne the cost of harvest and conversion, but have not fully recognized the cost of producing the substance from which such products are derived.

We must recognize the correlation between the cost of providing forest benefits and the flow of benefits. We must commit ourselves to accepting this cost, or see such benefits diminish drastically.

A critical cost of forest resource management and use is the cost of competent personnel at all levels. Capable people are the key to assuring that commodities, services and conditions that people want will be available at the rates desired in future decades. The forestry profession exists and foresters earn a livelihood because they are best qualified to manage and utilize the forest resource to provide what people want of it.

The resource.

Roughly one third of the land area of the United States is forested and another third is in range. However, the myriad quantitative measures available are totally inadequate to describe the forest resource. The critical attribute is its capacity to meet the growing human demands which will be placed on it over the decades to come. Such capacity will depend not only upon the area and physical characteristics of the forest, but also on the continuing advance of forestry-related science and technology, the capability of policy-makers and managers, and on the perceptions and sensitivities of users.

Opportunities for professional careers in forest resource management and utilization will not be constrained by physical limits or diminution of the resource. Quite the contrary! Growing demands relative to a diminishing land resource base will expand opportunities for foresters.

Foresters

The challenge which forestry faces is that of raising the productivity of the entire forest resource system. The prospect for successful professional careers in forestry is, to a large degree, contingent upon the capacity of foresters to meet this challenge effectively.

Forestry has always been an integrated field, drawing heavily from many different disciplines. As a consequence, foresters have had a rather broad academic base, though sometimes at the expense of depth in pertinent areas. As we move into the 21st century, foresters will be better equipped to perform the varied roles they are called upon to play.

The following are some of the trends which can be anticipated:
1. A greater degree of specialization within forestry.
2. With increased specialization, enhanced skill in functioning as a member of a team.
3. A strengthened ecological basis for planning.
4. More highly developed analytical skills.
5. More effective public relations, including conflict resolution.
6. Greater sensitivity to the full spectrum of values inherent in the forest resource.

Others of equal or greater significance may be added. It seems clear, however, that the capabilities of foresters will change appreciably in very positive ways.

Over the whole spectrum of benefits derived from the forest land base, much more will be desired over the decades to come. Individually, and as a society, we will be willing to assume the real costs of assuring the availability of desired outputs and conditions. The competence of foresters in raising the productivity of the forest resource will be advanced markedly.

Together, these prospects suggest challenging career opportunities for professional foresters. The greatest contributions may well be made in the decades ahead.
Crop diversification is a means of stabilizing the economy of farm communities by increasing real income for farmers and improving availability of affordable nutritious food and other products. Harvest of wood and fruit from trees and shrubs adds to the list of alternatives for our traditional agronomic and horticultural crops. If these woody plantings are designed to lower wind speed over significant areas their value is enhanced due to reduced soil erosion, more uniform distribution of snow, and less energy use, especially by irrigated crops, animals and habitations. The microclimate of sheltered areas is changed which often increases plant growth and, consequently, harvest yields. The comfort and consequent well-being of man and animals is enhanced. Of course, wind barriers can be constructed of inanimate materials but living plants are less expensive to establish and maintain except on inhospitable sites. Trees and shrubs are generally favored for windbreaks rather than herbaceous plants because of their permanence and greater height which provide a larger area of protection year-around.

Potential for fruit and wood production was recognized by administrators of the Prairie States Forestry Project of the 1930's. The basic 10-row belts were designed to allow thinning for firewood and posts. Some species were fruit bearing. The advent of rural electrification and plentiful fossil fuels in the late 1940's reduced the need for firewood. Preservative treatment of pine posts was inexpensive. Consequently, a weak market for products from these shelterbelts provided little income to pay for thinning and other cultural practices. The result was reduced vigor, stand deterioration and reduced quality and quantity of wood and fruit production. Since the demise of the shelterbelt project in 1942, field windbreaks in the U.S. have been designed for protection only. Since no provision is made for harvest, these plantings usually do not receive care. They become unkempt and disintegrate until they must be removed with little or no salvage value.

New Zealand has discovered that high value wood products can be harvested from well-managed dual purpose shelterbelts. Forestry and farming are closely allied in several continental European countries. In the tropics there is a growing awareness that agroforestry, the practice of growing woody plants in harmony with traditional farm crops, is an effective long-term method of maintaining soil productivity. A marriage of these two industries in the United States could be an event of great significance for resource conservation and economic stability in agriculture. One method of achieving this goal is planting trees as multipurpose windbreaks.

We can reduce much of our energy expenditures by conserving soil, water and other resources. We can insure our future energy supply by prompt development of renewable sources as replacements for fossil fuels. Plants in their roles as solar energy collectors and guardians of the soil will be relied upon in the future to provide ever increasing quantities of food and fiber on a shrinking land base. Culture of perennials including woody plants can be increased to provide net gains in energy production. Significant protection for our land can be achieved by planting windbreaks on 5 to 10 percent of our arable land. A source of energy will become available in regions not blessed with plentiful natural forests. We will
Two Story Agriculture

Another agroforestry system which also provides shelter for animals and plants while producing a harvestable crop - fruit, foliage or wood - is aptly termed two story agriculture. J. Russell Smith was an early proponent of planting agricultural land to trees and using the fruits and leaves to provide food for livestock. He believed that trees growing in conjunction with low growing plants offered possibilities for greater crop production per unit area. Success of two story agroforestry is based on the premise that additional layers of leaves will increase total photosynthetic production per unit of land. Upper story leaves must allow an adequate amount of light for normal growth to reach the low growing plants beneath the tree canopy. Tree roots tap nutrients at soil levels below the reach of most annual plants. Leaf fall subsequently enriches the topsoil by recycling these elements. The two story system will reduce wind speed significantly within the planting if trees spaced close enough for crown closure. Exterior rows of closely spaced shrubs and/or evergreen species can increase shelter efficiency.

Honeylocust allows significant passage of sunlight to understory plants permitting many species to flourish in its shade if water isn’t limiting. This tree is adapted to a wide range of soil and climatic conditions. The palatable fruit pod is nutritious animal food, but the highly digestible protein in the hard seed is not available to some animals because they can’t crack the seed coat. Thus, seed often passes through the digestive tract scarified for quick germination and is scattered widely usually producing trees that are armed with sharp thorns because they and their progeny are those most capable of surviving browsing. This problem can be averted by planting thornless cultivars. Trees have also been selected that produce pods of higher than normal sugar content.

Black walnut has been grown in various multi-cropping arrangements with harvest of fruit and wood as an objective. Non-woody plants are grown as an understory for immediate returns. Oaks lend themselves to this type of cropping. Mesquite produces nutritious pods and thrives in mild climates of arid and

obtain excellent growth by planting trees on fertile sites with adequate water provided by irrigation, if necessary, thereby allowing improved genotypes resulting from our breeding programs to attain optimum productivity.

In addition to harvesting fuelwood from multipurpose plantations, chips can be produced for a variety of purposes including livestock bedding, compost and mulch. Paper mills, particle board factories and facilities for conversion to organic chemicals can be established where adequate supplies can be guaranteed. Wood of osage orange and black locust can be utilized for fence posts or for other purposes requiring a high degree of decay resistance. Good quality structural lumber can be produced from cottonwood trees 20 to 35 cm (8 to 14 inches) in diameter using the Saw-Dry-Rip process developed by the U.S. Forest Products Laboratory. In addition to conventional orchard species, trees can be planted that produce usable fruit as well as wood. Walnuts, hickories, oaks, honeylocust, mesquite and persimmon are in this category.

Culture and Structure

Design and composition of multipurpose windbreaks will be determined by soil, water, climate, purpose of shelter, and potential market for products. Density, height, continuity and uniformity will determine the extent and effectiveness of shelter and spacing between windbreaks. Length of harvest rotation will affect height. Pruning and method of obtaining reproduction will affect density. Various combinations of evergreen and deciduous trees and shrubs and of fast and slow growing species can be planted to obtain the desired protection and products. Windbreaks can be composed of hardwood species which can be regenerated by coppice to reduce cost of establishment and maximize growth if biomass production is an objective. Deciduous trees of the temperate zone that will produce stump sprouts readily when harvested at a young age include poplars and cottonwoods, maples, elms, ashes, oaks, honeylocust, black locust, sycamore, osage orange, and alders.

