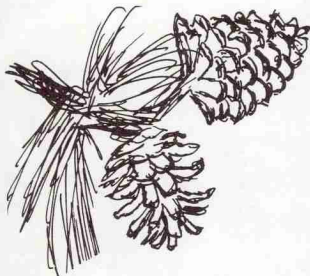


PI—NE—TUM 1988
College of Forest Resources





PI-NE-TUM

Journal of Forest Resources

North Carolina State University
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Shelley Peterson

Charlyne D. Todd

Edward Sontag

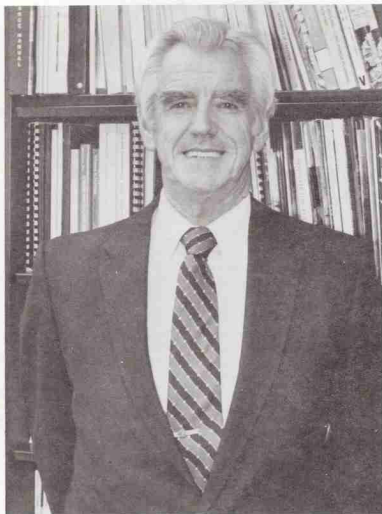
PI-NE-TUM—a plantation of pine trees, esp. a scientific collection of living coniferous trees—as taken from Webster's Dictionary, but more commonly known to us as the Journal of the College of Forest Resources. I came to a dead end in my quest to find the origin of the name of our journal. The only thing I could find was the definition whose meaning is represented in the picture I took for the cover. Hardwoods have been excluded from this meaning so, because of their importance, I chose to include them as the divider pages.

This journal has been a traditional symbol of pride of students, faculty, and staff since 1934. In this 54th edition of the Pi-ne-tum we have attempted to capture and record the spirit and the changes of the College of Forest Resources. We, the 1988 Pi-ne-tum staff, are very proud of the outcome of our hard work and hope you enjoy this edition for many years.

Shelley Peterson
Editor



DEDICATION



In recognition of his insightful leadership and many contributions to the College of Forest Resources, this year's *PINETUM* is dedicated with thanks to retiring Dean Eric L. Ellwood.

Born in Australia, Dr. Ellwood received degrees in forestry (B.S.) and wood technology (M.S.) from the University of Melbourne. He later earned a Ph.D. in wood technology at Yale University. He came to North Carolina State University in 1961 as head of the Department of Wood and Paper Science and was appointed Dean of the College (School) in 1971.

Building on a tradition of excellence, Dean Ellwood has provided imaginative direction and assistance in positioning many College of Forest Resources programs as among the best in the nation. He has been a leading advocate in strengthening cooperative relations among schools, universities, industry, and government agencies to better solve and capitalize upon the opportunities associated with forest and recreation resources. He also has worked

to increase the effectiveness of research and technology transfer relating to these resources.

As a man of vision, Dean Ellwood has rarely been satisfied with the status quo; rather he has made a special effort to promote improvement and continued development of "cutting-edge" capabilities. In addition to his influence on the NCSU campus, he also has provided exceptional leadership at both the state and national levels in a variety of capacities and has received several awards in recognition of these efforts.

The concluding lines of a statement on success by Robert Louis Stevenson characterize Eric L. Ellwood very appropriately—a person "who looked for the best in others and gave the best he had." He, indeed, has given the best he had. In so doing, he has helped strengthen significantly the College of Forest Resources to meet the exciting challenges of the future.

A LOOK BACK

By: *Eric L. Ellwood*

As a young man my concept of an ideal career was a job in the big outdoors, using my hands and my head, and being my own boss. That's the way it essentially started and now, more than four decades later, my career is behind a desk and I have a myriad of bosses.

This situation simply is a reflection of the principle of change, not only of the type of world that we live in, but also in my own evolutionary adjustment to this change, and all the while continually learning in the process.

Perhaps, in personalizing this experience, I can illustrate some points that particularly you students might reflect upon as you embark upon your own careers.

Forestry school (undergraduate) itself—a field I initially chose primarily because of the working environment forestry offered—was the first major milestone that indelibly changed me. It was here that I was exposed to the books and the teachers displaying a world of knowledge about the natural sciences that I found fascinating. Many a night I sat up reading a trail of natural science and history books out of pure enjoyment. My curiosity and thirst for knowledge really got its start there—but not to the exclusion of all the other things we did—the field work of learning the forest and working in it, the crew leadership, working with rural communities, the camaraderie and start of lifetime friendships, the sports, plus all the other things that young energetic people do. That forestry school experience lit some fuses—maybe slow burning ones—that never went out. (Subsequent sojourns in university for higher degrees never did have the same level of influence on me.)

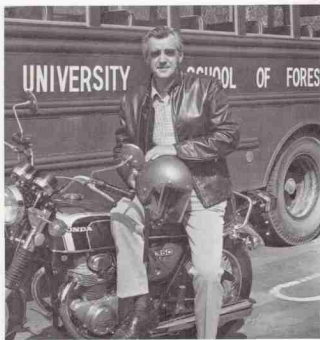
Then came the first field assignments. I was first posted to the agency's timber reconnaissance and cruising crew which had the responsibility of mapping forests and assessing the timber volume mostly in remote areas of virgin mountain forests. We were driven to the road end and either hiked or horsebacked in and set up a tent camp base from which we operated up to a month at a time without seeing another human being. Working in those beautiful and imposing eucalyptus forests—with trees approaching 300 feet in height—was truly an inspiring, aesthetic and at times almost spiritual experience. I felt caught in the drama and elemental nature of it all, which completely overrode the physical hardship and isolation associated with the work. There is a close to religious type component associated with forestry and, confirming that feeling, a significant number of foresters left the agency and entered the ministry over a period of years.



Eric L. Ellwood
Dean
B.S., M.S., Univ. of Melbourne
Ph.D., Yale University

My next assignment was as the first research officer for the agency's Fire Protection Branch. Eucalyptus forest fires are notorious for their explosive nature and difficulty of control. For example, in 1939 a big wildfire in Victoria burned an area about one-third the size of North Carolina and killed 79 people. We started research work on aerial and chemical suppression and control of forest fires. I also learned the hard way about what to do and not do in wildfire control on the ground. Fire suppression and control was then and to an extent is still a quasi-military type of operation in which organization and confusion compete, and operating under stress is the norm. In this job my interest in research was kindled, and I soon recognized that to become fully effective in that role I would need to join an organization whose central mission was research, so that's when I joined Australia's national forest products laboratory.

More challenging years followed during which it became apparent that more education was necessary, so I completed a masters degree in my spare time, then came to the USA for a Ph.D. because of my interest in the USA and because of the relatively high importance of forestry in the USA. I then returned to



Australia. My experience in the USA convinced me that, in a number of ways, there were more avenues and activity in the forestry scene here and this is where things were happening. So in 1956 I came back on a temporary basis to work in the USA. As it turned out, I never returned to my work in Australia.

The American phase of my career also a few times resulted in the unique euphoria of a research breakthrough and the satisfactions of working with students. But inexorably I was assuming more supervisory and managerial responsibilities, which essentially became full time on my move to North Carolina in the early sixties and as finishing out as dean this year. It was during these last two decades that my professional interests and personal outlook became progressively less determined by what I felt I would like to do personally in the technical and professional arena. Rather, my energy was directed more towards trying to enhance the resource profession I worked in and the organizations for which I was responsible. This, then, was the long-term evolution and transformation to the service

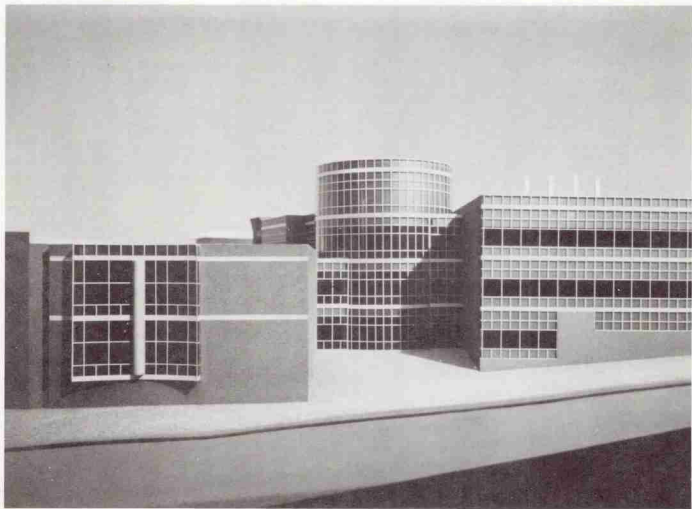
philosophy or ethic and on an ever-widening area of concern.

It was during those administrative/management years my understanding of the complexities and nature of the overall natural resource scene was continually evolving and my horizons enlarged. This was not only a consequence of being an observer and player in a scenario of major changes in technology, the transition from a primarily manufacturing to a service economy, the globalization of industry, and of society's values, but also of the many and diverse interactions that are involved in program leadership in forest resources. Specifically, the latter meant interacting with not only the university community but also the broad diversity of people and organizations concerned and involved in the use, management, regulatory, legislative aspects of a resource that affects virtually everyone. Consequently, my values also changed perhaps subtly, and my tolerance for the micro nature of work diminished in direct proportion to my increased interest in the macro scene. One dimension of these changes which is most pertinent to our natural resource professions has been the rapid growth of public input to forest and land use practices. In fact, there is hardly an activity involving land in this current period when strongly divisive societal attitudes aren't revealed, e.g., a construction of a road, dam, shopping center, siting of a factory, a quarry, building a nuclear plant or clear cutting a forest. It is also symptomatic of a growing resistance to change or growth. Given the most recent scenario my thinking in recent times has veered towards the concepts of enlarging our school of forest resources to deal with natural resources in a more comprehensive way. This is primarily for the reason that individual land use activities impact upon many other phases of natural resources and should be considered in the totality of overall impacts. Also, the system of developing and making policy that significantly influences the public good is ultimately a politically driven process—so the political area would seem to be where the action now is.

I have found my time in a university-based forest resources program to be highly interesting, exciting at times, and challenging both from a technical and a social context. But, perhaps most important, is an underlying sense of satisfaction of being involved in the dual enterprise of education and natural resources which in the long term contributes to, rather than takes from, the sustenance, enrichment, and enjoyment of people.

May you, the students and the new graduates, find at least some measure of the fulfillment and excitement that I have experienced in this natural resource profession whether as a scientist, teacher, practitioner, salesperson, manager, or whatever. And you will find that fulfillment if you deal with change.

A NEW PULP AND PAPER TEACHING AND RESEARCH LABORATORY



By: Ellis B. Cowling

Last year in these pages the construction and organization of the Natural Resources Research Center was described as "the beginning of the most important change during the second fifty years of our life as an institution". This year, it is a pleasure to report another increase in critically needed space and facilities.

In 1952, Dr. Earl Libby began the process of developing our curriculum in Pulp and Paper Science and Technology. He also was instrumental in persuading the University to construct the Robertson Laboratory to house this very important regional program of undergraduate and graduate education and research.

This Laboratory has served us well. It provided the classrooms, offices, and teaching and research laboratories in which our faculty built a regionally and nationally significant program. The Robertson Laboratory also contained a pilot plant that made it

possible for students and faculty to gain hands-on experience in the whole process of converting solid wood to paper in substantially the same way it is achieved in modern pulp and paper manufacturing.

By 1980, however, Dean Ellwood and the pulp and paper faculty were becoming more and more concerned with the growing obsolescence of this once unique teaching and research facility. At first, it was proposed that the Pulp and Paper Foundation provide funds for the additional space and facilities that were needed. A feasibility study was commissioned in connection with the Century Fund Drive commemorating the 100th year of the founding of North Carolina State University. But this study indicated that only about \$1.5 of the necessary \$5 million could be raised from private sources.

Next, these increasingly critical space and facilities needs were considered in connection with plans for construction of the Natural Resources

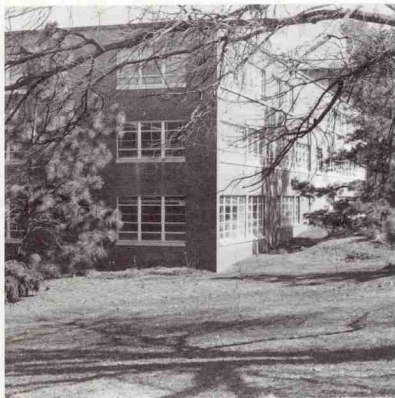
Research Center. But financial limitations on this project forced these needs to be omitted. As a result, Dean Ellwood urged that the Pulp and Paper Foundation ask for help directly from our state legislature. Once again, a number of members were "reluctant to go political." With resignation, the faculty began to speak about their "pulp and paper museum." After further and sometimes heated debate in the Pulp and Paper Foundation, Oliver Blackwell of Champion International decided something had to be done. He arranged a meeting with key members of the North Carolina General Assembly. Dean Ellwood then made his appeal once again—a new Pulp and Paper Laboratory was critical to the future of our College, the University, and the pulp and paper industry of our state and the southern region.

