

Missouri

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1970



D.L.



THE MISSOURI LOG

published by
THE FORESTRY CLUB

SCHOOL OF FORESTRY
UNIVERSITY OF MISSOURI

Volume XXIII

1970

FOREWORD

This year's issue of the MISSOURI LOG is devoted to problems of multiple use of forest lands. With increasing emphasis and attention to recreational and environmental aspects of forestry, we are very happy to have feature articles from the Federal and State agencies. We feel that these articles point to the solution of some real problems in the management of Missouri's forests.

The MISSOURI LOG Staff

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PHOTO CREDITS AND ART WORK

The art work on pages 1, 11, 17, 27, 45, 57, 66 and the cover are the work of our staff artist, Dale Larison.

Photos on pages 61, 62, 74, 78, 79, 80, 82, 83, 84, 85 and 87 were taken by Dr. A. J. Nash.

Photos on pages 63, 64, 67, 69, 79 and 87 were taken by Jim Jones.

Photos of the faculty, staff and graduate students were taken by Dan Bufkin.

DEDICATION

TO RUTHFORD HENRY WESTVELD, Director Emeritus of the School of Forestry, whose vigorous leadership has been a key in the development of this school and the forestry profession, we dedicate the 1970 *Missouri Log*.

Dr. Westveld, a widely recognized authority in forest silviculture, first came to Missouri in 1936 as an assistant professor but left after a 2 year stint to become professor of silviculture at the University of Florida. After heading the Department of Forestry at Alabama Polytechnic Institute for one year, he came back to Missouri in 1947 to lead our Department of Forestry. When the Department attained the rank of "School," Westveld was named its Director. It was through Westveld's leadership that a faculty was recruited, the University Forest established, accreditation by the Society of American Foresters ensued, and an annual research program budget grew from only \$700 to \$80,000. Westveld was also instrumental in obtaining the support of lumber merchandisers and others needed to develop the Wood Products and Building Materials Management and Residential and Light Construction curriculums.

Westveld's influence and activities have transcended the boundaries of this school. He has been especially active in the Society of American Foresters, having been twice elected a member of the Council, the governing body of the Society. In 1963 Westveld was elected to the grade of Fellow, the highest membership classification.

Perhaps Westy's most significant contribution to the profession was the passage of the McIntire-Stennis Act in 1962. His diligent efforts in rallying support among forestry school executives, forest industries, the Forest Service, and the Association of Land-Grant Institutions for the measure which allocated federal funds for forestry research at land-grant colleges will ultimately have far reaching effects on increased forest research and better utilization of America's timber resources.

To cite any other accomplishments, activities, or Westy's publications, will not add anything to the respect and esteem in which he is held by the faculty, students, and alumni of the School of Forestry. His warm, friendly smile, his unusually sound advice, and his desire to help anyone with a problem, whether it be monetary or otherwise, leaves us all with a goal to strive for—a personality to emulate.

Dr. Westveld, once again we salute you!

Our Hats are off to You,
Dr. Westveld





MR. MARTIN DEGENHARDT

In Memoriam

MARTIN DEGENHARDT has been associated with forestry in Missouri for many years. As a charter member and later President of the Missouri Christmas Tree Growers, he was active as a tree producer serving that organization well. He was also involved in wood manufacture as owner and operator of a wood-using business turning out parts for furniture. As a member of the State Legislature, he moved quietly behind the scenes to provide broad support for forestry. He served the School as a member of the Advisory Council, as its second vice-president, and at the time of his death as first vice-chairman. He was also directly involved in bringing at least one able forestry major, his son Dave, to the School. We will miss him and take this belated opportunity to express our appreciation.

Report on School Activities

D. P. DUNCAN



THIS HAS BEEN A YEAR OF INCREASING ACTIVITY in the School. Each year seems busier than the last—but perhaps this generally characterizes American life today. Progress has been made; some problems have been solved; some opportunities were acted upon; others were bypassed for lack of time.

Some changes in personnel will be of particular interest to alumni. Dr. Westveld fully retired December 31 and he and Amy are, as of this writing (February), enjoying well deserved relaxation in Florida. He will doubtless continue to participate in School activities on his return, however, and we expect to make a desk available for his use.