Two Story Agriculture

Another agroforestry system which also provides shelter for animals and plants while producing a harvestable crop - fruit, foliage or wood - is aptly termed two story agriculture. J. Russell Smith was an early proponent of planting agricultural land to trees and using the fruits and leaves to provide food for livestock. He believed that trees growing in conjunction with low growing plants offered possibilities for greater crop production per unit area. Success of two story agroforestry is based on the premise that additional layers of leaves will increase total photosynthetic production per unit of land. Upper story leaves must allow an adequate amount of light for normal growth to reach the low growing plants beneath the tree canopy. Tree roots tap nutrients at soil levels below the reach of most annual plants. Leaf fall subsequently enriches the topsoil by recycling these elements. The two story system will reduce wind speed significantly within the planting if trees spaced close enough for crown closure. Exterior rows of closely spaced shrubs and/or evergreen species can increase shelter efficiency.

Honeylocust allows significant passage of sunlight to understory plants permitting many species to flourish in its shade if water isn’t limiting. This tree is adapted to a wide range of soil and climatic conditions. The palatable fruit pod is nutritious animal food, but the highly digestible protein in the hard seed is not available to some animals because they can’t crack the seed coat. Thus, seed often passes through the digestive tract scarified for quick germination and is scattered widely usually producing trees that are armed with sharp thorns because they and their progeny are those most capable of surviving browsing. This problem can be averted by planting thornless cultivars. Trees have also been selected that produce pods of higher than normal sugar content.

Black walnut has been grown in various multi-cropping arrangements with harvest of fruit and wood as an objective. Non-woody plants are grown as an understory for immediate returns. Oaks lend themselves to this type of cropping. Mesquite produces nutritious pods and thrives in mild climates of arid and
semi-arid regions. Carob, which produces fruit beneficial to man, has been grown for hundreds of years in the Mediterranean Region in conjunction with other crops. It can be grown in subtropical areas on this continent.

Hedgerow inter-cropping or alley cropping of the tropics is a system in which annual crops are planted between closely spaced woody legumes. The twigs and leaves of these trees are harvested and scattered over the soil as a green manure crop.

Needs for Research and Implementation
Since windbreak benefits to crops are not universally known by farmers and agricultural scientists, research and demonstrations by interdisciplinary teams of forestry and agricultural specialists will be necessary to obtain and disseminate information about these benefits and the culture, harvest and utilization of trees and their products. Research projects would identify combinations of sheltering woody plants and conventional agronomic and horticultural crops which produce maximum economic returns with a minimum of energy expenditure. Publicly financed programs to provide incentives for establishment of multi-purpose plantations and processing or manufacturing facilities will assist implementation.

Summary
By taking full advantage of the aesthetic, protective and energy saving benefits of multipurpose windbreaks, we will improve quality of environment while reaping a bountiful supply of energy of great benefit. Innovative associations of woody and conventional agricultural crop plants will maintain or increase soil productivity and water quality by reducing erosion and pollution. Development of new industries will be stimulated.

For Further Reading
The forestry section of the Department of Natural Resources had its beginning in 1935 with legislation directing the employment of "a professionally trained state forester." The first state forester was G. B. McDonald, professor of forestry of Iowa State College. White Pine Hollow was acquired in 1936 as a state forest, and much of the original state forest acreage was acquired during the 1930's. A forest nursery was established at Ames in the mid 1930's by the Civilian Conservation Corps.

M. A. Ellerhoff became the first full-time state forester during the 1940's, having formerly worked for the Soil Conservation Service and the Timber War Production Board. During the 1947-48 biennium, the Conservation Commission (now the Department of Natural Resources) cooperated with the U.S. Forest Service in the operation of three farm forestry projects in the state. These projects were conducted entirely with funds and personnel of the U.S. Forest Service. However, starting on October 1, 1947, the two farm forestry projects, at Perry and Iowa City, came under the Conservation Commission with reimbursements from the U.S. Forest Service for one-half the total cost.

With passage of the Cooperative Forest Management Act of 1950, the forestry program rapidly expanded. By the end of the decade, farm foresters were located at McGregor, Anamosa, Muscatine, Fairfield, Chariton and Adel. The Soil Bank Program during this period resulted in an expansion of the State Forest Nursery and hundreds of acres planted to trees. The sawmill at the Yellow River State Forest was installed in 1950. In 1959, 1,205 acres of the Yellow River State Forest was transferred to the National Park Service to establish Effigy Mounds National Monument.

During the 1960's, the farm forestry program continued to expand with offices established at LeMars, Charles City and Red Oak. The Little Sioux Flood Prevention Program and increased activity in PL 566 watersheds was the impetus behind this expansion. A full-time fire prevention forester, Milo "Smokey" Peterson, was employed to promote a forest fire prevention program. Federal lands, part of the Hawkeye National Forest, were acquired by the state and added to the state forest. An inmate labor program on the Yellow River and Shimek forests was started in cooperations. The forestry section, under contract to the Corps of Engineers, developed and implemented a vegetative management plan at Rathbun Reservoir.

During the 1970's, the protection program was expanded to include insect and disease as well as fire protection. A full-time utilization and marketing specialist was added to provide technical assistance to the loggers and wood-using industry in the state. Two more farm forestry districts were established at Humboldt and Creston. With these additions, all landowners in the state had ready access to technical assistance. Two regional forester positions were also added to supervise and administer the growing programs. Detailed forest management plans were developed on the three major state forests in 1972. A new office and processing facility was built at the State Forest Nursery, expanding that operation and improving the stock handling capabilities. The Rural Community Fire Protection Program, which provides federal funds to local fire departments on a matching basis, was started.
In addition, we say the Forestry Incentives Cost-Share Program, the Urban Forestry Program and the Tree City, USA recognition program initiated.

In the 1980's, the forest section began a forest management program on wildlife areas and state parks. A Forest Resources Plan for Iowa was completed and approved by the commission in 1985. Legislation requiring all timber buyers in the state to be bonded was enacted with the forestry section responsible for administration. The nursery was expanded by the addition of a new growing area at the Montrose Prison Farm in cooperation with the Department of Corrections.

Bill Farris is the assistant state forester located in Des Moines. He holds a B.S. degree in forestry from ISU. He has been with the department since 1961.

We would like to thank the Iowa Department of Natural Resources for allowing us to print this article that was published in the February issue of the Iowa Conservationist.
FACULTY
AND
STAFF
STEVEN JUNGST  
Department Chairman

Dr. Jungst is a loyal Iowa Stater. He earned his BS in 1969 in Forest Management; his Masters in 1976 in Forest Biometry; and his PhD in 1978 in Forest Biometry at here at ISU. He joined our staff in 1975 and then became department chairman in 1985. Being the head of the department is a full time job keeping the family in order. In his spare time, Dr. Jungst enjoys woodworking, hunting, fishing, computers and golfing.

JOE COLLETTI  
Assistant Professor of Forestry

Dr. Colletti earned his first degree, a BS in Forestry, from Humboldt State University in 1972. He then moved on to the University of Wisconsin in Madison to earn his MS in Forestry in 1974 and his PhD in Forest Economics in 1978. That same year, he came to Iowa State to begin his teaching career. Dr. Colletti's interests in computer simulations extended into his research involving rural land owners. When he isn't teaching, advising students, or hacking away at a computer, Dr. Colletti like to run, play football and softball.

Classes: Forest Economics and Quantitative Methods, Forest Regulation and Operation and For. 570

DAVE COUNTRYMAN  
Professor of Forestry

Dr. Countryman began his forestry education at ISU and, here, received his BS in Forest Management in 1968. He then went to the University of Michigan to get his PhD in Forest Management and Planning and returned to ISU to join the staff in 1975 after working for two years for the Forest Service.

Dr. Countryman is very active on many University committees and is an advisor to students and the Forestry Club. This past summer, he was the summer camp director in Cloquet, MN. Outside the University, his time is spent at home with his family or outdoors hunting and fishing.