As a result, an appropriation of \$4.5 million was offered on the condition that the pulp and paper industry match the legislative package with at least \$1.5 million of private funds. In 1987, solicitations were made to more than 30 companies. Pledges have now been received for \$1.5 million. Thus, by 1991 our College is going to have the truly modern addition to Robertson Laboratory shown below.

This fine new building, with its expanded pilot plant and specialized teaching and research laboratories, will match the handsome Natural Resources Research Center already rising at the other end of the Biltmore-Robertson complex. These twin investments, totaling more than \$16 million in new physical plant, will serve our College well during the last decade of this century and beyond!



*Ellis B. Cowling
Associate Dean for Research
B.S., M.S., State Univ. College of
Forestry at Syracuse Univ.
Ph.D., Univ. of Wisconsin
Ph.D., Univ. of Uppsala, Sweden*



UNDERGRADUATE EDUCATION AND ADVISING STUDIES

By: L. C. Saylor

North Carolina State University, like many other major universities, recently undertook a major study of its undergraduate programs, along with an in-depth study of student advising. Commissions were established to carry out the studies, and their final reports have now been received.

The primary responsibility of the Commission on Undergraduate Education was to identify the basic competencies and common understandings and knowledge that should be required in all undergraduate degree programs. In their efforts they were to recognize that the basic goals of education at NCSU are to:

- develop the student's ability to think, analyze, communicate, and make sound decisions based on acquired knowledge
- increase students' awareness and enjoyment of the world in which they live
- provide students with an understanding of the cultural, historical and intellectual framework within which they will practice their chosen discipline
- develop the student's facility with basic concepts and practices of a specific discipline.

Considerable debate and discussion has taken place throughout the University about what should be included in "the common experience" (sometimes called the core curriculum) and also how it is to be



L. C. Saylor
Associate Dean of Academic Affairs
M.S., Ph.D., Genetics, NCSU

incorporated into the various curricula. For the latter, considerable opportunity for flexibility and innovation will be allowed during initial trial efforts.

Each of the Colleges on campus has now been asked to develop at least one curriculum that includes the recommendations of the commission as a test of feasibility. Preliminary evaluations indicate that the basic recommendations could be incorporated fairly easily into all curricula in the College of Forest Resources except perhaps the Pulp and Paper—Chemical Engineering Program. A summary of the Commission's recommendations is provided below. As always, reaction and input are not only welcomed but encouraged, because we must use all available resources in achieving our goal of providing the best possible educational experiences for the students in our College.

Summary of Common Core Recommendations

	Proposed (hrs.)	Current (hrs.)
Natural Sciences <ul style="list-style-type: none"> • must contain the basic principles of physics, chemistry and biological sciences 	10	8
Mathematical Sciences <ul style="list-style-type: none"> • must contain basic principles of calculus and statistics 	6	6
Humanities, Fine Arts, Ethical Reasoning <ul style="list-style-type: none"> • must contain one literature and one history course • must contain a course in fine arts or ethical reasoning 	12	9
Social Sciences <ul style="list-style-type: none"> • must represent at least two different disciplines 	9	9
Communication Skills <ul style="list-style-type: none"> • one course in composition and rhetoric designed to connect the English entrance requirement to the advanced course (below) • one advanced (junior level) course in writing • at least one course per semester in major during junior and senior years is to incorporate a writing requirement • at least one major written report required in senior year • one course in oral communication 	9	6

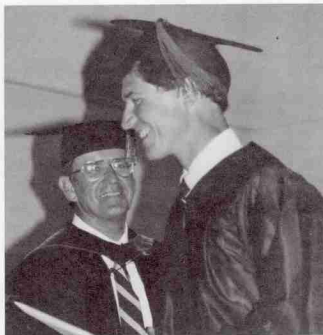
- basics of computer utilization (may be incorporated in other courses)

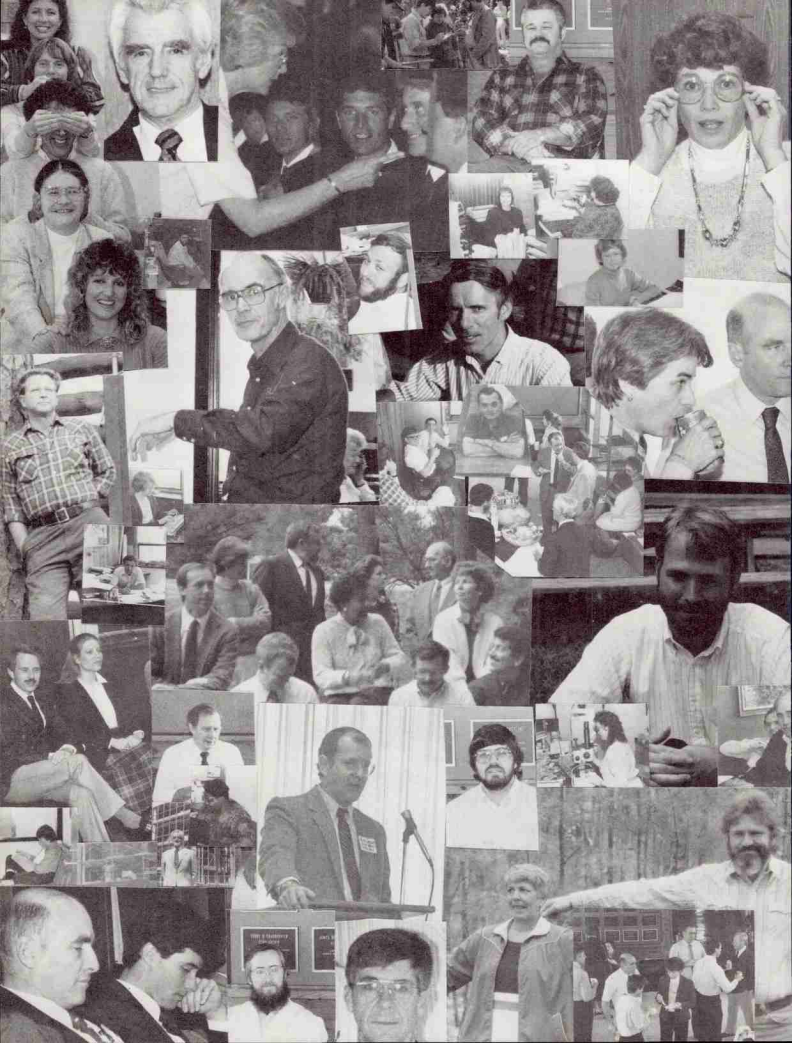
Physical Education	2	4
Free Electives	0	9
Total University Requirement	48	51

With regard to advising, the University Administration concurred with that Commission regarding the vital role of advising in the total educational experience of undergraduate students. To implement the recommendations of this Commission, each College has been asked to develop a plan for academic advising that includes provisions for the following:

1. Regular training sessions for advisors.
2. Departmental or college advising booklets for students to supplement the university student handbook.
3. Schedules and procedures that allow adequate access by advisees to advisors.
4. Departmental or college users' guides to automated degree audits to facilitate their use as an advising tool.
5. Mechanisms for advisees to use as inputs into the evaluation of the effectiveness of advising in order that effective advising can be recognized and renewed.
6. Annual review of departmental advising procedures and advising assignments in order that the advising process at the departmental level can be made more effective.

A committee is actively engaged in developing a plan for academic advising in the College of Forest Resources. This should be accomplished with relative ease because our departments and faculty historically have considered advising important and have provided leadership in improving it in several areas.





A collection of Easter eggs, some decorated with crocheted patterns and others with ribbons, set against a dark background.

FACULTY AND STAFF

FORESTRY DEPARTMENT HIGHLIGHTS

By: Arthur W. Cooper

Although the changes that have characterized forestry for the past few years are still very much with us, and their effects are still being assessed, we are beginning to see the shape of the future emerge. From what we are seeing now, we can venture a guess as to what the forestry profession will be like in the future. Much of what has happened in the Department of Forestry in the last year can be viewed in that context.

The effects of the curriculum changes we have made in the past several years are now being seen in the junior and senior classes. More students are graduating with greater knowledge of current national forest policies and with a more thorough understanding of the use of computers as tools in their profession. Senior level courses are integrating more completely the knowledge presented in lower level courses. We continue to place great emphasis on writing and speaking skills.

It appears that, at the University level, an effort will be made to incorporate recent recommendations that greater breadth in the humanities be included in all NCSU curricula. An analysis of the Forestry curriculum indicates that all of the proposals now being considered can be incorporated into our current curriculum without the necessity to make any major changes. Unquestionably, the graduates of the 1990's will have a broader education in the humanities, more emphasis on people skills as they relate to forestry, and more thought will be devoted in their forestry courses to the ethical dimensions of the profession. All of these changes are consistent with what we see happening in the profession at large.

The job situation for our undergraduates has improved dramatically within the last year. Everyone in the class of 1987 who was actively looking for forestry employment had a job by the end of August 1987. Of the 7 December graduates, 2 have jobs and there are still plenty of opportunities. The most openings are in industry, particularly in procurement, and with the state forest services. Federal hiring in the natural resources remains low except for women and minorities. All employers continue to place very high priority on past job experience, either in the summer or as a co-op participant. All other things being equal, employers are also emphasizing people skills and that indefinable "appearance of competence." Persons with a broad-based background and a variety of skills are in high demand. Given the current age structure of the forestry profession, it is reasonable to assume that the current favorable hiring market will continue for several more years.

For the second year the Department held a fall symposium for alumni and undergraduates. This year's program involved several speakers and a panel of recent undergraduates, all discussing how their education had prepared them for employment. The remarks of the panelists, all of whom were recent graduates, were particularly interesting. All stressed the value of their education, but all equally stressed the importance of "learning on the job" and of flexibility in approaching one's employment situation. The symposium was followed by the all day Rolleo at the Hill Forest, and several alumni also attended that event. Professor Larry Jervis has been responsible for arranging this program, and its success in 1986 and 1987 indicates that it will become a regular event.

Every signal one reads now tells us that forestry is becoming increasingly internationalized. The College of Forest Resources has appointed Dr. R. C. Kellison as international coordinator for the College. Several courses in international forestry are being taught at the graduate level. Last spring, representatives of the College traveled to China and signed a memorandum of cooperation with Nanjing Forestry University. The total number of international students in our graduate student population has increased in the last several years. Although these changes have not yet been felt in the undergraduate program it is clear that many of today's graduates will be working in some aspect of international forestry.

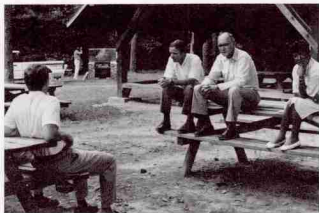
Another theme that forestry professionals are coming to understand is the need for members of the profession to help educate young people concerning forestry and natural resource management. Toward this end, the seniors last spring participated in



Project Learning Tree, a program of the American Forestry Association designed to teach children about forests and forestry. Senior classes will continue to learn this program, thus enabling them to play the role of forestry educator as a part of their professional qualifications.

Yet another change we are beginning to see is the need for more, and better, educational opportunities in natural resource management. The Department has begun development of both undergraduate and graduate natural resources, curricula which we hope to have in place soon. These will be supported by the new Natural Resources Research Center, the mission of which is to conduct multidisciplinary research in all phases of renewable resource management. It is our belief that broader gauge programs, emphasizing interdisciplinary education, may be in great demand in the future. Certainly, professionals who can think this way are in high demand now.

On behalf of the faculty, I wish this year's senior class a successful future. Although there are not as many of you as we have had in past senior classes, you are better educated and every bit as capable as any students we have ever graduated. Best of luck in the future!