John Slusher came to us from Kansas State University as Extension Forester on July 1 in the position formerly occupied by Mac McCormick. Gordon Powell resigned as Administrative Assistant having completed his Master's degree and assumed a position as forestry adviser in the First National Bank at Mobile, Alabama. Jim Pastoret returned to Columbia following a year's leave with the Southern Pine Association in New Orleans.

The School now has 23 staff members including three holding cross appointments with other departments—botany, plant pathology, and entomology. Three of the 23 are extension-related and one is an instructor, a position which permits the incumbent to work on a Ph.D. program while teaching and participating in the School's research program. We are presently seeking a man for the position vacated by West's retirement.

A major research program review has taken place in the School during the past year. This was stimulated by the Experiment Station which has requested such a review by each school or department participating in its program. The School has 11 major programs of research under the new proposal, down from the 18 projects currently active. These include work in hardwood forest ecology, hydrology of the Missouri Ozark forests, forest resources measurement, protein synthesis in tree seedling hardening, forest and plantation insects, ultrastructure of forest pathogens, genetic investigations, timber production economics, fundamental properties of Missouri woods, structure of and marketing in Missouri wood industries, and forest land use planning. In planning these new programs, considerable effort has gone into preparing a flexible plan of development extending some 5 to 10 years ahead.

Our total student population has changed very little in the past year and remains at about 240 undergraduates and 30 graduate students. The undergraduate population is increasingly made up of transfers from other institutions of higher education. New students this year have been one-half transfers, one-half freshmen, a substantial proportional increase over 5 to 10 years ago. In fact, during the last decade transfer student numbers have doubled each 5 year period. We are also getting more out-of-state enrollees in the School; currently 28 percent come from outside Missouri. Incidentally, we have an exceptionally large proportion of students who are student members of the Society of American Foresters. About 130 belong.

We are planning a somewhat different than usual approach to a career day for April 14. Advisory Council members and local alumni have been asked to select one or two promising high school students to come to Columbia to be introduced to the School and the profession on that day. The Advisory Council working groups will meet the same day so that students may travel with members to Columbia. The Forestry Club will assist in this effort which will be directed to a relatively small group of particularly competent young men. We hope this will prove useful to these prospective forestry majors.

The School's extension program is probably more active than ever before. Highlights include a Sawyer Short Course organized by Miles Brown, a charcoal plant operation investigation by Brown in cooperation with Al McGinnes, the organization of a Midland Empire Hardwood Association and a Missouri Forest Products Association by Ed Wheeler, and extensive planning of new and continuing forest management programs by Jack Slusher, who, in his short tenure here, has placed a number of programs in the initial stages of development. A tree service short course was held with 36 officially registered and an additional 25 to 30 participants from on campus in attendance.

The faculty continues active in a number of capacities professionally. Lee Paulsell is currently vice-chairman of the SAF Ozark Section and is newly elected secretary of the Division of Education. Gene Cox is a

visiting scientist under the SAF-NSF joint program and will visit the University of the South and Stephen F. Austin. Carl Settergren is vice-chairman of the Missouri Chapter of the SAF. Al McGinnes is secretary and Greg Brown is membership chairman in the Missouri Academy of Science. Sandy Nash is secretary of a subsection of the Inventory Section of the International Union of Forest Research Organizations dealing with mensurational problems of forest inventories. There are other offices held by members of the staff and the listing is incomplete. These kinds of activities, however, help keep us up-to-date and affect positively our teaching programs.

May I take this opportunity to extend to all alumni an invitation to visit the School any time you are in the vicinity of Columbia. We are always interested in hearing of your current activities, and welcome the chance to talk with you.

**MISSOURI GROWN
CHRISTMAS TREES**

PEA RIDGE FOREST

Farm and Nursery in Warren County, Missouri

CHRISTMAS TREES
DECORATIONS
PINE CONES
PINE SEEDLINGS

G. Myron and Ethel Gwinner
Route 3, Hermann, Mo. 65041

UNCLE CLEM'S

ALL PARTY BEVERAGES

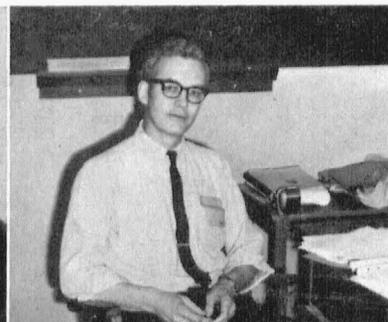
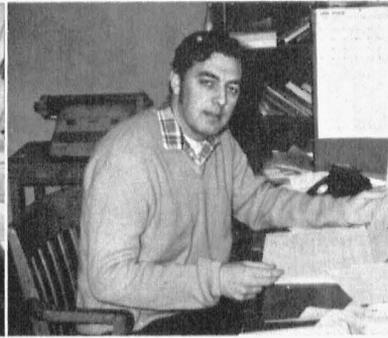
307 LOCUST

222 E. BROADWAY

Who?