Classes: Forest Fire Protection and Management, Forest Case Studies, and summer camp Forest Resource Management
RICH FALTONSON

Greenhouse Manager

A 1977 ISU graduate with a BS in Horticulture, Rich joined the greenhouse staff in 1970. Prior to his research at ISU, he worked for the North Central Forest Experiment Station. Now he is conducting experiments in vegetative propagation and forest tree regeneration in relation to intensive culture. Not only does he do research, but Rich occasionally provides assistance in several forestry classes and labs and writes the newsletter for the Iowa SAF Chapter. Outside of work, he keeps busy with photography, running, cross country skiing, carpentry, and landscape gardening.

RICK HALL

Professor of Forestry

Dr. Hall earned his BS in Forest Management from ISU in 1969 and continued his education at the University of Wisconsin at Madison where he graduated with a PhD in Plant Breeding and Genetics. He started teaching at ISU in 1974. Dr. Hall is continuing his research in genetic improvement of Alnus, Populus, and Acer species for fuel biomass. In addition to his teaching, he enjoys attending ISU sporting events, canoeing, jogging, hiking, playing softball, and fishing. Classes: Introduction to Forestry, Silviculture

ROGER HANNA

After serving as a commissioned officer in the US Navy and working for Georgia Pacific in a corrugated box factory, Roger received a BS in Forest Management in 1969 and in Farm Operations in 1972, both from Iowa State. He is now working on research with Dr. Hall on short rotation intensive culture research. His interests lie in personnel management and working with private landowners.
WOODY HART
Associate Professor of Entomology
Dr. Hart received his BA in Biology at Cornell University in 1959 and his PhD in Entomology at Texas A&M in 1972. Between his Bachelors degree and his Doctorate, he earned his teaching certificate at the University of Northern Iowa and taught junior high and high school in Iowa. A man of many interests, Woody likes to spend his spare time riding motorcycles, collecting guns, reading science fiction, poetry, history, crosscountry skiing and backpacking.
Classes: Forest Pest Management, General Entomology

SANDE McNABB
Professor of Plant Pathology and Forestry
Dr. McNabb received his BS in Botany and Chemistry in 1949 from Brockport State University, New York, his MS in Forestry and Plant Science in 1951 from Yale University; his PhD in Forest Pathology and Plant Physiology in 1954 from Yale University. Then in 1953, Dr. McNabb joined the staff at ISU. Dr. McNabb is very involved with research not only for ISU, but for Iowa, the Forest Service, and other countries. In his free time, Dr. McNabb enjoys working with young people.
Classes: Wood Deterioration and Preservation, PPSW

REINEE HILDEBRANDT
Reinee earned her BS in Forest Recreation in 1980, her MS in Administration in 1982, and is continuing her MS work towards her PhD which she hopes to complete this summer. She is working half time with 4H extension and spends the other part of her time on forest extension. In her extension work, Reinee is involved at various stages in educational programs for youths and adults. Outside the department, her interests include jogging, bicycling, swimming, spending time with her husband and daughter; and if she ever finds time, Reinee would like to learn taxidermy.
Classes: Forest Recreation and Resource Management
TOM HILLSON  
*Lab Technician, Research Assistant*
Tom earned his BS in 1971 and his MS in 1976 in Botany from here, ISU. Tom helps Dr. Schultz and Dr. Hall in a lot of their research projects. He also works with grad students--teaching them the proper technique in using research equipment, lab procedures, and lab safety. In his free time, Tom enjoys growing orchids which he takes to shows and has won many awards.

FREDRICK HOPKINS  
*Professor of Forestry*
Dr. Hopkins earned his BSA in Industrial Forestry in 1946, his BBA in Business Administration in 1947, and his MF in Marketing in 1947 all at the University of Michigan. He then obtained his PhD in Forest Economics at Syracuse. In that same year of 1959, Dr. Hopkins joined the ISU staff. Even though in phase retirement, Dr. Hopkins is advisor to many students and co-ordinator of the permanent employment. When not busy with classes and students, Dr. Hopkins enjoys travelling and international forestry.
Classes: Orientation to Forestry, Forest Resource Policy, Forest Resource Management, Forest Resource Economics and Quantitative Study

MON-LIN KUO  
*Assistant Professor of Forestry*
Dr. Kuo earned his BS in Forestry in 1965 from Chung-Hsing National University in Taiwan; his MS in Wood Science in 1971 from University of Missouri; and his PhD in 1977 in Wood Science and Technology at the University of California at Berkley. Dr. Kuo then joined the ISU staff in 1980. Dr. Kuo along with teaching classes is involved in many research projects- a lot of his research is done with the Southern Forest Experimental Station. When not doing either of these, Dr. Kuo enjoys working with wood, photography, and spending time with his family.
Classes: Chemical Conversion of Wood, Wood Liquid Relations, Physical Properties, Conversion, and Fabrication in Wood
FLOYD G. MANWILLER
Professor of Forestry
An ISU man all the way, Dr. Manwiller graduated from the University in 1961 with a BS in Forest Management and again in 1966 with a PhD in Wood Science and Plant Cytology. From 1966 to 1978 he worked at the Southern Forest Experiment Station in Pineville, LA doing research on wood quality and properties of southern hardwoods and softwoods. More recently, Dr. Manwiller's research involves biomass properties of black oaks. He is also the faculty advisor to the Iowa State Student Chapter of FPRS. When he is not teaching, he enjoys spending time with his family, woodworking, hunting, fishing, and attending ISU athletic events.
Classes: Introduction to Wood Properties and Products, Wood Identification, Wood Composite Products, and For. 500

RICK MEILAN
Research Assistant
Rick Meilan earned his BS in Forest Science in 1983 and his MS in Natural Resources, Forestry Option in 1985, both from Humboldt State in Arcata, CA. Rick is working towards a joint PhD in Botany and Forestry. Rick's major research interests include tree seedling quality, with an emphasis on root generation potential; tree physiology; immunobiology; and plant growth regulation. While at ISU, Rick has been Ranger for Xi Sigma Pi and is President of the Forestry Graduate Student Association. In his spare time, Rick enjoys fishing, backpacking, cross country skiing, and photography.
Classes: Forest Biology (summer camp) and Assists with Silvics

CARL MIZE
Assistant Professor of Forestry
Dr. Mize received his BS in Math and Chemistry in 1969 from Brockport State University, New York; his MS in Forest Ecology in 1973 from Humboldt State; and his PhD in Quantitative Silviculture in 1977 from Syracuse. He also joined the ISU staff in 1977. Dr. Mize helps our in designing and analyzing the research that is done within the department. Aside from doing this and teaching classes, Dr. Mize enjoys running, backpacking, dancing, and sports.
Classes: Forest Resource Inventory and Models, Forest Resource Management, Dynamics of Forest Stands
RICHARD SCHULTZ  
*Professor of Forestry*

Dr. Schultz (Dad) is a dedicated Iowa Stater when it comes to his schooling. He earned his BS in Forest Management in 1965, his MS in Forest Biology in 1968, and his PhD in Forest Biology in 1970. Before joining our forestry family he worked as an Assistant/Associate Professor in Forest Biology and Climatology at Soils University of Georgia. When not busy with classes and research projects, Dad is busy with his family. Other activities Dr. Schultz is involved with are conservation, education, and being very active in his home community of Roland. Classes: Silvics, Forest Hydrology and Influences, Advanced Forest Biology and Silviculture, Forest Planting Stock and Establishment, Tree Growth and Development.

GEORGE W. THOMSON  
*Professor of Forestry*

Dr. Thomson received his BS in Forestry in 1943 and went on to get his MS in Forest Management and Plant Physiology in 1947 and his PhD in Soils and Silviculture in 1956, all at Iowa State. He joined the ISU staff in 1947 and served as department chairman from 1975 to 1985. He is currently in Phase retirement and will be finished teaching regular classes in 1988. Besides teaching, Dr. Thomson is a student advisor, summer job co-ordinator, organizer of the Arts Lottery, and guest speaker for classes, banquets and TV. After graduation from classes, he plans to spend more time enjoying his favorite hobbies including reading, travel, photography, and gardening. Classes: Photogrammetry and Photo Interpretation, Introduction Lab to Forest Practices, and Range Management.