FORESTRY FACULTY

Front Row: Douglas Frederick, Ph.D., Univ. of Idaho; Gary Blank, M.A., Univ. of Idaho; Joseph P. Roise, Ph.D., Univ. of Wash., Donald Steensen, Ph.D., Duke Univ. Second Row: Dave Adams, Ph.D., NCSU; Larry Jervis, M.F., NCSU; Dennis Mengel, M.S., Univ. of Idaho; Bill Dvorak, M.S., NSCU; Richard Braham, Ph.D., NCSU; William Hayley, Ph.D., NCSU; Ann-Marie Stomp, Ph.D., NCSU; Lester Holley, Ph.D., NCSU; Jan Laarman, Ph.D., Univ. of Calif. at Berkeley; Siamak Khorram, Ph.D., Univ. of Calif. at

Davis; James Woodman, Ph.D., Univ of Wash. Back Row: Roberto Munilla, M.E., Univ. of Florida; Richard Lancia, Ph.D., Univ. of Mass.; Carlyle Franklin, Ph.D., NCSU; Russ Lea, Ph.D., Syracuse; Robert Kellison, Ph.D., NCSU; Arthur W. Cooper, Dept. Head, Ph.D., Univ. of Michigan; Bruce Zobel, Ph.D., Univ. of Calif. at Berkeley; C. B. Davey, Ph.D., Wisconsin; Henry Amerson, Ph.D., NCSU; William Smith, M.S., NCSU.

RECREATION DEPARTMENT HIGHLIGHTS

By: Phillip S. Rea

If limited to a single word to describe the activities of the Department of Recreation Resources Administration during the 1987-88 school year, that word would be "change." Several major developments occurred in the department's 41st year that will significantly affect its future. The major changes included Dr. Warren returning to teaching after serving as department head since 1978, the awarding of a major grant to provide statewide consulting assistance to recreation providers, and Dr. David Culkin leaving N.C. State to take on a new professional opportunity.

After nine years of leadership and service Dr. Roger Warren stepped down as department head to return to what brought him to North Carolina State University . . . teaching. Dr. Phil Rea served as interim department head while a national search was conducted for a permanent departmental administrator. Dr. David Culkin left N.C. State to become the coordinator of the recreation curriculum at UNC-Wilmington. Mr. Harold Moses, Mr. John Connors, and Ms. Trudy West served as instructors in Dr. Culkin's absence.

The department received a grant from the North Carolina Department of Natural Resources and Community Development to establish a statewide technical assistance program for public and commercial recreation providers. The program, known as the Recreation Resources Service, is staffed by two graduates of North Carolina State University; Mr. Tom Wells serves as the Director and Ms. Leigh Baggs is the consultant. The primary responsibility of the Recreation Resources Service is

to provide technical assistance, applied research and continuing professional education programs to public and private recreation providers throughout North Carolina. Dr. Roger Warren spent most of the fall semester interviewing recreation professionals around the state to determine how the Recreation Resources Service can best meet their needs. This new consulting service has already provided many opportunities for RRA faculty and students to be involved in research and technical assistance programs that are needed and have practical application to the field of recreation management.

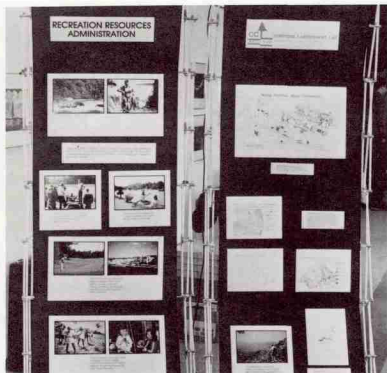
After we spent much of last year revising the undergraduate curriculum in recreation resources, the University studied the general education requirements for all NCSU students and proposed many changes. Fortunately, the new degree requirements in recreation closely parallel the proposed general education requirements which will result in the need for minor adjustments.

Dr. Roger Warren and Dr. Phil Rea appeared before the Council on Accreditation of the National Recreation and Park Association and American Association for Leisure and Recreation as part of the continuing accreditation review of the undergraduate curriculum. The result was a five year continuing accreditation of the recreation curriculum.

During the course of the year members of the faculty were involved in many exciting activities. All faculty were involved in the development of both a biennial plan and a long range plan for the department, in an effort to continue to improve its mission in the areas of teaching, research and professional service. Faculty activity highlights include research grants by Dr. Rick Perdue, Dr. Hugh Devine, Dr. Chrystos Siderelis, and Dr. Carolyn Love. Dr. Beth Wilson received a grant to develop an aging management institute, Dr. Sternloff developed a pilot training workshop for park and recreation professionals, and Professor Sondra Kirsch led a campus committee to develop an open space and recreation plan for the proposed Centennial Campus.

The eighth annual R.I.S.E. (Recreation Internship and Summer Employment) Conference was conducted in January with 45 agencies in attendance. Dr. Wilbur LaPage, Director of Parks and Recreation for New Hampshire and a member of the President's Commission on Americans Outdoors was the keynote speaker. Dorothy Cook, RRA junior, and Ann Coughlin, RRA graduate student, served as co-chairpersons for the conference at which Margaret (Phil) Campbell, RRA junior, was recognized for having received a scholarship from the North Carolina Recreators Foundation.





RECREATION FACULTY

Front Row: Hugh A. Devine, Ph.D., Penn. St. Univ.; Richard Perdue, Ph.D., Texas A & M; Chrystos D. Siderelis, Ph.D., Univ. of New Mexico. Second Row: Leigh Baggs, Consultant-Rec. Res. Service, M.S. East Carolina Univ.; Carol Love, Ph.D., NCSU; Sondra L. Kirsch, M.S., UNC-Chapel Hill; Robert Sternloff,

Ph.D., Wisconsin. Back Row: Beth Wilson, Ph.D., NCSU; Tom Wells, Director-Rec. Res. Service, B.S., NCSU; Phillip S. Rea, Acting Dept. Head, Re.D., Indiana Univ.; J. Harold Moses, Visiting Lecturer, M.S., UNC-Chapel Hill. Not Pictured: M. Roger Warren, Re.D., Indian Univ.

WPS DEPARTMENT HIGHLIGHTS

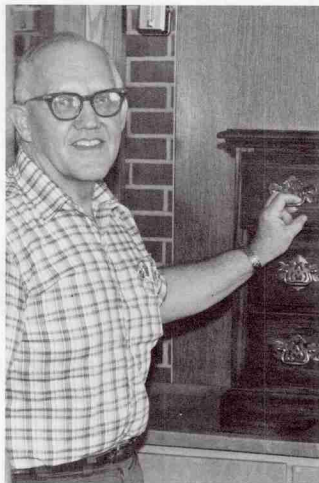
By: Richard J. Thomas

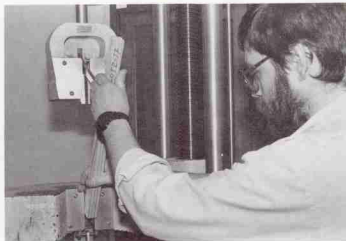
Staffing of the department remained constant with 14 faculty, 3 research associates, 6 technicians, 3 secretaries and 4 post-docs. The most obvious change was the addition of two new faculty members to fill the vacancies created with the departure of Professor R.G. Hitchings and Dr. R. H. Cornell. Dr. John A. Heitmann, Jr., who incidentally graduated from the PPT program in 1966, assumed the teaching responsibilities held by Professor Hitchings. After leaving N.C. State, he enrolled at the Institute of Paper Chemistry, where he earned his M.S. and Ph.D. degrees. Like most graduates of PPT programs, he began his industry career as a process engineer. After serving as a mill analyst and an industrial engineer for the Owens-Illinois Company, he was appointed pulp mill superintendent. In 1979 he joined Interstate Paper Corporation, where he served as technical assistant to the mill manager, and finally technical manager. Dr. Heitmann's education and broad industry experience give him the background required to excel in his present position as a professor in the pulp and paper program.

The second addition to the faculty was Dr. Hasan Jameel, who assumed the teaching and student advising duties formerly performed by Dr. Cornell. Dr. Jameel earned his B.S. degree at Texas A&M and a Ph.D. degree at Princeton University. Both degrees were in chemical engineering. He began his career as a R & D Research Associate with International Paper. After several years he was appointed a Senior Research Associate. Desiring mill experience, he transferred to the company's Ticonderoga mill, where he served as foreman for a brief period and was then named Group Leader. Dr. Jameel's technical knowledge in the pulping and bleaching field is excellent. Again, the program was fortunate to find an individual with not only the necessary educational background but also extensive industry experience.

Undergraduate enrollment declined slightly this year with 148 PPT and 57 WST majors enrolled. This represents a decrease of 9 PPT and 14 WST undergraduates. Graduate enrollment remained at 26. Starting salaries for B.S. graduates remained high with an average of \$29,900 for PPT and \$21,800 for WST. Once again more positions were available than there were graduates to fill them.

A major highlight this year was the funding of a 28,500 square feet addition to the Robertson Wing. The North Carolina General Assembly funded 80%, and the pulp and paper industry 20% of the \$5.7 million structure. Construction of the addition, to be built on the Dan Allen Avenue side of Robertson, will start in June of 1988. The estimated completion date is January 1990. The addition will contain a 6,000 square feet pilot plant, an undergraduate chemistry laboratory, classroom, faculty offices, coating, printing, and paper testing laboratories, and graduate student research facilities. This expansion will permit the department to expand and enhance the teaching and research programs.





WOOD AND PAPER SCIENCE FACULTY

Front Row: Irving S. Goldstein, Ph.D., Harvard Univ.; Hou-min Chang, Ph.D., Univ. of Washington; Richard J. Thomas, Dept. Head, Ph.D., Duke Univ; Elisabeth A. Wheeler, Ph.D., Southern Ill. Univ.; John A. Heitmann, Jr., Ph.D., Lawrence Univ.; Hasan Jameel, Ph.D., Princeton Univ. Third Row: C. A. Hart, Ph.D., NCSU; William S. Bryan, M.W.P.S.,

NCSU; Adrianna G. Kirman, M.S., NCSU. Back Row: Nicholas Weidhaas, M.S., Univ. of Mass.; Myron W. Kelly, Ph.D., NCSU; Thomas W. Joyce, Ph.D. Not Pictured: Heinz G. Olf, Ph.D., Technical Univ. of Munich; Josef S. Grantzl, Ph.D., Univ. of Vienna, Austria; Chen-Loung Chen, Ph.D., Univ. of Heidelberg.

EXTENSION—HELPING PEOPLE PUT KNOWLEDGE TO WORK

By: Mike Levi

The North Carolina Agricultural Extension Service recently completed a four year program "Peoples Plan 1987" developed with the assistance of lay leaders across North Carolina. Forest resources specialists and agents conducted an aggressive educational program to improve the management and utilization of North Carolina's forest resources as a part of this plan. The major emphasis was to increase income to forestland owners, Christmas tree growers and those involved in timber harvesting and processing. Attention was also given to increasing the public's awareness of forestry and improving the quality of our environment. The following are some of the major program accomplishments.

Over 450 workshops, meetings and tours were held on forest management in the four year period for landowners and agency and industry foresters. These resulted in decision making being improved for 20,000 landowners owning approximately 4 million acres of woodland. Over 500 forestry professionals were trained. Reforestation acreage increased by 10 percent, and timber income to landowners increased by \$30 million. Renewable Resources Extension Act funds supported 25 multiple-use forestry demonstrations across the state and the development of a Woodland Management Correspondence Course. The latter has been adapted for regional use, and over 800 have been sold in a cooperative project between the Forest Farmers Association and the Southern Extension Foresters. An emphasis on generating annual income from forest land resulted in income from the sale of pine straw increasing by \$10 million and hunting leases by \$1 million.

Extension continued to play a major role in the development and support of the North Carolina Christmas tree industry. Grower income from sales of trees increased from \$20 to \$47 million. The quality of these trees also increased as a result of improved fertilization through the use of soil tests. The number of soil tests requested by growers increased from 2,839 in 1982 to 6,316 in 1987. The planting to harvesting ratio decreased from 5:1 to 2.3:1. In addition, improved marketing skills led to expanded out-of-state sales and the organization and maintenance of a successful marketing cooperative.

Emphasis in programs for wood products manufacturers was to increase the industry's profitability through more efficient processing and improved quality control. Over 50 sawmills started using quality control microcomputer software developed by specialists for an annual savings of more than \$2 million. Ninety sawmills subscribed to a quarterly Video Technology Update developed jointly with the Department of Wood and Paper Science. This focuses on equipment and processing developments, ways to improve lumber yield, reduce labor costs, safety, and personnel management. Similar programs were conducted with the furniture industry, where 10 percent reductions in losses during lumber drying have been achieved.