**STUDENTS
STAFF
&
FACULTY**





FACULTY

Above:

- Row 1: R. B. Polk, Dr. Settergren, J. Slusher
- Row 2: Dr. Smith, E. Wheeler, Dr. Sasaki
- Row 3: J. Laacke (Administrative Assistant)

Opposite:

- Row 1: Dr. Adair, Dr. G. Brown, Dr. M. Brown
- Row 2: M. Brown, K. Chilman, Dr. Cox
- Row 3: K. Downing, Dr. Goff, Dr. Kearby
- Row 4: Dr. McGinnes, K. Moore, Dr. Nash
- Row 5: J. M. Nichols, J. Pastoret, L. K. Paulsell

SECRETARIES

Right: Mary Grace, Joann

Below: Alba, Bobbie, Judy, Ruthann

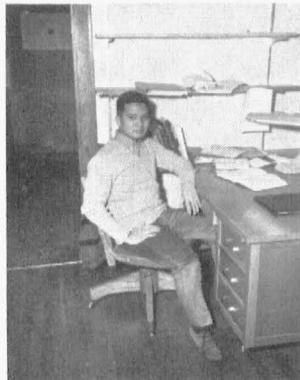


Master's Degrees Granted

FRANCISCO CORTES

Non-thesis Program

Subject Matter Area: Forest Economics



WALTER MICHAEL DAVIS

Thesis Title: Sales Analysis for Three Missouri Oak Flooring Firms

STEVEN LINDSEY

Thesis Title: Black Walnut Nutrition





LARRY L. MORRIS

Thesis Title: Efficiency of Dot Grids in Estimating Areas

GORDON POWELL

Thesis Title: Estate Planning



V. C. KARNSTEDT

Thesis Title: Mimosa Amino A cyl-t RNA Syntheses

ROBERT A. MASSENGALE

Non-thesis Program
Subject Matter Area: Extension Education in Wood Industries

T. H. PAN

Thesis Title: Mimosa Ribonuclease and Winter Hardening

WILLIAM L. STEPHENSON, JR.

Thesis Title: Characteristics That Affect the Price of Land

Paul Bunyan would be flabbergasted.

Paul Otterbach of International Paper is one of the modern foresters who take care of our woodlands in ways the burly logger never dreamed of.

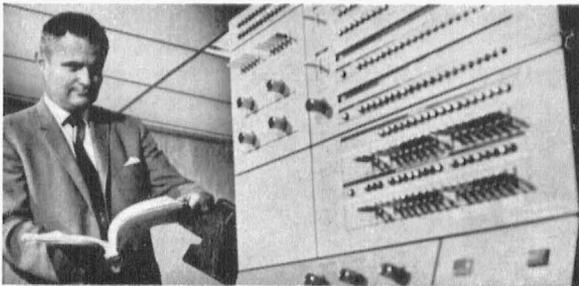
Today's foresters use genetics to grow more and better trees. (International Paper's Supertree grows 25 percent faster than its ancestors. And, cord for cord, produces more fiber.)

They put ecology to work protecting wildlife. Years ago, when loggers leveled a forest they often destroyed the habitat of quail, turkey and other small game. Today, through modern forest management practices, they have actually increased the shelter and food for small game. (And to figure the when and where of their cuttings, they use computers.)

They even use closed-circuit television and heat-sensitive infrared film to detect forest fires early. And they use such techniques as "water bombing" and "cloud seeding" to fight them.