DEAN PRESTEMON  
*Professor of Forestry*

Dr. Prestemon earned his BS in Forestry in 1956 from ISU, his MS in Wood Technology in 1957 from the University of Minnesota, and his PhD in Forestry in 1966 from the University of California-Berkley. Then in 1965, Dr. Prestemon joined the ISU staff. Dr. Prestemon is very involved in forest extension—he helps many people with their problems pertaining to wood. In his spare time, Dr. Prestemon enjoys fishing, woodworking, and spending time with his family. Classes: Forest Biology.
PAUL WRAY
Associate Professor Forestry

Iowa State has been home for Dr. Wray ever since his college career began. He received his BS in 1968 in Forest Management and his PhD in 1974 in Forest Biology all here at ISU. He then joined our staff in 1975. Dr. Wray is involved with forest extension and small woodland management. In his spare time, Dr. Wray enjoys fishing, woodworking and spending time with his family.

SECRETARIES
1 to r: Dawn Rowland, Rose Turner, Kris Slumpf
FORESTRY ACTIVITIES AND CLUBS
SUMMER CAMP
by
David W. Countryman

On June 8, 1986, 17 enthusiastic students (15 male and 2 female) checked in at the Cloquet Forestry Center to begin the 72nd Summer Camp of Iowa State University. The Cloquet Forestry Center is near Cloquet, Minnesota and is operated by the University of Minnesota.

Al Halgren and his staff maintain beautiful facilities that more than adequately provided for our needs. We had the use of classroom and library facilities, dorms for the students, a historic log cabin for the staff, mess hall, and recreation facilities, including basketball, softball, volleyball, billiards (pool to most of you), and table tennis. Those of you from earlier vintage camps, eat your hearts out!

Lest you readers (especially my boss) think all we did was recreate, the camp worked hard and played hard. Coursework kept staff and student busy exploring forestry as it is understood in concept and applied in the field. And we still found time to beat the Cloquet Center softball team.

There were no staff families at camp this year, which is unusual for Iowa State University Forestry Camps. However, the staff living together in the same log house provided the opportunity to coordinate coursework and blend many aspects of forestry into each day of activity at camp. Although we taught four courses (Forest Biology, Wood Utilization, Mensuration, and Multiple Use Operations), many activities were integrated to the point it was hard to tell which day belonged to which class.

Richard Meilan led the students through the intricacies of Lake States forest biology. Rick's enthusiasm for teaching and his empathy for students opened their minds to the detail of dendrology, tree anatomy and function, microclimate, succession, soils, bogs and fens, silviculture, forest pests, wildlife, plant-soil relations, genetics, nursery management and much more. By the end of camp, students could identify "popple" and knew that sloppy technique when taking soil temperatures resulted in broken thermometers.

The wisdom and knowledge of Dean Prestemon opened minds to the world of Wood Science. Much knowledge about wood utilization is necessary for foresters to perform as either forest managers or wood scientists. Processes of converting logs to products were probed on many trips, including a logging demonstration (when the loggers and students finally got to the same place at the same time), stud mill and dry kilns, match factory (FIRE!), hardboard plant, preservation plant, sawmills, waferboard plant, oriented-strand board plant, Blandin Paper Co. and Northwest Paper.

David Countryman enlightened students in the practical work of forest mensuration as they scaled logs, ran a traverse, cruised timber, and completed an inventory. By the end of camp, students were familiar with the tools of the trade, understood mapping procedures, knew the meaning of DBH, knew the length of their pace (roughly), and had learned of rain, mosquitoes and field work.

In Multiple Use Operations the camp staff exposed students to some of the issues involved in forestry and to personnel in a variety of forestry organizations as the class
toured the Cloquet Forestry Center, the Virginia Ranger District of the Superior National Forest, the Minnesota Department of Natural Resources, the land holdings of large and small private landowners, the North Central Forest Experiment Station, the E.P.A. Environmental Research Lab, the Hill Mine and Reclamation Center, and the mines and reclamation projects of the Hibbing Tachonite Company.

At the close of camp, goodbyes were said and people who were strangers a few weeks earlier made plans to continue friendships that may last a lifetime. As Camp Director, it was again gratifying to observe that forestry is a profession that is inspiring to those who like the work.

Left to right: Dave Countryman, Rick Meilan, Dean Prestemon.

Row 1: Jeff Kross; Row 2: Greg Mosigil; Row 3: Paul Johnson, Jeff Riechman, Craig Ray, Damon Lange; Row 4: Lisa Schwien, Wendy Bantz, Matt McCollley, John Poortinga; Row 5: Russell Groves, Eric Dralle, John Klingman, Sid Munford, Kevin Oetken, Joe Dwyer, and Mark Rathman.
During the 1986-'87 school year, Forestry Club members were involved in a number of activities. The annual New Student Welcome, held in early Sept., was again successful in acquainting old and new members of the forestry department.

In October, work began clearing another section of the Club's Christmas Tree plantation. The plantation is an all-year project involving felling trees, cutting firewood, chipping brush and branches, spreading chips, spraying weeds and planting. There should be enough work at the plantation to keep club members busy into late spring.

In December our annual Christmas Tree sale was held in the motorcycle parking lot near the Memorial Union. Members who worked more than 8 hours on sales were given $5.00 towards a meal at Bonanza Steak House on March 1. Members in attendance filled up on the salad bar and were barely able to finish their meals. Miraculously, though, they found room for the soft-serve ice cream before waddling out the door.

Throughout the school year, forestry clubbers have enjoyed firesides hosted by faculty members, programs given by Dr. Carl Mize on his tour of duty in Mexico and Bill Haywood and John Stacey on Life after Graduation.

Members are also looking forward to participating in VEISHEA and the upcoming Wild Game Banquet to be held March 28.
Throughout the 1986-1987 academic year, the ISU Student Chapter of the Forest Products Research Society (FPRS) has been involved in many learning experiences. In its fifth year, the chapter participated in various activities such as club meetings, a pizza party, a visit to the FPRS headquarters and Forest Products Laboratory, a sawmill tour. This year was also very successful in terms of fundraising and increased membership.

Nine of the FPRS students, along with Dr. Floyd Manwiller and Dr. Mon-Lin Kuo loaded themselves into a university van over the November 2, 1986 weekend and headed for the Forest Products Lab in Madison, Wisconsin. The group visited both the Forest Products Lab facilities and the FPRS headquarters. Among the things they observed at the FPL Lab were mechanical properties testing, facilities for testing full size frame buildings, paper manufacturing, and an international wood collection for wood identification. Students also had an opportunity to discuss the future of the Forest Products Research Society and the wood industry with Executive Vice President Art Brauner.

A tour of the Buttermore sawmill was experienced on February 26, 1987 to familiarize students with the production process of a hardwood sawmill. Students became associated with Buttermore’s dry kiln operations and overall storage facilities. Finally, the tour and discussions gave students the opportunity to actually discover what the sawmill business environment is composed of, and what a business of this sort bases its decisions on.

The ISU Student Chapter has just completed a very successful fundraising project of selling limited edition, solid pewter, “Iowa State Forestry” belt buckles. These proved to be a well-sought-after item by alumni and ISU Forestry supporters. Belt buckles are now available from the ISU FPRS Chapter, 251 Bessy Hall, ISU, Ames, Iowa 50011. The chapter hopes to acquire adequate funds from the selling of belt buckles to finance various group activities.

New officers for the 1986-1987 academic year are: Greg Tarnow, Chairperson; Lori Zipse, Vice-Chairperson; and Steve Paulson, Secretary-Treasurer.
SOCIETY OF AMERICAN FORESTERS
by Marty Wimmer

After getting off to a slow start during the fall semester, the student chapter is rolling full steam ahead. On February 17, Bill Haywood from the Blackhawk County Conservation Board, and John Stacey from Bacon Veneer talked about “Life After Graduation.” Their program was very interesting and they assured us that the jobs are out there, provided we are willing to do a little work to find them. This program was co-sponsored by SAF, Forestry Club, and FPRS. On March 17, Roger Bruene from the Ag. Placement Office talked to us about the do’s and don’ts of resume writing and interviewing. Then on March 25, following Mr. Bruene’s tips, we staged mock-interviews with Robert Pinneke, Director of the Story County Conservation Board. Students who interviewed were required to write a cover letter and design a resume. It was a good experience for all who participated.