In many areas of North Carolina landowners lack markets for their timber. Educational programs were developed to increase the use of yellow poplar for framing, expand the export of forest products overseas, and use wood as an industrial and agricultural fuel in place of fossil fuels. Four firms receiving assistance saved \$450,000 per year by switching from oil and gas to wood. A company built a \$30 million reconstituted lumber manufacturing plant in Person County, an area targeted by Extension as being suitable for new forest industries.

A major effort was made to increase the awareness of forestry by introducing in 1986 Project Learning Tree, a nationally recognized environmental education program. Sponsored in North Carolina by extension and the North Carolina Forestry Association, over 1,000 teachers and youth leaders and 30,000 youth participated in the first year. Almost 500 youths were reached through the Fur Fish N'Game Rendezvous, a week long camp, and older teenagers started learning more about natural resource management through a Shooting Sports program.

Programs for loggers emphasized business management and careful equipment selection and use. A microcomputer program on logging systems cost analysis was widely adopted by loggers and equipment dealers. The biennial Carolina Log 'N Demo cosponsored by the North Carolina Forestry Association attracted almost 2,000 loggers and their families from North Carolina, Virginia and South Carolina to see the latest equipment operating in the woods.

Workshops for loggers, procurement and consulting foresters on best management practices to prevent soil erosion and stream sedimentation were held throughout the Piedmont and mountains. It is

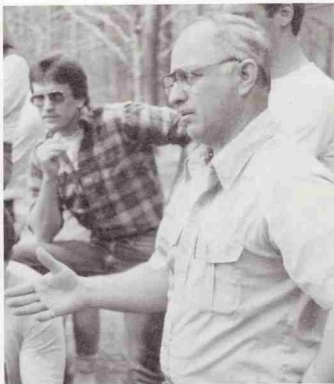


AGRICULTURAL
EXTENSION
SERVICE

estimated that the 800 participants represented 70 percent of the firms in the region. Another program concerned with environmental quality was pesticide certification and recertification training in forestry and wood treatment. Two hundred and eighty individuals were trained, and 90% passed the qualifying tests. Educational programs were also conducted in areas of gypsy moth spot infestation. These resulted in widespread support for control programs developed by public officials.

The use of the forest for wildlife and recreation as well as production of timber and clean water was stressed throughout the program period. An Outdoor Recreation newsletter was developed to inform recreation professionals about developments in the field, and 12 counties received assistance in designing outdoor recreation facilities. Wildlife habitat management and income production programs were an integral part of forest management programs.

If you have questions about any of these programs or would like to know more about Extension, give us a call or stop by our office—you may find someone in town!



EXTENSION FOREST RESOURCES

Front Row: Michael Levi, Dept. Head, Ph.D., Leeds Univ., England; Leon Harkins, M.S., Col. St. Univ.; Rick Hamilton, M.F., Duke Univ.; Steve Hanover, M.F., Yale. Back Row: Dick Allison, M.F., Penn St. Univ.; Larry Jahn, MBA, Penn St. Univ.; Bill

Gardner, M.S., NCSU; Joe Denig, Ph.D., V.P.I.; Bill Swint, M.F., NCSU. Not Pictured: Earl Deal, Ph.D., NCSU; Bill Huxster, M.W.T., NCSU; Jim McGraw, Ph.D., Univ. Florida.

SECRETARIES

Front Row: Jeanne Counihan, Sec., FOR; Mary Walker, Acct. Tech., CFR; Peggie Arnold, Sec., FOR. Second Row: Lynn Peeden, Sec., CFR; Reggi Powell, Admin. Sec., RRA; Nancy Roberts, Admin. Asst.,

CFR. Third Row: Ruth Allen, Sec., CFR; Millie Sullivan, Admin. Sec., WPS. Back Row: Charlotte Swart, Stud. Serv. Mgr., CFR; Sue Rudy, Sec., RRA; Richard Price, Sec., FOR.



LIBRARIANS

Pam Rowland, John Abbott and Phyllis Garriss

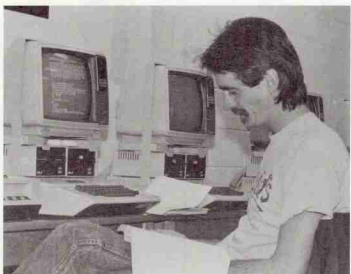
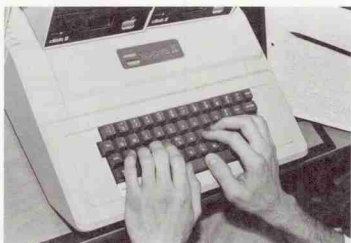
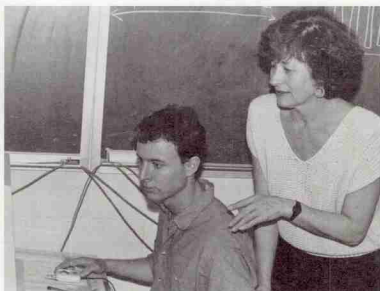


By: John Abbott

In 1988, the Forest Resources Library will metamorphose into the Natural Resources Research Center Library in the new NRRC building. The amount of floor space will almost triple and new material for the marine, atmospheric, and earth science students and faculty will be added. The library will broaden its mission to selectively collect the best materials in the natural resources, and will cooperate with D.H. Hill Library to provide needed materials. Currently the library has about 13,000 books, 12,000 USFS reports, and over 600 subscriptions. The collection has been strengthened this year by new materials in tropical and agro-forestry, tourism, and geriatric recreation. The library was recently connected to BIS, the online catalog for finding library materials at NCSU, UNC-CH, and Duke, using a terminal in the library.

COMPUTER COORDINATOR

Liz House, Computer Coordinator.



BIOTECHNOLOGY

Dr. Ron Sederoff, Laura Meagher, Dr. Anne Stomp, Heather Gladfelter, and Cheryl Giles.



TECHNICIANS

Yoshiko Cheu, Wood and Paper Science; Elizabeth Wilson, Wood and Paper Science; Shanthi Chandran, Wood and Paper Science.



William Wyatt, Hodges Wood Product Lab; Tony LaPasha, Wood and Paper Science; William Dudley, Hodges Wood Products Lab.

COOPERATIVES

A.I.R.

By: Jim Woodman

The Atmospheric Impacts Research (A.I.R.) Program is a research and technical services program of the College of Forest Resources of North Carolina State University. It receives all of its financial support from grants, contracts, and cooperative agreements with federal, state, and private organizations. The focus of all of this research and these services is on developing a better understanding how man-induced changes in the chemical and physical climate are affecting or changing terrestrial and aquatic ecosystems.

The A.I.R. Program is the successor to NCSU's Acid Deposition Program (ADP) which was established by a cooperative agreement with the U.S. Environmental Protection Agency in 1979. This agreement resulted in the completion of the first critical assessment of the effects of acidic deposition on the nation's resources. It was accomplished through management of many subcontracts with scientists who were most knowledgeable about the effects of acidic deposition on aquatic ecosystems, agriculture, materials, etc. This agreement led NCSU to organize a staff which supervised more than \$4.6 million of research subcontracts in a 5-year period. It also resulted in its ability to organize, conduct, and develop technical reports on many types of scientific peer reviews, workshops, and conferences required to achieve scientific consensus and the development of assessments and directions for new research programs. The work related to this initial agreement resulted in a critical assessment document for Congress and more than 400 peer reviewed publications.

NCSU's A.I.R. Program staff has a close working relationship with the scientists working at NCSU in USDA's Agriculture Research Service Air Quality Research Program and Forest Service's Southern

Commercial Forest Research Cooperative. It is a participant in a formal consortium agreement between ARS, the Forest Service, and NCSU. Approximately 60% of the funding base for the A.I.R. Program comes from contracts and agreements related to this consortium agreement.

The main objective of A.I.R.'s new research program is to develop a multidisciplinary research program centered around effects of atmospheric changes on terrestrial and aquatic ecosystems. It is actively recruiting a consortium of scientists from NCSU and neighboring institutions who are interested in developing comprehensive proposals which meet the scientific interests of major federal government agencies and industry in these subject areas. The A.I.R. Program will provide leadership in organizing these teams and writing the proposals. It will also provide administrative and coordination support of funded projects. Scientific staff will be added to the extent that existing talent is not available within the area and as funding and facilities permit.

Front Row: Margaret Edmiston—B.S., SUNY,—Word Processor; Mable Bullock—Clerk; Ramona Logan—Typist; Jody Castleberry—Accounting Clerk; Susan Spruill—M.S., NCSU—Statistical Assistant; Richard Gould—Ph.D., Lancaster University, Great Britain—Visiting Research Assistant; Jeanie Hartman—B.S., NCSU—Library Technical Assistant. Back Row: Debby Cross—Accounting Technician; Janet McFayden—B.S., Wake Forest University—Conference Manager; Clara Edwards—Administrative Assistant; Kim Joyner—M.S., NCSU—Technical Assistant; Luther Smith—Ph.D., NCSU—Research Assistant; Walt Heck—Ph.D., University of Illinois—Research Leader; Jim Woodman—Ph.D., University of Washington—Director;



CAMCORE

By: Joe Peters

The CAMCORE Cooperative was formed in 1980 in an effort to promote gene conservation of coniferous species. The objectives of CAMCORE are to preserve, test, and utilize the coniferous resources of Central America and Mexico for the purpose of improving the productivity of forest lands in the tropics and subtropics. Field crews in Honduras, Guatemala, and Mexico are working to collect seeds from endangered species and provenances, and the Cooperative distributes the genetic material to its members for ex-situ preservation and testing. Initially, CAMCORE only worked with coniferous species, however, preservation activities have expanded to also include hardwood species. Seeds from nearly 5,000 mother trees of 20 species of conifers and hardwoods have been collected in 175 locations in Central America and Mexico by the Cooperative. More than 1,000 hectares (2,500 acres) of genetic tests have been established by CAMCORE members in Brazil, Colombia, Costa Rica, Guatemala, Honduras, Mexico, South Africa, and Venezuela. The Cooperative has grown to include private forest industries and government forestry organizations in nine countries. Membership in the Cooperative is open to any company or organization willing to share

in the cost and effort of carrying on the work of the Cooperative.

Bob Kellison, Interim Director, Ph.D., NCSU; Juan Jurado-Blanco, M.S., NCSU; Claudio Balocchi, M.S., NCSU; Joe Peters, M.S., Univ. of Idaho; Ralph Raymond, B.S., Columbus College, CA; Dai Peters, B.S., Clerical Asst.; Melissa Salazar, Admin. Sec.



HARDWOOD



By: Russ Lea

The Hardwood Research Cooperative was founded in 1963 as an outgrowth of the Tree Improvement Cooperative. The initial efforts in the Hardwood Research Cooperative were tree selection with eventual establishment of seed orchards. Following Intensification of forestry in general, the Cooperative concentrated on plantation management, species-site relationships and hardwood nursery management. For the Hardwood Cooperative, all cooperators are treated equal, regardless of size, age or state of expertise, and all are assessed the same fee for membership. All members are expected to operate at a designated level of activity, and all are required to share in the research results and new germplasm. Research results are made available to the public and form the core for a dynamic continuing education and extension program.

Our research effort is spread across intensively managed short rotation energy plantations to long rotation management for natural stands. Recent priority is being given to management of wetland forests and developing an interactive growth and yield model for natural hardwood stands.

Front Row: Robert Kellison, Ph.D., NCSU; Robin Hughes, Admin. Sec.; Russ Lea, Ph.D., SUNY-CESF; Dennis Menzel, M.S., Univ. of Idaho. Back Row: Tommy Tew, Res. Tech.; Mike Cunningham, Ph.D., NCSU; Doug Frederick, Ph.D., Univ. of Idaho.

INFORDE

By: Jan Laarman

The Forestry Private Enterprise Initiative is a pilot project for providing technical assistance to forest-based private enterprise in developing countries. For three years it has maintained a field component in Ecuador while publishing research based on the Ecuadorean demonstration. Administered by North Carolina State University, the project is funded by the Agency for International Development and channeled through the USDA's Forestry Support Program and the Forest Service. To date, INFORDE, the Ecuadorean component, has helped privatize a forest products laboratory near Quito, survey employment and efficiency in that country's forest products industries, and analyze prospects for large enterprises assisting smaller ones. Research, under the direction of the project's Principal Investigator, Jan Laarman, is being published in a series of working papers available through SCFER, a consortium made up of NCSU's College of Forest Resources, Duke's School of Forestry and Environmental Studies, and the USDA/Forest Service's Southeastern Forest Experimental Station in Asheville.