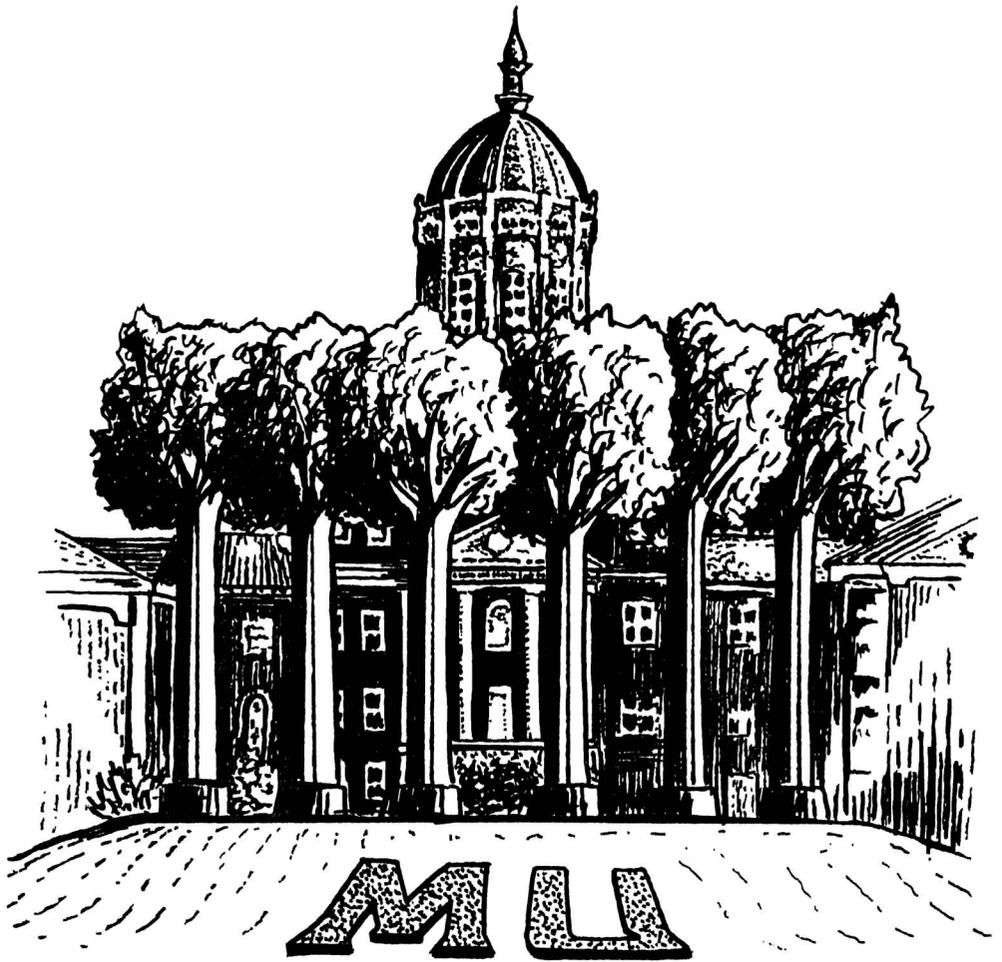
Those are just a few examples of what's happened to forestry in the last few years. In Mr. Bunyan's day there was no such thing as a graduate forester. Now we have over 450 at IP, many with advanced degrees.

Today's forester isn't much like that brawny guy with the big blue ox. In fact, he's the brainy guy with the big blue computer.



Paul Otterbach, Forest Engineer at International Paper

 **INTERNATIONAL PAPER COMPANY®**

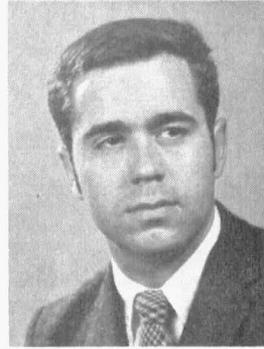


THE GRADUATES

Graduating Seniors

RICH AUBUCHON

St. Louis, Missouri
Forestry Club: '68-'69, '69-'70
Log Staff: Advertising '69-'70
Society of American Foresters
Xi Sigma Pi
Alpha Zeta, Sigma Gamma Delta
Sigma Phi Epsilon
Experience: Wenatchee National Forest '68; Mingo
Wildlife Refuge '69



EDWARD JOSEPH BAKER

Rolla, Missouri
Society of American Foresters
Experience: School of Forestry, Technician Assistant



GLENN M. BANDLER

Shawnee, Kansas
Society of American Foresters
Xi Sigma Pi
Alpha Zeta
Gwinner Award
Experience: Kansas City Park Dept., Tree Service;
Summer Camp