The national office provided an incentive for student participation this year, by offering some fine books to new members. From January 1 to March 31, new members received their choice of either Forest Cover Types or Terminology of Forest Science Technology Practice and Products. Overall, it’s been a very prosperous year for the student chapter. I’d like to thank the officers and everyone else who helped to make this past year a successful one. 1986-87 officers: Chairman, Marty Wimmer; Chairman-Elect, Paul Tauke; Sec./Treas., Keith Mousel; Forestry Club Rep., Chris Jensen; Undergrad. Rep., Rob Hilken; Faculty Advisor, Dr. Richard Schultz.

XI SIGMA PI: NOT JUST ANOTHER HONOR SOCIETY
by Richard Meilan, Forester
Alpha Gamma Chapter

Based on conversations with several of my colleagues, I believe there is some confusion regarding the role of Xi Sigma Pi as a campus organization. As a result, I willingly accepted an invitation to write this article in order to explain our purpose and to clear up some misconceptions.

Xi Sigma Pi is a national honor society that recognizes achievement in the field of forestry. To be nominated for election to membership, an undergraduate must be a junior or senior who has completed no less than 65 semester hours of credit, with a grade point average that ranks within the upper 25% of the class. Graduate students must have completed at least 10 semester hours in forestry courses with an outstanding academic record. In addition to academic standards, nominees must be of the high moral character. Attributes such as honesty, industry, willingness to cooperate, friendliness, dependability, and leadership weigh heavily in the selection process.

Upon receiving affirmative votes from three-fourths of the voting members, the candidates must complete a community service project prior to formal acceptance. This year, three undergraduates and three graduate students were inducted into the Alpha Gamma Chapter. Four of this year’s initiates, Craig Woodley, Sharon Houar, Lisa Schwien and Tom Hasvold performed trail maintenance and raked leaves for the Campfire Organization’s day camp north of Ames. The other two initiates, Kathy Flanigan and Risper Nyong’o, had conflicting commitments on the date scheduled for this project, so they will work as volunteers for the Iowa Special Olympics at the end of May.

This year’s initiates were honored at our annual initiation banquet held in the Cardinal Room of the Memorial Union. Our guest speaker was Gerald F. Schnepf, an I.S.U. Forestry alumnus (class of 1962) and Xi Sigma Pi member. He described the overall mission of the Iowa Natural Heritage Foundation and some of the projects he has been involved with as its director.

Besides the community service projects, a variety of other activities are carried out,
depending on the motivation level of the membership. For example, we supply judges for the Forestry Consortium Awards and our dues provide monetary support for the annual Hawkeye State Science Fair. Our dues also contribute toward the Keith Bauer Award. This presentation is made annually at the Game Banquet to recognize an outstanding Forestry department sophomore, in memory of a former graduate student who was killed tragically in an automobile accident. The Forester (chapter president) also serves on a committee to select the recipient of the Xi Sigma Pi-G. B. MacDonald Memorial Senior Leadership Award for Advanced Studies. This award is funded by the interest from a generous, but anonymous, gift made by a faculty member in the Forestry department at I.S.U. Finally, members of the Executive Council help the Department’s nominee for the national Xi Sigma Pi scholarship with the necessary application materials.

So, as you can see, we are more than something to list on a resume. As I alluded to above, the larger the membership, the more active the chapter. Therefore, I strongly urge those of you who are eligible to accept an invitation to join our honor society.

**CHRISTMAS TREE SALES**

by Chris Jensen and Charlene Berry

Christmas tree sales for 1986 started on December 1 and ran through December 15. A unique blend of participants involved in sales this year made the two week exercise quite interesting. The marketing team consisted of several juniors and seniors led by freshman Bryce Duncan. This creative team, between doing the usual tasks of unloading, unwrapping trees and clearing the needles around the area, started several unusual recreational experiences. These were in the form of tie rating, designing sailboats for Lake Laverne, and for all you men out there-- leg rating. This particular exercise was facilitated by the unseasonably warm weather that occurred during the sales (I couldn’t believe it, someone up there near the Pearly Gates actually listened, so I couldn’t get thrown in a snow bank!!).

Even with the green grass surrounding us and Lake Laverne’s sparkling (?) waters to inspire us, the customers had Christmas cheer in their minds and pocketbooks.

Sales this year went.....a surplus of trees were noticed at all sale centers in the city. Our surplus of trees were donated to Hickory Grove State Park Fish Habitat Improvement project. Hope next year’s sale is just as fun, and maybe sales will be up!
VEISHEA

Last year’s award for most Educational Veishea Display is going to be a tough act to follow, but Mark Burns is giving it his best shot. The theme will be Forestry--Managing Today’s Resources for Tomorrow. Many of last year’s winning displays will be featured while several new displays will be added to fill out the exhibit. Woodsy can’t come up with the bus fare to make the event, but Smokey will be on hand to greet VEISHEA-goers. We will continue to give away seedlings this year, and again we will solicit donations in hopes that we’ll do as well as last year when we made a profit.
FIRESIDES
by Sharon Houar

While Fireside attendance and sponsorship were hampered by busy schedules, those that were held were a success. They provided the opportunity for students and professors to get to know each other better on an informal basis. Most of them were held on Sunday nights and a snack or a meal was provided. One, held over VEISHEA, was a barbeque at the home of Reinee and Bill Hildebrant. At other firesides, students and professors honed their dart and billiard skills, made mini pizzas, and discussed the good old (and new) days.
GAME BANQUET
by Todd "Pork" Fossum

The 1987 version of the Forestry Club’s
Wild Game Banquet was a great success, as
it is every year. The banquet was held on
March 28 in the Scheman building. Talk
about Iowa weather! That night we experienced
a snowstorm and freezing rain. Despite the
weather, the attendance was very good and
there were many honored guests in
attendance.

Wild game was plentiful and there was a
wide variety to choose from: deer, elk,
antelope, squirrel, rabbit, pheasant, and
turkey. The meal was prepared exquisitely by
the Memorial Union kitchen. The meat was
donated by Jeff, Cindy, Russ, and Burt Kross;
Father Gene Benda; Keith Mousel; Chris
Jensen; Brian Sterbenz; and Brad Karlavec.

The program which followed the meal
included the presentation of awards and
scholarships. We then recognized the student
leaders of the Forestry Club, SAF, FPRS, and
Xi Sigma Pi of 1986-1987. The results of the
elections for upcoming student leaders were
announced with great anticipation by everyone
present.

Our after-dinner speaker was Les Bender
who had just returned from the Peace Corp.
He spoke on the opportunities that the Peace
Corp has to offer to foresters in developing
countries. Les gave us a little scare by
arriving a half-hour late as a result of the
stormy weather. If Les hadn’t made it, our
alternative would have been to have Dr.
Thomson tell us a few stories.