Front Row: Magdalena Cordova, Michael Mussack, Vincente Molios, Elena Carrera. Back Row: Douglas A. MackKinnon, Duke; Kathryn Hunter, FSP; Charles Van Sickle, SEFES.

NCSFNC



Front Row: Joseph Hockman, M.S., V.P.I.; Beth Haines, Res. Tech.; Lee Allen, Director, Ph.D., NCSU. Second Row: Jonathan Anderson, Res. Tech.; Pat Bean, M.S., NCSU. Back Row: Rachel Dupree, Admin. Sec.; Jane Mudano, Ag. Res. Tech.

By: Lee Allen

NCSFNC is a university - industry Cooperative research program with the goal to develop technology to manage nutrient and moisture availability of loblolly pine stands for enhanced growth and value. Presently, the program is supported by 12 forest industry members with over 75 active field trials examining silvicultural treatments applied at time of planting and in established stands. Recent program findings include: the identification of large areas of P deficient upland sites on the Gulf Coastal Plain, the strong coupling of stemwood production—leaf area and nutrient availability, and the identification of silvicultural treatments to achieve old field productivity on site prepared land.

SMALL WOODLOT

By: *Carlyle Franklin*

The mission of the Small Woodlot Forestry Research and Development Program is to develop cost-effective technology for the management of nonindustrial private forest lands and to develop incentives which will encourage landowners to apply this technology to their woodlands. The incentives for landowners to practice forest management must be in place before the application of proven technology. Incentives for improved management fall into two broad classes; 1) those which involve financial gain,



and 2) those which provide aesthetic fulfillment in its broadest perspective. Technology for management of small woodlots must be applicable at costs which the landowner is willing to pay and must offer reasonable assurance that the stated objectives can be accomplished. This implies that a wide range of technologies must be available to landowners in order to satisfy the wide range of management goals and investment limitations which they have. Much is already known about alternative silvicultural practices and their probable outcomes, but only the most intensive practices have been widely applied under modern economic and environmental constraints. The challenge for us is to research, compare, and demonstrate a wide range of cost-effective technologies, with special emphasis on minimizing the investments that are required during establishment and early management phases of the rotation.

Dennis Hazel, M.S., NCSU; Robert Wilson, Res. Asst.; John Giorgino, Res. Tech.; Martha Miller, Admin. Sec.; Carlyle Franklin, Ph.D. NCSU.

TREE IMPROVEMENT

By: *Robert Weir*

The North Carolina State University-Industry Cooperative Tree Improvement Program is completing its 32nd year of continuous operation. Starting in 1956 with 11 charter members, the program has grown to 29 industry and State Forest Service organizations that operate 41 active program units. This is a splendid example of an industry, government, and university partnership in action that has worked effectively to meet the important challenge of developing the genetic potential of our forest trees.

The Cooperative is truly a **research and development** program. Program members manage over 20 million acres of forest land, grow 630 million genetically improved pine seedlings per year and plant over 900 thousand acres per year. This effort comprises 40% of the trees planted annually in the nation. Since the program began, members have planted over 10 million acres with genetically improved trees. The genetics program costs about \$5 extra per acre of plantation; thus total investment to date exceeds 50 million dollars, and the value return at harvest time is expected to exceed 1.5 billion dollars.

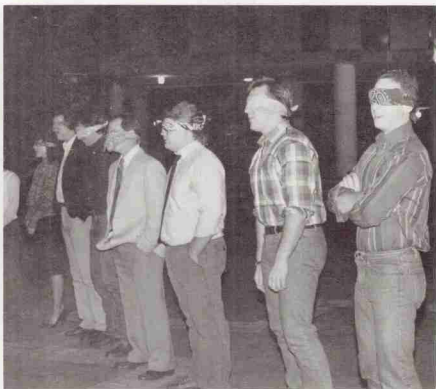


Front Row: Jerry Sprague, B.S., NCSU; Floyd Bridgewater, Ph.D. Oklahoma State University; Robert Weir, Director, Ph.D., NCSU. Second Row: J. B. Jett, Ph.D., NCSU. Back Row: Charles Eckerd, Ag. Res. Tech.; Steve McKeand, Ph.D., NCSU, Vernon Johnson, Ag. Res. Tech.



CLUBS AND ORGANIZATIONS

XI SIGMA PI



FOREST RESOURCES COUNCIL

By: Larry Ridenhour

The forestry council is the representative body for the students in the College of Forest Resources. The members of the council represent each of the clubs and honor societies in the college, the three departments and the student senate. The council president and two senators represent the College of Forest Resources in the University Student Government. The council also acts as a medium between the students and faculty.

One responsibility of the council is to disperse funds received from student fees. This money, in turn, is used by clubs and organizations for various field trips and special events.

Each year the council votes whether to publish a journal of our college (yes, the Pi-ne-tum you are reading) and then coordinates by recruiting a staff and partially funding this project.

This year the council has worked toward establishing a system of peer/student advising, where upper classmen help advise freshmen and sophomores on the many aspects of college life.

As the school year winds down the council sponsors a picnic for students and faculty. Many burgers and hot dogs are consumed and much volleyball is played. This serves as a going away party for seniors, a tension release party for everyone else, and helps to strengthen student-faculty relations.



F.R.A.G.S.



NCSU FORESTRY CLUB

By: Thomas Margo

The Forestry Club has always proven to be full of excitement and surprises. This year's club activities included social events, competitions, and community service work. The club started the year by assisting the Forestry Department in freshman orientation. Furthermore, club members spoke to the freshman class about the educational, practical applications, and social aspects that the club has to offer.

In October, several members braved gloomy weather conditions at West Point, Virginia, to compete in the Crabfest logging competition. Although the competition was cancelled due to rain, we did see a lot of old friends, satisfied our appetites with boiled crabs and beverages, and had a few laughs.

Also in October, at the North Carolina State Fair, the club manned an exhibit displaying several of the club's involvements and interests. In addition, a few members were able to watch professional woodsmen strut their stuff. A few even tried, but to no avail, for the \$58 prize offered to the person who could birl for ten seconds.

On Halloween weekend, forestry students put away their trick-or-treat bags and exchanged them for axes and crosscut saws to compete in the 51st annual Rolleo competition. This fierce, but friendly, interclass battle proved to be exciting as ever. First place was shared by the juniors and seniors. The day ended with a pig pickin', beverage and a lot of "wait till next years."

In November, the club participated in the 'Wood for Warmth Project', which provides wood for the needy of Wake County. The project went well this year and supplied an ample amount of firewood.

Funding for competitions and projects came from tree jobs. Tree jobs give members the opportunity to practice urban forestry as well as provide a community service.

The spring semester will include the 31st Annual Conclave competition in Auburn, Alabama, the Loggers Brawl and the Prince George competition in Virginia.

In conclusion, the Forestry Club has had an eventful semester. The club has traveled throughout the Southeast to logging competitions, volunteered time to worthy causes and provided a healthy social calendar for members and guests, resulting in perhaps one of the most organized and supportive clubs at North Carolina State. This would not be possible if it were not for the freshmen, sophomores, juniors, seniors, and advisors, who dedicate their precious time, voice opinions, and submit overall strong support to act as one: The North Carolina State Forestry Club.



By: Marshall Thompson

Love-a-fair! The 1987 North Carolina State Fair offered a good opportunity for the NCSU Forestry Club to show off their "old-time" techniques in logging competitions, as well as provided an educational aspect of the profession. Much appreciation must be extended to the N. C. Department of Natural Resources and Community Development for providing us with a location in the Forestry Exhibit area to demonstrate these activities. I would like to thank all who helped make the exhibit as exciting and informative as it was.



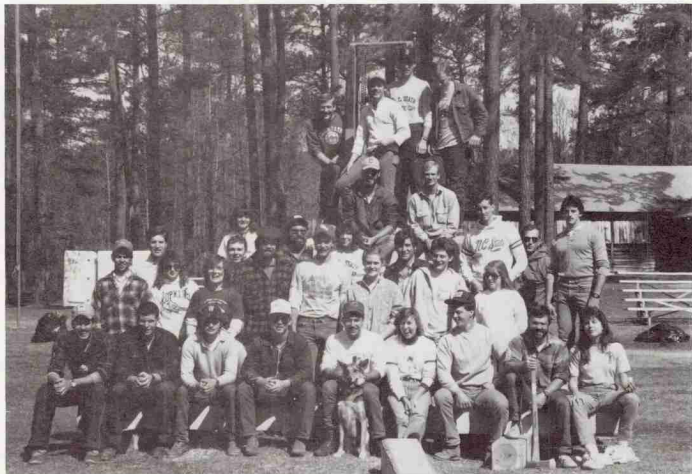
WOODCHOP WOOD FOR WARMTH

By: Phillip Whitlow

Each year the Forestry Club does a number of public service activities. This year was no exception. In joint cooperation with Alpha Phi Omega service fraternity, we were able to have the most successful Wood For Warmth Drive ever. The wood that was chopped is being used to heat elderly and low income families' homes.

Alpha Phi Omega supplied much of the manpower by recruiting with articles in the student newspaper, fliers, refreshments, hats, and buttons. The Forestry Club, under the leadership of Brad McConnell, received generous help from several local citizens who provided log splitters. Wilson Outdoor Equipment, on West Street, furnished four Sachs-Domlar chain saws, two Echo chain saws, and a case of oil. With a large turnout and cooperating weather we were able to cut over 50 cords of wood, making this year's Wood For Warmth Drive the most productive and successful since its beginning in 1982.

CONCLAVE 1987



By: Dave Markowski

This past year the ASFC Conclave was a special event for N.C. State's Forestry Club. This conclave generated lots of work and excitement for our club, because forestry clubs from throughout the Southeast travelled to North Carolina where our club played host for the 30th anniversary of this intercollegiate competition. Camp Millstone, a 4-H camp in Ellerbe, N.C., is where the events of this conclave unfolded. Even though we spent the majority of our time planning and preparing for this competition, we were still able to field a competitive team. Much of the credit for this was due to the efforts of team captain Brad McConnell. McConnell constantly pleaded, prodded, and pushed us to practice. His perseverance payed off, because he led the club to a 3rd place finish in the final standings.

There were several strong finishes for club members. Notable among these were Tim McCracken's new conclave record in bow sawing (he, broke the oldest existing record, that was set in 1967), John Howard's 1st place finish in pole classification, the M & M brothers' 1st place finish in men's crosscut

sawing, and Frank West's 2nd place finish in archery. State's strong finish in physical events, though, was due to the combined efforts and the consistently high scores of all the team members. Their scores helped lift State to a 2nd place finish in the physical events. N. C. State also showed its team strength by winning the Woodsmen's Team Relay. This was a non-point event designed to bring together club members who would otherwise not be competing. Our nine-member team beat all competition in this timed relay consisting of axe throw, woman's bow saw, Jack-n-Jill crosscut sawing, speed chopping, and pulpwood toss.

The reason this conclave was special, though, was not just because our team did well in the final standings. It was because we students decided to plan and put on this conclave, instead of letting our advisors, faculty, and staff do it for us! And it was because of this that we developed leadership skills as well as planning and organizing skills that aren't normally learned or developed in classroom situations. We the students did the planning, the organizing, and the running around. We procured the wood for practice and competition. We set up

practice courses for dbh estimation, compass & pacing, timber estimation, and pole classification. We got the samples for wood identification and wildlife. We cut, hauled, and installed the poles for pole felling. We cleaned up camp, cabins, and kitchen. We recruited quality judges from industry and government to deter any possible N. C. State partiality or favoritism. And through it all we were molded into a team.

We had total faculty, staff, and advisor support. If we needed them they were there. We had our head coach and mentor Bill Smith. Other coaches included Dr. Wheeler, Dr. Braham, and Heather Cheshire. Three major assets were our super secretaries Ruth Allen, Judy Rogers, and Charlotte Swart. They watched over us all year long. The wood shop boys from Hodge's Wood Lab put in lot of time and effort for us. Mr. Gilmore, Bill Bryan, Willard Dudley, and William Wyatt helped us mill lots of wood, and they also helped us make plaques for prizes. Dr. Frederick helped us greatly in the wood area as well. Larry Jervis helped us in many ways, and he also gave us the use of his henchmen Gery Glover, Ed Sontag, and Dave Fogarty. Dr. Cooper came to our rescue during the bad times at Richmond High. Executive producer Bill Swint helped us produce the first conclave video suitable for distribution to all the schools. Forestry extension personnel assisted by giving excellent recommendations in many areas. Our technical advisor Dr. Gregory was always there when we needed him. And who could forget the memorable services of our head chef Doc Steenson and his cohort Dr. Maurice "dishpan hands" Farrier. These two were up every morning at 4:00 A.M. washing dishes and preparing meals for hungry foresters.