GUY WAYNE BOTTOM

West Plains, Missouri
Forestry Club: '65-'66, '66-'67, '67-'68, '68-'69, '69-'70
Society of American Foresters
Westveld Award
Experience: Wenatchee National Forest





PAUL WALTER BROCKMANN

St. Louis, Missouri
Forestry Club: '65-'66, '67-'68
Assistant Forester '69
Log Staff: Circulation Manager '69
Society of American Foresters •
Sports: Athletic Chairman, Stephens House '65, '66, '67
Experience: Apache National Forest '66, '67, '68



STEPHEN B. CANNELL

Doe Run, Missouri
Forestry Club: '66-'67
Society of American Foresters
Xi Sigma Pi
Alpha Phi Omega Scholarship
Sports: Intramural Sports
Experience: McDonnell Aircraft '66; Tahoe National Forest '67; U.S.F.S., Clearwater Forest '68; Forest Physiology Lab, U. of Mo. '67-'70



GARNETT WAYNE COOK

Doniphan, Missouri
Forestry Club
Society of American Foresters
Experience: U.S. Army; Ecology Field Station



BENNY LEE DUFFIELD

Eldon, Missouri
Forestry Club: '68, '69, '70
Society of American Foresters
Dean's Honor Roll
Experience: Army ROTC

WILLIAM GERALD EICKMEIER

St. Louis, Missouri
Forestry Club: '66-'67
Xi Sigma Pi: Forester
Phi Eta Sigma
Westveld Freshman Award
Westveld Junior Award
Experience: U.S.F.S., Clark National Forest '68



ROBERT FRANKLIN EPPERSON

Independence, Missouri
Forestry Club: '65-'66, '68-'69, '69-'70
Society of American Foresters
Experience: U.S.F.S. Centennial, Wyoming '63-'64;
U. S. Army '66-'68; U.S.F.S. Salem, Missouri '69



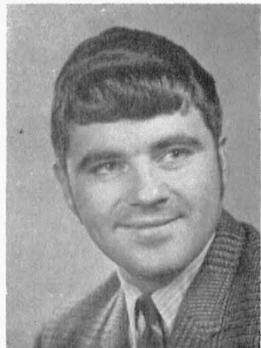
JAMES D. FUNK

Festus, Missouri
Forestry Club
Society of American Foresters
Sports: Intramural Football, Basketball, Softball
Experience: Fire Control Aid in San Bernardino National Forest



JAMES RUSSELL JOHNSON

Joplin, Missouri
Society of American Foresters
Scholastic Chairman, Cockrell House '68
Sports: Intramural Football, Basketball, Volleyball, Softball, Table Tennis
Experience: Lincoln National Forest; International Paper Co.





RONALD KEUBLER

St. Charles, Missouri

Forestry Club: '66-'67, '67-'68, '68-'69, '69-'70

Forester '69-'70

Log Staff: Associate Editor '69-'70

Society of American Foresters

Xi Sigma Pi

Alpha Zeta

Gwinner Award

Sports: Intramural

Experience: Smith Pallet Mill



WILLIAM LEWIS KLATT

Wright City, Missouri

Log Staff: Artist '69

Society of American Foresters

M.R.H.A. Board of Governors '67-'68

Curators Award '65

Experience: Modoc National Forest '66; Payette National Forest '67



DENNIS RAY KNAPP

Jamesport, Missouri

Society of American Foresters

Westveld Award—Freshman, Junior

2 Yr. Army ROTC Scholarship

Oliver Ferguson Award

Experience: Coeur d'Alene National Forest '66; Sequoia National Forest '67; ROTC Summer Camp, Fort Riley, Kansas, '68



RONALD JOHN KRUPICKA

Niobrara, Nebraska

Experience: Nebraska Game Forestation & Parks Commission

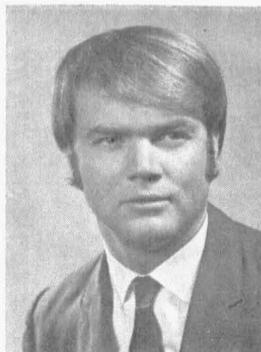
JAMIE RICHARD LIND

Argyle, Iowa

Xi Sigma Pi

Sports: Intramurals

Experience: Arapahoe National Forest



LARRY JON LUST

Moran, Kansas

Society of American Foresters

Dairy Club '67-'70

Track and Cross Country Scholarship

Sports: Intramural Basketball, Track

Experience: Worked at Wheat Terminal and Drove Trucks '65; Showed Cattle '65, '66, '67, '68; Cheata Camper Factory '66, '67