Well, that concludes our marvelous event,
and I would like to thank everyone that took
a walk on the WILD side. Hope to see you
there next year.
AWARDS

IOWA SOCIETY OF AMERICAN FORESTERS
SUMMER CAMP AWARD
Given to a student who has attended ISU Forestry Department’s summer camp during the immediately preceding summer. Student must have demonstrated leadership, professionalism, and scholarship at his or her summer camp.
Recipient: Craig Ray

IOWA SOCIETY OF AMERICAN FORESTERS
STUDENT MEMBERSHIP AWARD
Given to a student who will not be graduating during the current academic year. Student must be a Student Member of the Iowa SAF, must be classified as a Junior or Senior, must have demonstrated strong professional ideals and must have been active in the Student Chapter for at least six months.
Recipient: Sharon Houar

SOCIETY OF AMERICAN FORESTERS FULL
MEMBERSHIP AWARD
Given to a senior who will be graduating during the current academic year. The student must be a member of the Iowa SAF, must have demonstrated strong professional ideals, and must have been active in the Student Chapter for at least one year.
Recipient: Martin Wimmer

XI SIGMA PI G. B. MACDONALD MEMORIAL
SENIOR LEADERSHIP AWARD FOR
ADVANCED STUDIES
Given to a senior in forestry who plans to continue study at the graduate level. The student must show excellent potential for success as a graduate student, and potential for outstanding leadership. Preference is given to students who wish to continue their studies in forestry or a related field.
Recipient: Michelle Cram

XI SIGMA PI KEITH BAUER AWARD
Given to the outstanding sophomore in Forestry. Grade point and participation in forestry activities are the major criteria for selection. The award is given in memory of Keith Allen Bauer, a former ISU student who died in tragic car accident in 1965. The award consists of a number of books about forestry.
Recipient: Kevin Oetken

FPRS MEMBERSHIP AWARD
Given to a freshman or sophomore student who is not presently a member of FPRS. Award is based on scholarship and an interest in forest products.
Recipient: Craig Ray

FPRS BOOK AWARD
Given to a senior majoring in Forest Products. The student must be a member of FPRS, be active in the chapter, and have high academic standing.
Recipient: Greg Tarnow

J. MILTON CONE SCHOLARSHIP
Given to the top Forestry major in the Junior class who exemplifies the scholarship and dedication of John Milton Cone. The scholarship is given in memory of John Milton Cone who was killed in Vietman in November of 1969.
Recipient: Mark Vitosh

J. MILTON CONE MEMORIAL FRESHMAN
SCHOLARSHIP
Given to a high school senior who has been admitted to the forestry curriculum for the following year. Selection is based on high academic achievement in high school, participation in extracurricular activities, and demonstrated interest in forestry.
Recipient: Kristen Weber

FORESTRY FRESHMAN SCHOLARSHIP
Given to a high school senior who has been admitted to the forestry curriculum for the following year. Selection is based on high academic achievement in high school, participation in extracurricular activities, and demonstrated interest in forestry.
Recipient: Scott Dietz

FORESTRY MEMORIAL FRESHMAN
SCHOLARSHIP
Given to a high school senior who has been admitted to the forestry curriculum for the following year. Selection is based on high academic achievement in high school, participation in extracurricular activities, and demonstrated interest in forestry.
Recipient: John Fish
SUMMER AROUND THE COUNTRY

ADKINS, MARK
   Yellow River State Forest
BAAS, SHARON
   Range, USFS, Wyoming
BANTZ, WENDY
   Camp, Cloquet, MN
BERTING, CHARLENE
   Nursery Mgt., Oklahoma
BIENEMANN, DAVID
   USFS, Fredonia, AZ
BILTON, DAN
   City of Waterloo
BURNS, MARK
   USFS, Black Hills NF
CHANNING, MIKE
   Agr. Res. Farm, Ames
CLARK, DALE
   Intensive Culture, Ames
CRAM, MICHELLE
   USFS Umqua NF, OR
DAHLE, ERIC
   USDA Plant Intro. Center, Ames

DAVIS, BIL
   self employed
DESMET, LARRY
   Scott County, IA
DRALLE, ERIC
   Camp, Cloquet, MN
DUNCAN, CARLA
   Summer School, ISU Forestry Dept.
Dwyer, Joseph
   Agronomy Department, ISU
ENGELKEN, Gregg
   USFS, Black Hills NF, Tempo Eastex, NH
FLANIGAN, KATHY
   ISU lab
FLEMMING, JERRY
   ISU Transp. Service
FORBES, DARLA
   USFS, Black Hills NF
FOSSUM, TODD
   USFS, Black Hills NF
GALLOWAY, STEVE
   Keith Major, Davenport, urban
GROVES, RUSSELL
   Camp, Cloquet, MN
HEFEL, RANDY
USFS, Black Hills NF

HEISNER, FRANK
Routte NF, Range

HILKEN, ROBERT
Philmont Scout Camp, NM

HOUAR, SHARON
Black Hills NF

JENSEN, CHRIS
Arapahoe/Roosevelt NF

JOHNSON, CRAIG
City Forester, DuPage Co., IL

JOHNSON, PAUL
Camp, Cloquet MN

KARLOVEC, BRAD
Haman Construction, Paton, IA

KENDALL, JULIE
Grad School, U of MN

KLINGMAN, JON
Camp, Cloquet, MN

KNICKREHM, DEB
USFS, Routte, NF

KROSS, JEFF
Camp, Cloquet, MN
Meade, Chillicothe, OH

LANE, C. A.
Corps of Engineers, Saylorville

LANG, DAVID
Mississippi

LARKIN, CHRIS
Urban Forestry, Waterloo

LANGE, DAMON
Camp, Cloquet, MN

MCCOLLEY, MATT
Camp, Cloquet, MN

MCCUBBIN, JEFF
Summer School (SCC)
MILLER, HELENE  
Grad School
MORRISON, JASON  
Chevelon RS, Sitgreaves, NF, AZ
MOSIGIL, GREGORY  
Camp, Cloquet, MN
MOUSEL, KEITH  
USFS, Wenatchee, WA
MUNFORD, SID  
Camp, Cloquet, MN
NORDSTROM, JOHN  
USFS, Chippewa, ND
OETKEN, KEVIN  
Camp, Cloquet, MN
OLSON, BRENT  
Simpson Timber Co., Arcata, CA
OSWALD, CINDY  
USFS, Los Padres NF, CA
PAULSON, STEVE  
James River Pulp and Paper, Maine
PETERSEN, MARK  
Clearwater NF, Powell RS
PETERSON, JANEL  
USFS, Wenatchee NF, WA
POORTINGA, JOHN  
Camp, Cloquet, MN
PUGH, ERIC  
County Conservation, IA
RATHMAN, MARK  
Camp, Cloquet, MN
RAY, CRAIG  
Camp, Cloquet, MN

REICHMAN, JEFF  
Camp, Cloquet, MN
ROYS, NANCY  
Summer School
SCHEPERS, RAE LYNN  
USFS, Idaho
SCHWIEN, LISA  
Camp, Cloquet, MN
STERBENZ, BRIAN  
ISU Farm Service
SALAUMAN, ABDUL-RAZZAK  
Grad School
TARNOW, GREG  
Pike Lumber, Akron, IN
TAUKE, PAUL  
Waterloo Forestry Division
THORNBURGH, DEWAYNE  
Farming
TWAROK, CHRIS  
FS, Cook Co. IL
VALLIER, TROY  
Brewer’s Cresent Nursery, Crescent, IA
VITOSH, MARK  
City of Davenport
WIMMER, MARTY  
Bartlett Tree Experts, Atlanta, GA
WOODLEY, CRAIG  
Pike Lumber Co. Akron, IN
YORI, KAREN  
Arapahoe/Roosevelt NF, CO
ZIPSE, LORI  
Weyerhaeuser, Marshfield, WI
STUDENTS
# Freshmen

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baughman, Shannon K.</td>
<td>R.R. 2, Newell, IA 50568</td>
</tr>
<tr>
<td>Boldt, Sandra K.</td>
<td>708 E. High St., Toledo, IA 52342</td>
</tr>
<tr>
<td>Burns, Jeffrey Allen</td>
<td>1538 63rd St., Des Moines, IA 50311</td>
</tr>
<tr>
<td>Busch, Mike A.</td>
<td>303 1st Ave, Donahue, IA 52746</td>
</tr>
<tr>
<td>Davis, Scott A.</td>
<td>Oak Lake Add, Algona, IA 50511</td>
</tr>
<tr>
<td>Duncan, Bryce M.</td>
<td>R.R. 1, Correctionville, IA 51016</td>
</tr>
<tr>
<td>Glanz, Robert Paul</td>
<td>902 SE Watrous, Des Moines, IA 50315</td>
</tr>
<tr>
<td>Heiker, Michelle J.</td>
<td>104 Hillsdale Dr., Eldridge, IA 52748</td>
</tr>
<tr>
<td>Herzog, Leslie Nell</td>
<td>3328 Oxford Lane, Galesburg, IL 61401</td>
</tr>
<tr>
<td>Koch, Matthew James</td>
<td>910 Roosevelt, Dubuque, IA 52001</td>
</tr>
<tr>
<td>Lewis, Wendee M.</td>
<td>2143 Mt. Vernon Rd SE, Cedar Rapids, IA 52403</td>
</tr>
<tr>
<td>Moklestad, Robert J.</td>
<td>500 West 5th Street, Spencer, IA 51301</td>
</tr>
<tr>
<td>Oswald, Steven D.</td>
<td>R.R. 1, Richland, IA 52585</td>
</tr>
<tr>
<td>Regan, Greg J.</td>
<td>R.R. 2, Box 247, Dubuque, IA 52001</td>
</tr>
<tr>
<td>Shorma, Nancy J.</td>
<td>R.R. 2, Newton, IA 50208</td>
</tr>
<tr>
<td>Vugteveen, Tim Dean</td>
<td>RR PO Box 9502, Spirit Lake, IA 51360</td>
</tr>
</tbody>
</table>