Perhaps more importantly, though, conclave was special because of the fun and experiences we had and the friendships and team spirit we developed through our toils and troubles. There was "Mr Entertainment" (David Cole) and his stage designing crew who built a great outdoor stage for the bands. After two cold but excellent outdoor concerts, they sawed the stage in half and moved it indoors where it was warmer. This was no little stage either! What about the 5:00 A.M. garbagemen ——— jump on the flatbed boys, its time to pick up the beer cans. And yes, Brad & Tim and the rest of you crazies that assisted, Charles and I did enjoy our blue mustaches and eyeglasses that you so craftily magic-markered onto our faces when you ambushed us that night the week before conclave! But paybacks can be hell as you were soon to see, when the 406 trip got here and you had the favor returned!

Other "good" times come to mind as well. Mark Pearson sleeping in back of the carryall; 406 management plan crises; the 3 M's brainstorming at the 501 Harding St. Cafe; Bruce Frye, Super Grit Cowboy Band, & the Bill Lyrely Band; Frank & the

Wild Turkey; Band McGuire's screen door; egg wars the day after; John McMinn designing birling brackets at 4:00 A.M.; barhopping trying to find suitable entertainment (we didn't find it at the Keg, did we Tim?); Austin and me waking up Mr. McCracken at 1:00 A.M. to get wood for trophies; Shelley Peterson selling T-shirts during conclave and hating it; Moreland's huge presence and never ending assistance; Clare looking to strangle someone after they fired the starting gun in the staff cabin; Brooks sleeping in the woods; Charles worried about preparations for the physical events; building the dock at Camp Millstone; our new land birler designed by McCracken and built by McConnell; Austin's T-shirts; Cole & McConnell arguing about who was right and who was wrong for timber estimation; playing food service people at the banquet; eating pizza at the Aberdeen Pizza Hut; throwing McCracken in the icy water for his birthday the day after; and endless road trips to Ellerbe.

Yes, Tim you organized a good one. Some things could have gone better, but overall it was a damn good conclave. May the tradition of this club live on. Long live the Chestnut Club.



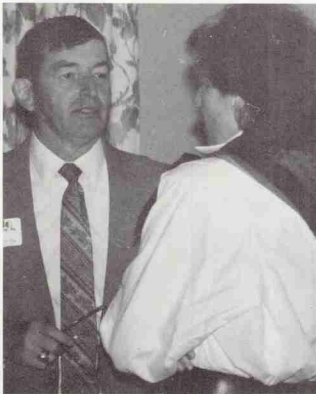
FORESTRY IS MORE THAN TREES

Dr. Charles D. Webb '57

Vice-President, NCSU Forestry Alumni Association
National Council of the Paper Industry
for Air and Steam Improvement
Research Triangle Park, NC

On October 30, 1987, the NCSU Forestry Alumni Association cooperated with the Forestry Department to sponsor a career forum designed to explore some of the elements that determine career success for natural resource professionals. Some seventy students attended the dinner meeting at the NCSU Faculty Club. This was the second year such a seminar has been presented; in 1986, the topic was "Forestry Career Insights". Future plans call for an annual event in which Forestry alumni can share with students some of their experiences in the profession in a manner designed to enrich an already strong academic program.

Speakers for the 1986 forum were Harry Layman '53, State Forester of North Carolina; Ron Bost '60, Vice President of Crescent Land and Timber Corp.; and Leonard Killian '56, State Forester of South Carolina. At the 1987 seminar, speakers varied from recent graduates to those advanced in their careers. A young foresters panel was composed of Lynn Jenkins '85; Dan Edwards '83; Denise Ingram '80, Brenda Ethridge-Bryant '80; John Person '79. The program was balanced by the experiences of James E. Webb '56, Associate Deputy Chief, US Forest Service; and Charles Raper '54, Vice President of Travelers' Insurance Company.

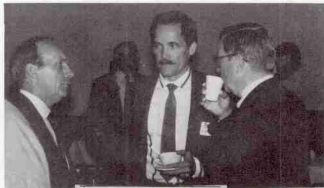


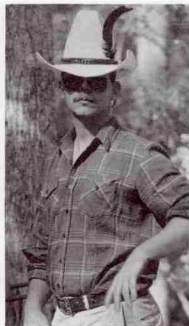
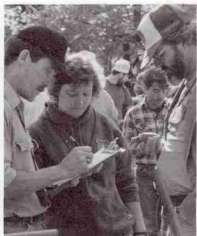
In both programs, several themes recurred, regardless of whether the alum had been out of school two years or thirty-five years: success as a resource manager seeking to implement technical programs is strongly influenced by personal skills and an ability to interact with people. Dean Ellwood emphasized that if a manager's advance in the profession is hindered, it is because of a lack of broad perspectives rather than a lack of technical skills. Lynn Jenkins, out of school only two years, said it well: "forestry is a 'people business'; the better you can work with people, the easier your life will be." Jim Webb '56 stressed, "The ability to work with people will be critical to your future. The forester should seek various positions within the organization to get experience in different functions and to learn different perspectives."

The ability to communicate orally and in writing is a critical part of working with people. The young foresters panel repeatedly mentioned this reality, because they encountered this need very soon after entering the profession.

The comfortable humor of Charlie Raper '54, pointed out that whether a company is private or public affects financial decisions, especially those on owning timberland and investing in forest management. His practical assessment of some of the realities of the business world also emphasized the importance of understanding people. It is not surprising that foresters must be effective salespeople and negotiators, and they are served well by an understanding of accounting, finance, and credit.

In the concluding remarks at the end of the evening, the Leadership Development Series available at NCSU was recommended as a valuable addition to a professional education. This is a series of one-evening seminars on 48 different topics relating to leadership development. Since managers of the forest resource must be effective leaders of people, students were encouraged to take advantage of this excellent series. Participation in this series can be helpful in the process of obtaining professional employment and in later job performance.





ROLLEO

By: Rob Kidd

The 51st Annual Rolleo was held on October 30 and 31. Friday's technical event competition winners were: Jill Power, tree identification; Wyatt Latimer, DBH estimation; and Brad McGuire, compass and pacing. These events accumulated competition points between the senior, junior, sophomore, and freshman classes. Saturday began bright and early with the axe throw and knife throw. Frank West's performance in the first event of the day, the knife throw, won first place. Axe throw winners in the men's and women's competition are Brad McGuire and Kierston List. Phillip Whitlow and David Powell "measured up" to become champions in the chain throw competition. Archery, a non-point event, was taken by Frank West. Steve Hyde and Frank West placed first in Rolleo's final and exciting event of the morning, the logroll.

"Doc" Steensen's gourmet hot dog dinner energized everyone for the afternoon events. Icy waters of the Hill Forest pond did not dampen the spirit or the skills of winner John Howard. Sawing events continued on this brisk, sunny Saturday afternoon. Ed Sontag and Shelley Peterson placed first in the men's and women's bow saw competitions. The men's crosscut team—Mark Thompson and "Yoni" Johnson and women's crosscut team—Marietta Singleton and Shelley Peterson made their mark as winners of this event. Jack-n-Jill crosscut was won by Ed Sontag and Clare Dellwo. The heated speed chopping event winner was Tom Margo. The final event of the day, the pulpwood toss, was won by the seniors. The Rolleo competition was very close with juniors and seniors tying for top honors followed by the sophomores then freshmen.

A pig pickin' prepared by Brad McConnell and "Yoni" Johnson topped off the day and was enjoyed by all.

LOGGERS BRAWL

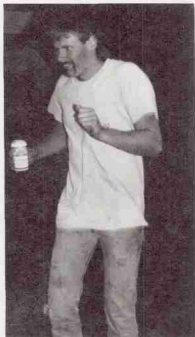
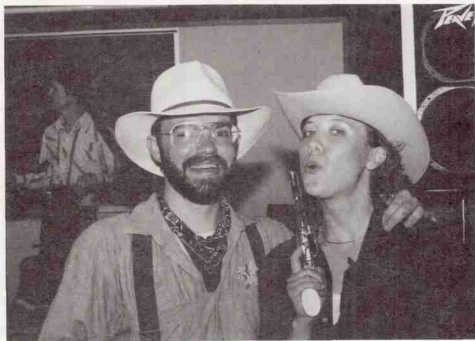
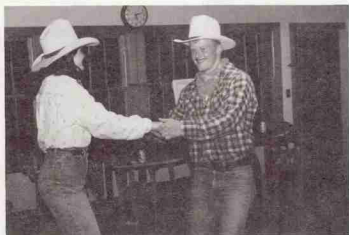
By: Brad McConnell

Loggers Brawl was once again an enlightening experience for the old timers as well as the new.

Loggers brawl always occurs just before exams and just after Conclave. A time in which emotions and anxieties are high. What better time for a party!

This year's theme for the Brawl was "Western Night," where everyone was expected to wear their best cowboy or cowgirl attire. The day started out early Saturday morning by placing the chilled pig on the hot rack of the pig cooker. Throughout the day Rick Hamilton and his co-cookers nursed the pig as well as the brew. By the end of the cooking ceremony we were all well acquainted and equally full of pig as well as other things. At 6:00 p.m. the pig was officially served with all the fixings. Finally, after the last piece of meat was plucked from the jaws of that delicious pig, the first pickin could be heard coming from the bluegrass band in the classroom. Soon everyone was stomping and Hee Haw'n to favorites like "Dog Comin Home" and "Swing Sweet Sally." It is safe to say that the band stood only 2nd to Sontag's and Fogerty's musical extravaganza. Oh, how I would love to be there now! It was a time when Brooks Rudd decided that this would be his last fling. A time when Tim McCracken was in full form—but the hats were not. Thanks Tim, my hat has never looked the same since.

After an event like this is over, one must stop and ask himself—where is the aspirin? and the pepsi!



Prince George

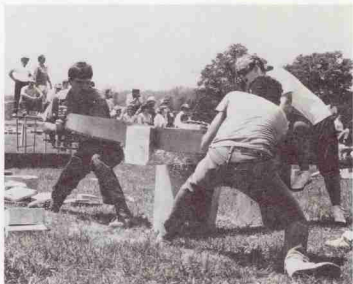
By: Marietta Singleton

"Roll on Highway", we were off for Virginia to compete in the second annual Prince George Heritage Fair lumberjack competition. What a great time it was for old and new competitors. We arrived at the Holiday Inn the night before the competition along with the other two schools, West Virginia and Virginia Tech. The motel employees and especially the security guards were so excited to have us there that they just couldn't stay away from our rooms and tried to become a part of the all-time sport enjoyed by some foresters, the shrub toss. Of course the participants didn't get full acclaim for their victory for the guards couldn't find the true athletes and only gave recognition to what were mere spectators . . .

The next day, and oh what a beautiful day it was especially for those sweating 90 proof. As usual the competition was good and each team hung in close together. We had strong finishes in mens and womens axe throw, womens speed chop, and of course mens and womens bow saw and to top it off Ian drove the stake. We had a slight delay in the cross cutting events due to the on going controversy of legal saws. So we ended that dispute and bought a m-tooth of our own. The last few events were to be the deciding factors, with the best cants for speed chop that we had (beautiful huge knots) and the inability to get up the darn pole, as expected, we did well and ended up in third place (not to mention last). Hey, I don't want to forget to mention the enlightening experience it was just to compete and lose no tears.

Events:

- | | |
|----------------------|---|
| Mens Axe Throw | —Tim McCracken
Brooks Rudd |
| Womens Axe Throw | —Clare Dellwo
Marietta Singleton |
| Mens Bow Saw | —Tim McCracken
Paul Ericson |
| Womens Bow Saw | —Shelley Peterson
Clare Dellwo |
| Mens Crosscut | —Tim McCracken and
David Marcowski
Alex Smith and
Ian Shannon |
| Womens Crosscut | —Shelley Peterson and
Marietta Singleton
Clare Dellwo and
Michele Spersrud |
| Mens Speed Chop | —Tim McCracken
John Johnson |
| Womens Speed
Chop | —Clare Dellwo
Marietta Singleton |
| Mens Pole Climb | —Brooks Rudd |
| Womens Pole Climb | —Geneva Maher |
| Pole Felling | —Ian Shannon |



Summer Camp in 1987

By: Jamie Shern

We had all heard about Forestry Summer Camp at G. K. Slocum Camp, but the mild trepidation we felt in no way prepared us for the bedlam to come. The nine weeks of toil and sweat were supposed to prepare us for our future in forestry. In addition to learning a myriad of forestry terms, techniques, insects, and trees, we learned about ourselves and each other.