DELTON EDWARD MORTON

Columbia, Missouri

Forestry Club: '67-'68, '68-'69, '69-'70

Ranger '68-'69

Treasurer '69-'70

Log Staff: Advertising Manager '69-'70

Society of American Foresters

Xi Sigma Pi

Experience: Summer Camp '69; Pope & Talbot '68; Green Empire, Inc. '68



BRIAN HAROLD PRICE

St. Louis, Missouri

Forestry Club: '67-'68, '68-'69

Log Staff: Editor '69

Xi Sigma Pi

Phi Eta Sigma

Gamma Sigma Delta

Who's Who in American Colleges & Universities '70

Beta Theta Pi

Xi Sigma Pi Senior Award '69

Gamma Sigma Delta Achievement Award '69

University Scholar '67-'70





MICHAEL J. RICHARDS

Peoria, Illinois

Forestry Club: '66-'67, '67-'68, '68-'69, '69-'70

Log Staff: Business Manager '69-'70

Society of American Foresters

Student Council

Chairman '69-'70

Sports: Intramural Football, Basketball, Softball, Volleyball

Experience: Otis Elevator Co. '67; Peabody Coal Co. '68; Supervisor, Brady Commons '68-'69; Research for Dr. Adair '69-'70



THOMAS PAUL RONK

Council Bluffs, Iowa

Forestry Club: '66-'67, '67-'68, '68-'69, '67-'70

Treasurer '68-'69

Forester '69-'70

Society of American Foresters

American Forestry Association

Student Council

Student Counseling Committee

Sophomore Westveld Award

Experience: Missouri Pacific Railroad; Weyerhaeuser Timber Company



STEPHEN NICHOLAS SCHLOBOHM

Godfrey, Illinois

Society of American Foresters

Forestry Student Council

Committee Chairman, Placement or Employment

Experience: U.S.F.S., Idaho, Fire Control



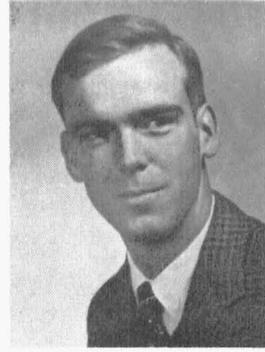
EUGENE WAGNER SENGSTAKE, JR.

Lincoln, Nebraska

Society of American Foresters

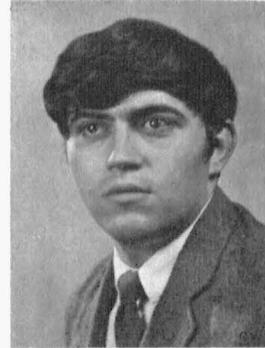
Xi Sigma Pi

PAUL EUGENE SIMS
Springfield, Missouri
Society of American Foresters
Athletic Scholarship
Sports: Varsity Track
Experience: Work-Study Program

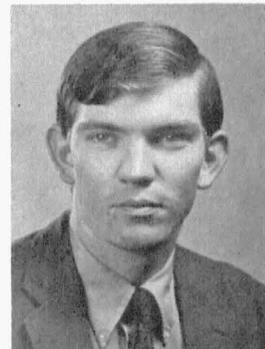


DAVID LAWRENCE SIMS
Springfield, Missouri
Society of American Foresters
Xi Sigma Pi: Assistant Forester
Richard M. Higgins Scholarship
Experience: Work-Study

HOWARD N. STROBEL
Jefferson City, Missouri
Society of American Foresters
Sports: Intramural Football, Basketball, Softball
Experience: U.S.F.S., Modoc National Forest '68



MICHAEL NEWTON TOTTY
Portageville, Missouri
Society of American Foresters
Experience: Howard Industries; University of Missouri
Delta Research Farm