# Sophomores

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bantz, Wendy J.</td>
<td>RR 1, Fayette, IA 52142</td>
</tr>
<tr>
<td>Bardon, Robert Edward</td>
<td>395 Glen Oak, Dubuque, IA 52001</td>
</tr>
<tr>
<td>Beelman, Nicholas</td>
<td>31 Country Club Rd., Ft. Madison 52627</td>
</tr>
<tr>
<td>Capek, Michael R.</td>
<td>334 Grant Ave., Geneva, IL 60134</td>
</tr>
<tr>
<td>Duncan, Carla Sue</td>
<td>2716 8th St, East Moline, IL 61244</td>
</tr>
<tr>
<td>Dwyer, Joe R.</td>
<td>925 Arizona Ave, Ames, IA 50010</td>
</tr>
<tr>
<td>Hilken, Robert G.</td>
<td>7875 Drake St., Des Moines, IA 50311</td>
</tr>
<tr>
<td>Hj Umim, Mohd Hasyim</td>
<td>WDT 9 Sephora Sabah Malaysia</td>
</tr>
<tr>
<td>Klingman, Jon A.</td>
<td>R.R. 4, Volga, IA 52077</td>
</tr>
<tr>
<td>Lamp, Michael Lee</td>
<td>805 SE Trilein, Ankeny, IA 50021</td>
</tr>
<tr>
<td>McCubbin, Jeffrey T.</td>
<td>1103 N. Elmwood Dr., Davenport, IA 52804</td>
</tr>
<tr>
<td>Obong, Amat Osin</td>
<td>PO Box Forest Dept., Kunak Sabah Malaysia</td>
</tr>
<tr>
<td>Oetken, Kevin J.</td>
<td>RR 1, Box 171 B, Sperry, IA 52650</td>
</tr>
<tr>
<td>Roe, Jeffrey Charles</td>
<td>Benton-Linn Co Line Rd, Fairfax, IA 52228</td>
</tr>
<tr>
<td>Seyler, Robert M.</td>
<td>642 N. 4th St., Missouri Valley, IA 51555</td>
</tr>
<tr>
<td>Vanmaanen, Martin Ray</td>
<td>Rt. 1, Leighton, IA 50143</td>
</tr>
<tr>
<td>Vavrinek, Robert Scott</td>
<td>R.R. 2, Pekin, IL 61554</td>
</tr>
<tr>
<td>Webb, Douglas V.</td>
<td>405 First St., Rockwell City, IA 50579</td>
</tr>
</tbody>
</table>
Juniors

Adkins, Mark J.
Albright, Steven C.
Bienemann, David S.
Bliton, Dan Paul
Clark, Dale T.
Dahle, Eric Kenneth
Flemming, Jerry John
Galloway, Steve Earl
Groves, Russell
Heisner, F. Erich
Johnson, Paul N.
Karlovec, Brad Don
Kross, Jeffrey E.
Lange, Damon M.
Oswald, Cynthia Snyder
Ray, Craig James
Sterbenz, Brian Edward
Thornburgh, Dewayne R.
Vitos, Mark Allen

PO Box 233, Churdan, IA 50050
1715 Jepsen, Cedar Falls, IA 50613
415 2nd St. NW, Waverly, IA 50677
4215 Hillside Dr., Cedar Falls, IA 50613
RR3, Central City, IA 52214
Box 178, Emmons, MN 56029
510 W. 2nd St., Cresco, IA 52136
740 Westgate, Aurora, IL 60506
1509 South 2nd St., Oskaloosa, IA 52577
RR 5, Mt. Pleasant, IA 52641
1705 Rainbow Dr., Marshalltown, IA 50158
Box 10, Apt. B, Paton, IA 50217
5691 Willowtwill Lane, Dayton, OH 45459
1911 Blossom Lane, Marshalltown, IA 50558
214 6th St., Buffalo, IA 52728
1628 W. Lamont, Peoria, IL 61614
715 16th, Nevada, IA 50201
R.R. 1, Farnhamville, IA 50538
1105 Village Farm Ct., Iowa City, IA 52240

Seniors

Berry, Charlene
Burns, Mark Alan
Channing, Michael
Cram, Michelle Monique
DeSmet, Larry A.
Dralle, Eric
Forbes, Darla
Fossum, Todd R.
Heifel, Randall
Houar, Sharon K.
Jensen, Chris L.
Johnson, Craig A.
Lane, C.A.
Matusin, Ahamad Sapawi
McColley, Matt John
Mosigili, Gregory
Mousel, Keith G.
Munford, Sydney Allan
 Olson, Brent S.
 Paulson, Steven Andrew
 Petersen, Mark Andrew
 Petersen, Janel C.
 Poortinga, John Kevin
 Schwien, Lisa Marianne
 Tarnow, Gregory Lee
 Tauke, Paul John
 Twarok, Christopher J.
 Vallier, Troy
 Wimmer, Martin P.
 Woodley, Craig S.
 Zipse, Lori Sue

54 Paul James Dr., Tiverton, RI 02878
515 Hickory Terrace, Keokuk, IA 52632
Box 130306, Tyler, TX 75713
916 Maplewood Lane, Iowa City, IA 52240
1118 Garfield Ct., Davenport, IA 52804
RR 1 Bristo, IA 50611
RR 1, Box 57, Buckingham, IA 50612
311 East Main ST., Waukon, IA 52172
2990 Oakcrest, Dubuque, IA 52001
90 Cherry Hill Rd, NW, Cedar Rapids, IA 52
Box 175, Underwood, IA 51576
889 W. St, Charles Road, Lombard, IL 60148
102 N. Taft, Humboldt, IA 50548
P.O. Box 164, Beaufort, Sabah, Malaysia
530 S. 16th Street, Fort Dodge, IA 50501
Computer Service Unit, Sabah Malaysia
510-5th Ave, Alton, IA 51003
RT #1, Box 231 Farmington, IA 52626
2731 1st SW, Mason City, IA 50401
17 Fresh Meadow Rd, Weston, CT 06883
RR 2, Box 98, Exira, IA 50076
1490 Heather Dr, Davis, IL 61019
RR 1 South, Clarence, IA 52216
4609 Edgewood Hills Dr., Rockford IL 61108
820 3rd Ave. SE, Cascade, IA 52033
4532 W. 101 St., Oaklawn, IL 60453
RR 1, Box 365 Crescent, IA 51526
450 Midland Drive, Council Bluffs, IA 5150
832 Leroy, Muscatine 52761
RR 1, New Hampton, IA 50659
CHARLENE BERRY

Charlene, a native of Tiverton, Rhode Island, is a Forest Recreation major minoring in Landscape Architecture and Design. She has worked as a Park Ranger with the U.S. Army Corps of Engineers from Dec. 1984-Jan. 1987. Charlene plans on working full time for the Corps of Engineers at Saylorville Lake in Des Moines, Iowa after graduation. While at ISU Charlene has been a cabinet member (safety officer) for Anderson House, President of Anderson House (Sept.-Dec. 1983, Jan.-May 1984), RCA Justice Committee member, Secretary of Forestry Club (1983-1984), and a VEISHEA committee member for Forestry Club. In her spare time, Charlene likes bicycle racing, swimming, an photography.