The accommodations were nice: the "heated" classroom, the rustic but modern cabins, the game room. And how could we forget the early morning laps in the Slo "scum" Camp pool? Right, Matt? The food was indescribable. Who could forget when the outdoor freezer broke down and we spent the next 7 days eating pancakes and sausage patties for breakfast, broccoli soup for lunch, and hamburger or some strain of it for supper?

Classes were, well . . . we'd best just leave it at that. But we did learn to discuss forestry ("cut it, burn it, and plant it in lob") in a thoughtful and professional manner. Techniques like dodging lightning bolts and driving busses through smoked out roads were touched upon in class as well.

Free time, what little there was, was spent at the faculty cabin cultivating porch fungus with Ashe County water and the golden beverage. Basketball, volleyball, and even horseshoes took on lethal characteristics.

Here are some quotable quotes from the summer of 1987. See if you can match the quote with the quoted. Answers on page 100.

- A) Master Bryant you did not follow directions.
- B) Nyssa, Nyssa. Who's the fox? In toto, a handsome specimen.
- C) Hey, Barbara, want a dip?
- D) Who took the N%%\$%#! gong?
- E) Pass the coffee and cigarettes.
- F) Grab a beer, Don't cost nothin'.
- G) Deb, get out of the septic tank.

Rich Braham
Doc Steenson
N.C. Forest Service
Dr. Farrier
Otis Campbell
Doc Steenson
Levi Garrett

All in all, it was a fun filled summer. Of course, I don't think I want to do it again. But if I got a knock on the head . . .





LOGGING DEMO

By: Alex Smith

The sounds of skidders and loaders echoed through the woods near Greenville, North Carolina on September 19. This was the first year the NCSU Forestry Club ventured into the wilderness of East Carolina to participate in the Logging Demonstration.

The Tidewater Equipment Company treated the group to dinner and a party the evening before the events. The next morning an "elite" group was not quite as bright-eyed and bushy tailed as it should have been for the demonstrations.

Aside from the good time, there was plenty to see and do. All the newest equipment, including several skidders, loaders, and feller bunchers, was shown off throughout the day. The Forestry Club seized this opportunity to demonstrate "ole-timey" logging methods.

Earl Deal gave the Forestry Club the opportunity to attend this event. The group had a great time and plans to participate next year.



Project Learning Tree Grows In Biltmore Hall and Schenck Forest

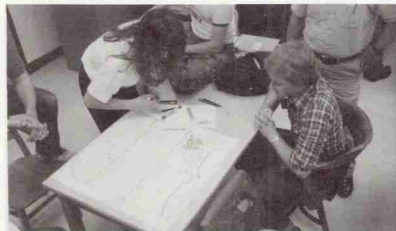
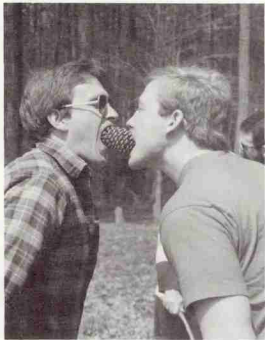
By: Gary Blank



With Leon Harkins' help, students in the forestry and recreation departments are learning how to participate in the program known as Project Learning Tree (PLT). This exciting approach to environmental education links the expertise of educators and professional resource managers to enhance school curricula in grades K through 12. Multidisciplinary in scope, PLT uses the natural environment as a context for exercises in subjects from art or English to science or social studies.

Students spend a day learning the general PLT program principles, getting acquainted with the PLT Activity Guides, and planning a workshop agenda. Then they spend a day putting the principles into practice, directing an activity, and examining how various techniques would work with different ages and school subjects.

Having this experience, some NCSU graduates have already been conducting their own PLT workshops and working with school groups. All have gained appreciation for how professional resource managers can also become environmental educators.



NCSU RECREATION CLUB

By: Dawn Bodenheimer

The NCSU Recreation Club is one of 16 clubs and organizations in the School of Forest Resources. Officers for 1987-1988 are Dawn Bodenheimer, President; Charlyne Todd, Vice-President; Michelle Wells, Secretary; Allen Vance, Treasurer; and Phil Campbell, Representative to the Forestry Council.

One of the goals this year for the Rec Club and the Recreation Resources Administration as a department is to increase interest and enrollment in Recreation. Enrollment had dropped over the past ten years, but has shown an increase this year.

The Recreation Club sponsors the RISE Conference each spring. This year Rec Club members Dorothy Cook and Ann Coughlin were co-chairwomen. The conference and luncheon were a success thanks to Ann, Dorothy and the many student volunteers!

The Rec Club designed and has sold t-shirts and sweatshirts this year. These items were sold to students, faculty and to alumni at the N.C./Virginia Recreation Conference in Winston-Salem in November.

During the Spring semester, the Rec Club plans to challenge Rho Phi Lambda in a 'Bowl-a-Thon' to benefit the Retarded Citizens of Raleigh group.

A special thanks from the Recreation Club goes to our advisor, Dr. Robert Sternloff, and to our biggest supporters, Reggi Powell and Sue Rudy of the Recreation Department, for all their help this year.

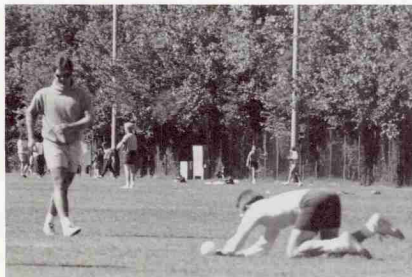
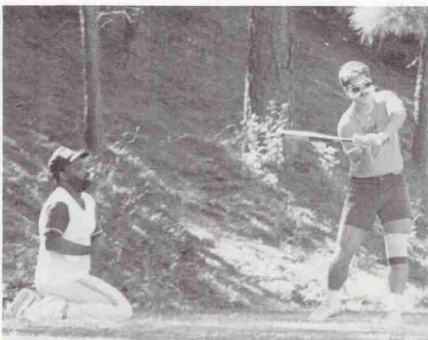


Rho Phi Lambda

By: Phil Campbell

Rho Phi Lambda began the 1987-88 school year with a dinner meeting. Plans were made for the fall initiation banquet. Dorothy Cook, Helen Watkins, and Aubrey Clayton were fall initiates. Our Christmas project was to participate in the Angel Tree Project for children.

Spring semester was clean-up time around campus. The club sponsored a Woodsy Wolf Clean-up Campaign. Another service project for the spring was a bowl-a-thon for retarded citizens of Wake County. The Spring Banquet was held at the Faculty Club on April 9, 1988. Initiation for new inductees was held at this banquet.



RISE CONFERENCE

By: Dorothy Cook

The Recreation Internship and Summer Employment Conference, better known as RISE, is sponsored each spring by the North Carolina State Recreation Club. The objective of the conference is to allow students the opportunity to interview with recreation-oriented agencies for internships, summer employment, and other part-time positions. Representatives of agencies gather in the Student Center Ballroom to meet with students and sell their organization. After a morning of interviews, students, faculty, and agency representatives attend a luncheon in the Walnut Room. This informal setting allows students to talk with the agency with which they are most interested.

A lot of hard work goes into making RISE a success. Each spring, chairpersons for the conference the following year are recruited. Applicants are interviewed and then selected for the task. The co-chairs are responsible for getting the agencies to attend the conference. Agencies representing all areas of concentration including natural resources, program management and commercial are invited. The co-chairs organize the entire event as well as keep the program running smoothly during the event.

This year's RISE Conference was considered a success by everyone. Co-chairs Ann Coughlin and Dorothy Cook did an outstanding job planning and running the program. Approximately 40 organizations including Kitty Hawk Kites, Cary Parks and Recreation Department, Wake County Parks and Recreation Department as well as North Carolina State Parks came to the conference to interview students.

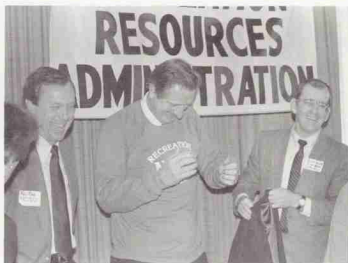
The featured speaker at the luncheon was Dr. Wilbur LaPage, Director of New Hampshire Parks and Recreation Department and a member of the President's Commission on Americans Outdoors. In addition to speaking at the luncheon, Dr. LaPage held a seminar in Biltmore Hall in the afternoon.

As the chairs are being selected for next year's RISE Conference, we hope that it will be as successful as 1988's. This event is for the students, and the students are what make it a success. However, we cannot forget to give thanks and credit to Dr. Beth Wilson, Sue Rudy, and Reggi Powell for all the time and effort they contributed to the 1988 RISE Conference.



NORTH CAROLINA STATE UNIVERSITY

1988



TAPPI

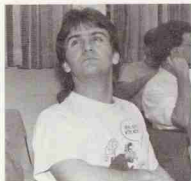
By: Kai Simonsen

The TAPPI (Technical Association of the Pulp and Paper Industry) Student Chapter has had an active year thus far and plans to have an active future. During the fall we had several excellent speakers at our Tuesday night meetings and several membership mixers including ice skating and midnight bowling. We also participated in the Virginia-Carolina LSOC Tappi meeting held in New Bern, NC, on November 20-21, 1987.

The spring semester is providing the students the chance to participate in the TAPPI National Convention in Atlanta, GA, on February 29 - March 3, 1988. Here we will have the opportunity to meet many of our future employers and to show off the videotape we produced advertising NCSU and the Pulp and Paper Technology curriculum.

Then on March 18-19, 1988 the Student Chapter will participate in another Virginia-Carolina LSOC TAPPI meeting to be held in Kingsport, TN. Here two student chapter members, Richard Venditti and Stacy Lee, will give papers in the Frank Farrell Awards competition.

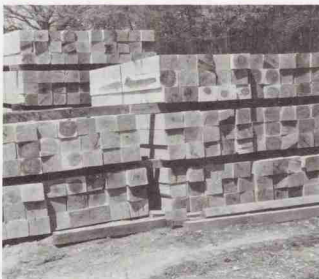
Future plans include more membership mixers and organizing a service project where candidates from local Boy Scout Troops can fulfill the requirements for the Pulp and Paper Merit Badge.



FPRS

By: Jonathan M. Cantliffe

The NCSU Chapter of the Forest Products Research Society offers students interested in the forest products field a link between the classroom and the many aspects of the wood industry. Our student chapter meets bimonthly and features speakers associated with major wood industries, consulting firms, government agencies, and employment services, to name a few.



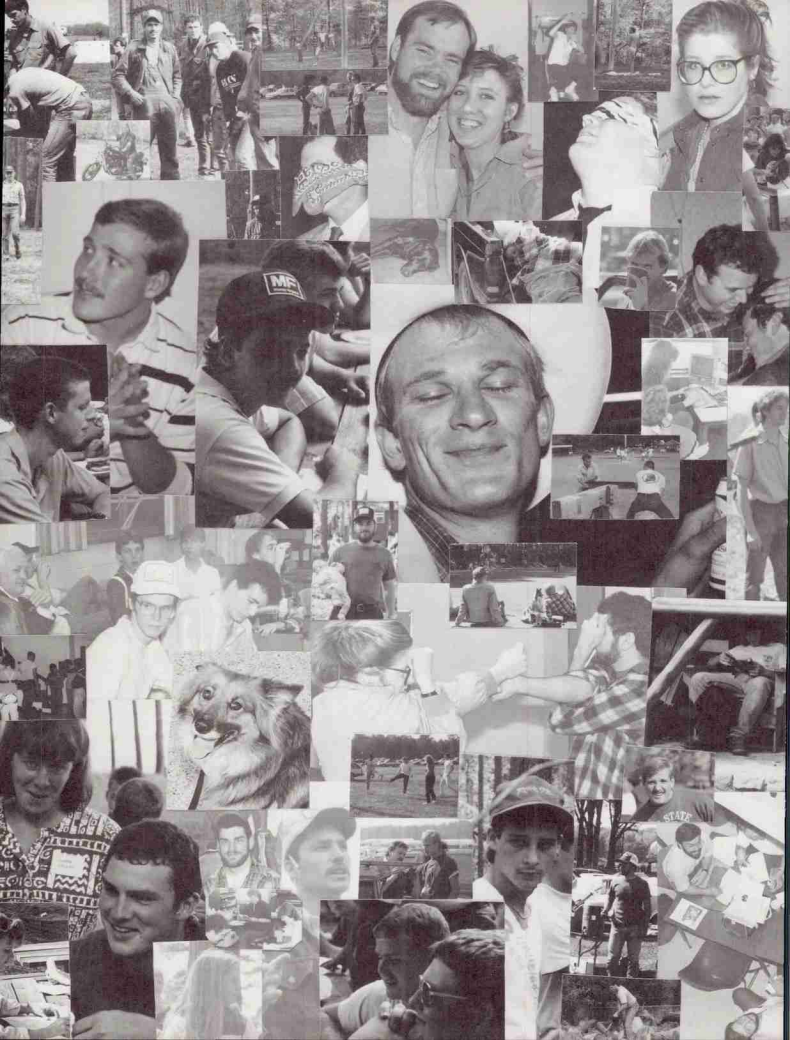
This past fall we started the year off in traditional fashion by setting up and manning the Open House display for the Wood and Paper Science curriculum. At our booth, incoming freshmen interested in WST could pick up information and ask questions pertaining to the field of study. We had several fantastic speakers for our meetings during the fall semester and then ended it in grand style with a Wolfpack Football Extravaganza party.