HARRISON D. WELLS II

Gardner, Kansas

Transferred from Southeast Missouri State College
in Sept. 1967



GLEN RAYMOND WIEGENSTEIN

Fredericktown, Missouri

Forestry Club

Society of American Foresters

Marguerite Kruge Conservation Club Scholarship



JACK E. WOODS

Ferrelview, Missouri

Forestry Club: '67-'68, '68-'69, '69-'70

Parliamentarian '68-'69

Secretary '69

Assistant Forester '70

Log Staff: Advertising Staff '69-'70

Society of American Foresters

Xi Sigma Pi

Secretary-Fiscal Agent '69-'70

Who's Who Among Students in American Universi-
ties and Colleges '69-'70

Phi Eta Sigma

Alpha Zeta

Xi Sigma Pi

Experience: Wenatchee National Forest '68

**SHAKEY'S PIZZA PARLOR
AND YE PUBLIC HOUSE**

1314 W. Blvd. South

Columbia, Mo.

Seniors Not Pictured

JOHN M. ELLIOTT

Verdon, Nebraska

Society of American Foresters

Xi Sigma Pi

Experience: Boise National Forest; Teton National Forest

FRANK HOWARD ESTABROOKS, JR.

Ferguson, Missouri

Riding Club

Rodeo Club Vice-President '69

ROBERT FARREL PARKS

Redding, California

Forestry Club

Society of American Foresters

Sports Car Club (Columbia)

Experience: Forest Survey '68, California

RICHARD CHARLES SANDERS

Fenton, Mo.

Experience: Tree Marking (Maine)