MICHELLE MONIQUE CRAM

Michelle, an Iowa City native, has been busy at ISU- she doubled majored in Forestry and Pest Management with a specialization in management. Michelle's college activities have included Forestry Club (1982-1985), Ag Council Rep., Xi Sigma Pi Ranger (1985); Assistant Forester (1986), and a member of SAF. Her honors include Xi Sigma Pi Honorary, Gamma Sigma Delta Honorary, and recipient of Keith A. Bauer Award. Michelle's work experience has included a summer (1984) internship with the US Experimental Station in St. Paul, MN, an Assistant Undergraduate Technician: tissue culture in Belgium (1985), and a silvicultural technician with the USFS in Oregon (1986). Her hobbies include horseback riding, Kui Hing, running and weight lifting. Michelle's final comment: "I would like to thank my forestry professors for their encouragement and support throughout my undergraduate years here at ISU. This is one department where students are not just a number."
MARK A. HARGER

Mark A. Harger, a native of Mt. Vernon, Iowa, is a Forest Products major minoring in Business Administration. He likes to scubadive, fish, and hike in his spare time. Mark has worked as a wood science lab research assistant, a state forestry aid in Badenworttemberg West Germany, a greenhouse assistant, and a landscape worker. At ISU, he has been involved in FPRS, and in the summer trainee exchange program. Mark plans to seek employment in production or quality.

CHRISTOPHER LARKIN

Chris, a Forest Management and Extension Education major, is from Waukon, Iowa. While at ISU Chris has been active in Forestry Club and SAF. College honors include Xi Sigma Pi where he was a ranger and Gamma Sigma Delta. Chris's work experience include one summer with the Allamakee County Extension Service and two summers with the City of Waterloo Forestry Division. After graduation Chris plans on working for Bartlett Tree Experts and maybe graduate school in the future.

GREGORY MOSIGIL

Greg, a Forest Management major specializing in economics, is from Perampang, Sabah, Malaysia. While at ISU, Greg has been active in the soccer club. Weightlifting, sports, and travelling are some of his main hobbies. Greg's work experience deals with working with the Sabah Forestry Development Authority (SAFODA). After graduation, Greg plans to continue to go for his masters or go back to Malaysia and work. Greg's final comment: "It was great to be a student at Iowa State. The instructors and students were friendly and helpful."

45
MARK MIKUTUS

STEVE PAULSON

Steve, a native from Berlin, New Hampshire, is a Forest Products major specializing in industrial engineering. Steve's work experience includes being a forest technician on the Black Hills NF and summer work at the James River Pulp and Paper Mill in Berlin, NH. At ISU, intramurals such as hockey, basketball, and bicycle racing, being a member of Forestry Club, and being treasurer/secretary of FPRS have been some of his activities. Steve's hobbies include woodworking, bicycle building and racing, golf, skiing. After graduation, Steve plans to seek employment with a particle board or paper manufacturer in quality control or production.

BRENT S. OLSON

Brent, a Forest Management major specializing in multiple use is from Mason City, Iowa. Brent has been involved in Forestry Club and SAF; being 1986 Ames Forester editor, chairman of firewood committee, and chairman of Holst Tract committee. Brent's hobbies include softball, backpacking, basketball, coin collecting, travelling, camping, and swimming. Brent has worked for Simpson Timber Co. in California (summer 1986), the Forestry greenhouse, and Save-U-More.
MARK PETERSEN

Mark, an Exira, Iowa native, is a Forest Management major with a specialization in silviculture/regeneration. Mark has worked for the USFS with the Powell Ranger Station on the Clearwater NF in Idaho. Music, skiing, and bike riding are among Mark's hobbies. After graduation, Mark plans to work, earn $$$, and travel.

JANEL PETERSON

A Lake Summerset, IL native, Janel is a Forest Resource Management major specializing in Multiple Use and minoring in Soil Science. Janel has had a broad array of work experiences-they being maintenance/grounds upkeep-summer 1983; programming staff-Iowa 4-H camp, summer 1984; park technician, U.S. Corps of Engineers, Saylorville, 1985; and assistant engine foreman- USFS, Wenatchee NF. While at ISU, Janel has been involved with SAF (3 yrs), Freshman Honors Program, Activities Chair (2 yrs), Tae Kwon Do, Woodwind Ensemble II, Forestry Club, and intramurals. Her college honors include Xi Sigma Pi, Alpha Zeta, SAF Junior Award, and National Collegiate Natural Resource Management Award. Janel’s post graduate plans are to work for a presale timber crew for the summer of '87, then to get married in October. Her husband and she plan to backpack the Pacific Crest Trail in April of '88 and then enter the Peace Corps. Eventually, Janel plans to pursue a Masters Degree in Watershed Management.
LISA SCHWIEN
Lisa, a Clarence, Iowa native, chose Forest Management as her major with a specialization in multiple use. Lisa loves intramurals while at ISU, but in her spare time she enjoys camping, fishing, and all sports. Lisa worked for the San Juan NF for a summer. After graduation, Lisa would like to go out west and work for a private company or the USFS in timber management. Lisa’s final comment: “Mom and Dad, can you believe that it is finally over? No more being a professional student!”

GREGORY TARNOW
Greg is a native of Rockford, Illinois majoring in Forestry Products with a specialization in business administration. At ISU, Greg has been active in many clubs such as FPRS (Pres. 1986-1987), TAPPI, and Forestry Club. He has also been a dormitory representative for the residence halls and a member of ISU Rugby Club. In his spare time, Greg likes restoring cars, outdoor activities, spectator sports, and participating in sports. Greg’s work experience includes working for Pike Lumber Company in Akron, Ohio the summer of 1986 and working in the Forestry reading room (86-87). After graduation, Greg plans to develop a productive career within the Forest Products industries.

CHRISTOPHER TWAROK
Christopher Twarok, a management major specializing in economics, is a native of Chicago, Illinois. While at ISU, Chris has participated in Forestry Club- being the Ag Council Sr. Rep., and intramurals. Gramp’s hobby is music (preferably 60s, 70s, select 80s, blues and jazz). Chris had worked for the Cook County Forest Preserve District. After graduation, he plans to work with Cook County or go into the government security trading in Chicago or New York or attend graduate school at the University of Chicago. Chris’ final comment: “College was great, I learned a lot, but most of all I learned to think and reason.”
TROY VALLIER

Troy, a Crescent, Iowa native, is a Forest Products major specializing and minoring in Business.
While at ISU, Troy has been very active in Forestry Club, Society of American Foresters, and FPRS. Troy is also a member of Beta Theta Pi fraternity. His honors include receiving a $500 high school scholarship and being on the dean’s list. Troy's work experience has been with Brewer's Crescent Nursery for 9 years. When not busy with school, Troy loves the sport of softball. After graduation, Troy plans on obtaining a management position in the Forest Products industry.
Troy's closing comment: "Hi Darla!"

MARTY WIMMER

Marty, a Council Bluffs native, is a Forest Resource Management major specializing in Urban Forestry. While at ISU, Marty has been involved in SAF-being chairman-elect and chairman and Forestry Club-being President and treasurer. When not busy with school work and clubs, Marty enjoys bow hunting, bass fishing and softball. Marty's work experience throughout college has been with the ISU Meat Lab (Aug. 1983-present) and Bartlett Tree Experts (1986).
Marty's closing comment: "There are so many areas for which a person can go with a Forest Management degree, that I'm not quite sure what to do. Ideally, I'd like to do them all, but there I go thinking again! Hate when that happens."
GRADUATE STUDENTS

Ansari, Mahboob A.
Choi, Kwan
Chun, Young Woo
Flanigan, Katherine M.
Gan, Jianbang
Hasvold, Thomas R.
Hildebrandt, Reinee E.
Kantak, Gail A.
Kean, John N.
Kim, Woo-Sick

Kolison, Stephen H., Jr.
Licht, Priscilla A.
Liu, Jing
Meilan, Richard
Morrison, Jason W.
Nyong'o, Risper N.
Regula, Jeff A.
Rosacker, James W.
Sulaiman, Abdul-Razzak
Hu, Ninghe
Thompson, Janette