Plans for the spring semester include six industrial speakers, a furniture raffle, a Senior Bash cookout, and most importantly, the Second Annual FPRS Log Jam Boat Race, which will be held at the University of Tennessee, Knoxville, in late April.

The First Annual FPRS Log Jam Boat Race, sponsored by Virginia Tech, was such a huge success that the event has become a permanent competition among the nation's FPRS Student Chapters. Our club won the Best Craftsmanship Award for building the most innovative and highest quality boat, using only wood. We hope to win the entire event this year.

Current officers for 1987-88 are Jonathan M. Cantliffe, President; Kevin Griffin, Vice President; Jack Ragan, Secretary; Jay Borrell, Program Director; Leonard Byrd, Athletic Director, and Dr. M. W. Kelly, Chapter Advisor.



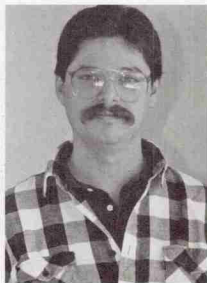


A black and white photograph showing a group of graduates in caps and gowns. The focus is on the foreground, where several heads in caps are visible. The text "GRADUATING SENIORS" is printed in a serif font across the upper middle of the image.

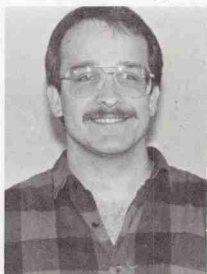
GRADUATING SENIORS

Forestry

Gwen W. Amick
Ann Arbor, MI
Forestry Club, SAF, Xi Sigma
Pi

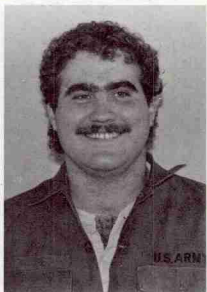
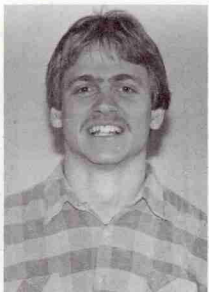


Russell Allen Anderson
Raleigh, NC
Forestry Club, SAF, American
Forestry Assoc.



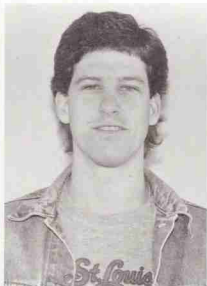
Thomas Sherwood Berg
Wilton, CT
Forestry Club

Andrew Todd Carswell
Morganton, NC
Forestry Club, Woodmen's Team



John Michael Cox
Rockville, MD
SAF

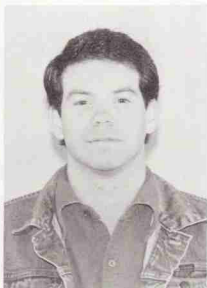
William Deems Currie, Jr.
Durham, NC
Forestry Club, Sigma Phi
Epsilon



Stanley Warren Hales
Sanford, NC
Forestry Club, NCSU Leopold
Wildlife Club



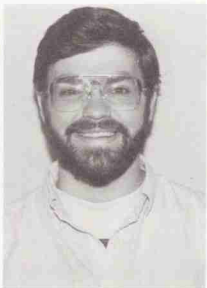
John Phillip Howard
Wilmington, NC
Forestry Club, SAF, Xi Sigma
Pi, Forestry Council, Racquet-
ball Club-Pres.



Fred William Hoyt
Elizabeth City, NC
Forestry Club, SAF



James Michael Powell
Waynesville, NC



Larry Ridenhour
Concord, NC
Forestry Club-VP, SAF-
Chairman,
Xi Sigma Pi, Forestry Council-
Pres.,
Goodwin Scholarship, Dean
Search Committee,
Woodsmen's Team



Marietta Singleton
Wilmington, NC
Forestry Club-Treas.
Alpha Xi Delta Sorority-Vice
Pres., Pledge Educator,
Woodsmen's Team

James Alan Tootle
Hesperia, CA
Xi Sigma Pi

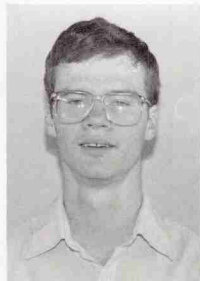


*Pulp and Paper Science and
Technology*

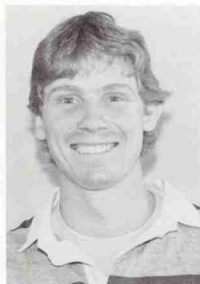
Tony L. Baker
Hope Mills, NC
TAPPI, PPT Foundation Scholarship, P&P Endowed Scholarship Recipient



James Edward Bradbury
Lufkin, TX
TAPPI-Treas., Xi Sigma Pi-Treas., AICHE, P&P Foundation Scholarship, Southern PIMA Endowed Scholarship, Weyerhaeuser Endowed Scholarship



Stacy Ray Lee
Vanceboro, NC
TAPPI, Xi Sigma Pi, P&P Endowed Scholarship



Gerald Wayne Marks
Cameron, NC
TAPPI, Xi Sigma Pi, Forestry Council, P&P Endowed Scholarship





Kai Erik Simonsen
Raleigh, NC
TAPPI-Pres., Leadership
Award-Salesman Society of the
Dixie Pulp and Paper Mills



*Recreation Resources
Administration*

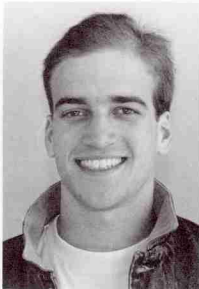
Thomas Andrew Baldrige
Saltville, VA



Betty Jean Gray
Angier, NC
NCRPS

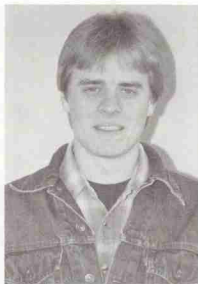


Williams Odie Hicks
Raleigh, NC



Chase Wescott Lassiter
Greensboro, NC
Forestry Council

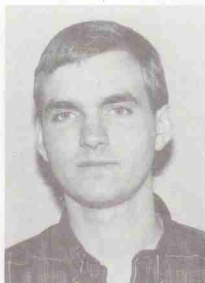
Casey Rhinehart
Cameron, NC
Rho Phi Lambda, Xi Sigma Pi,
Forestry Council



Charlyne Todd
Charlotte, NC
Rec. Club-Vice Pres.,
Xi Sigma Pi, Merit Scholarship
Pi-ne-tum Staff

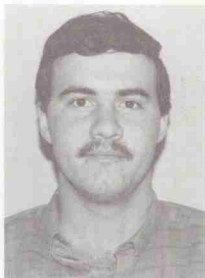
Wood Science and Technology

Eugene Wilson Brown, III
Rich Square, NC
FPRS, Xi Sigma Pi

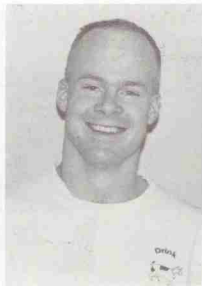


Bradley C. Earnhardt
Gold Hill, NC

Kevin Douglas Griffin
Williamston, NC
FPRS, Xi Sigma Pi



Kenneth Wayne Odom, Jr.
Severn, NC
FPRS



Norman Royce Vann, Jr.
Conway, NC
FPRS

Briant Albert Wilder
Asheboro, NC
Semper F. Society, Resident
Advisor



Hey Ed! Surprise! Happy Birthday! Yes, we got Ishtar the belly dancer to dance just for you. Boy you sure know how to give meaning to the words 'State RED! Happy Birthday Ed!

PI-NE-TUM STAFF

**EDITOR — PHOTOGRAPHER
SHELLEY PETERSON**



**PHOTOGRAPHER
CHARLYNNE TODD**

**BUSINESS MANAGER
ED SONTAG**



The Pi-ne-tum staff would like to thank the following people for all their support, help, and patience.

Dr. L. C. Saylor
Charlotte Swart
Gary Blank
The Forestry Council
Liz Cummings and Contemporary Lithographers
K. O. Summerville
Joanne and Richard Peterson
Donna Albertson
Larry Ridenhour
Gwen Amick
Geneva Maher
Tom Margo
Nancy Roberts
Arthur Cooper
Eric L. Ellwood
Richard Braham
Marietta Singleton

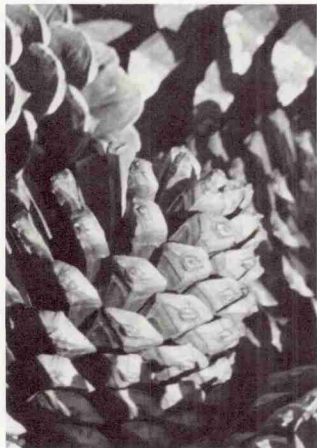
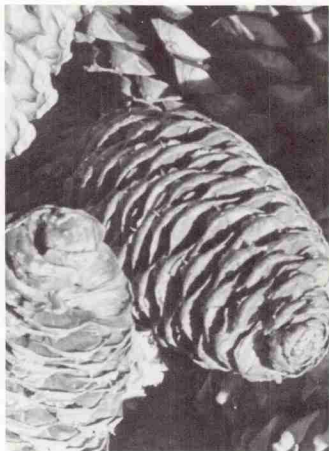
A black and white photograph of a bird's nest. The nest is filled with several large, light-colored eggs. A bird's head is visible in the upper right corner, looking down at the eggs. The nest is made of twigs and other natural materials. The word "ADVERTISEMENTS" is printed in a serif font across the middle of the image.

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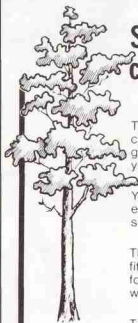
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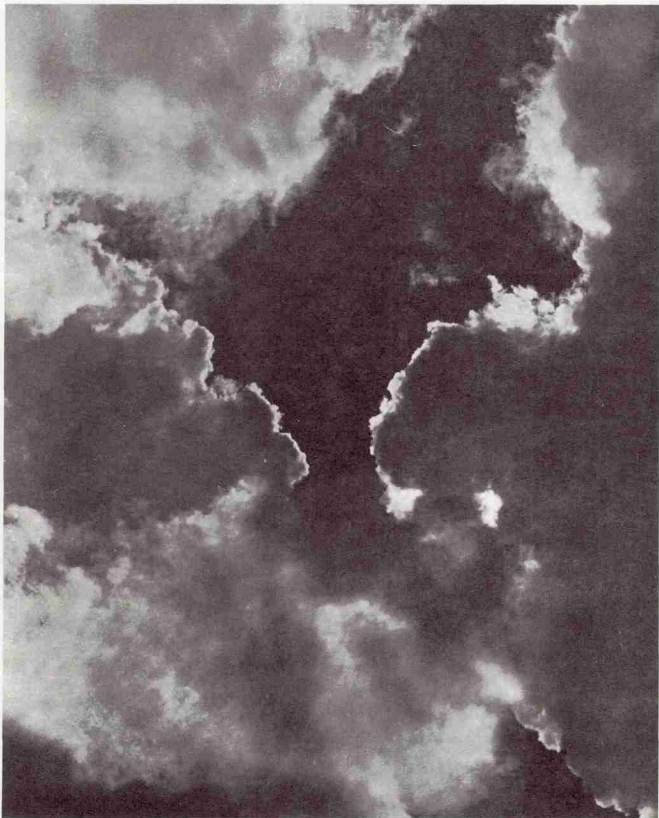
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