RICHARD DONALDSON STEWART

Kirkwood, Missouri

Xi Sigma Pi

Sports: Soccer Club

Experience: International Paper Woodland Division

TERRY JOHNNATHON MICHAEL

TRAVERS

Red Lodge, Montana

Sports: Swimming

Experience: Navy Aviation, Air Tankers

MAURICE WILLIAMSON

Clarksville, Missouri

Forestry Club

Society of American Foresters

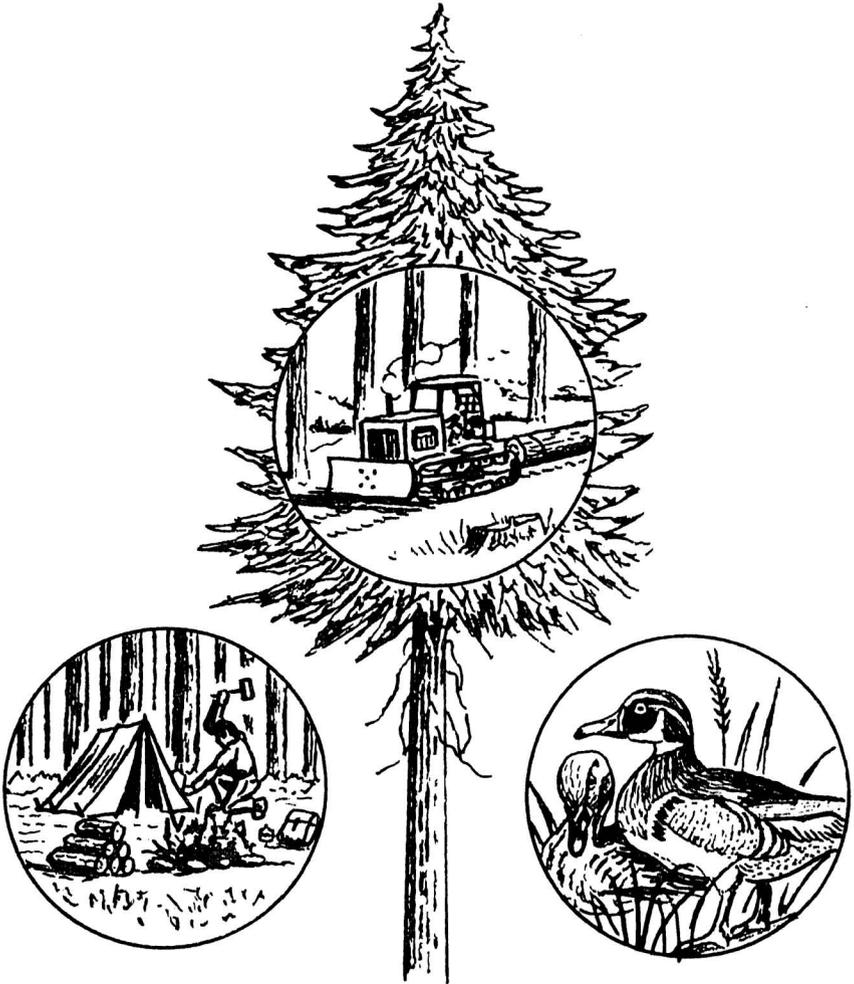
Sports: Hunting, Fishing

Compliments of

THE MARGUERITE KRUEGER CONSERVATION CLUB

Eighth District

Missouri Federation Women's Clubs



MULTIPLE USE



Soils and Resource Management

JAMES S. BERLIN, Forest Supervisor

THOMAS M. COLLINS, Soil Scientist

U. S. Forest Service

Mark Twain National Forest

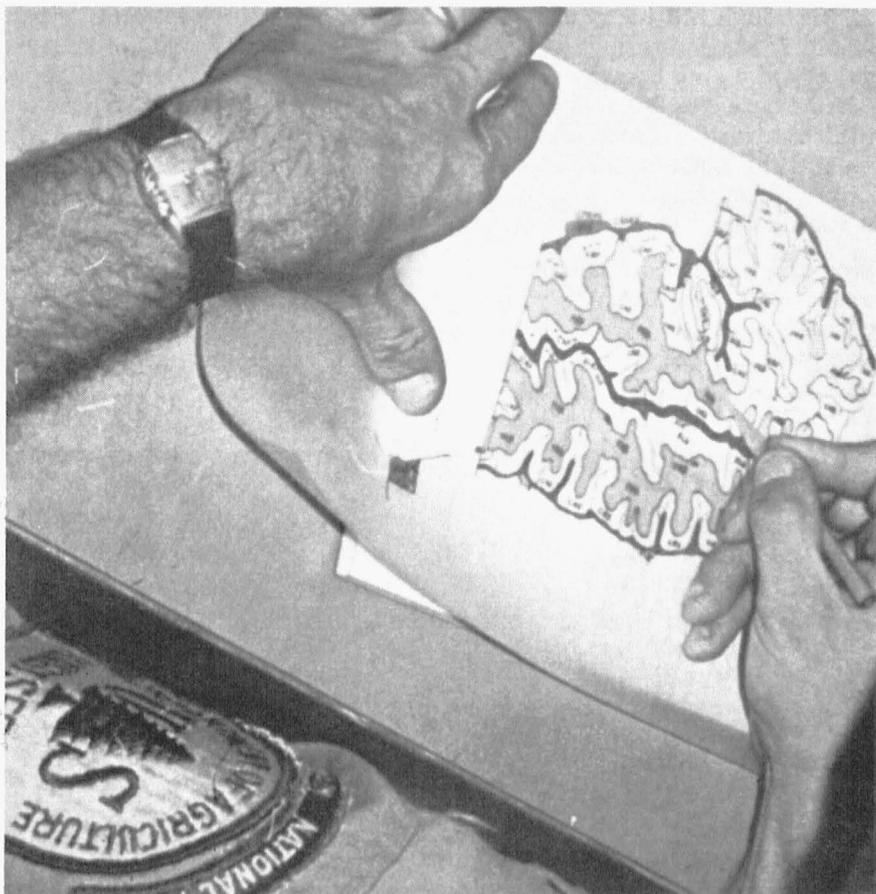
THE MANAGEMENT OF PUBLIC OWNED LANDS and specifically National Forest lands has become increasingly more complex with the increase in human population. The demands placed upon the managers and the natural resources are many, varied, and quite often in direct conflict. It is also true that today more than ever before land managers have within their reach more knowledge of the land, the soil and geology, the wildlife, the timber and the other resources which make up the environment.

A. W. Greeley, Associate Chief, U. S. Forest Service, recently stated: "Our job as land managers, whether foresters, soil scientists, wildlife managers, or any of the dozen or so other disciplines involved, is to manage what is there in order to both protect the resource and increase its utility for the benefit of all men. Further, our job is to recognize that there can be more or less intensity of management for a wide variety of uses, and to know enough about what's involved in intensive management so that we can, without damage to the land, vary the mix of products by changing the intensity of management."

To use the knowledge available and deal with all of the various elements which go into a management decision, the resource manager requires some system or method by which to weigh and evaluate the components and project the long range effects and ultimate outcomes.

The system which is in use on the Mark Twain National Forest is not new. It is based on sound biological and ecological principles. The real benefit of this system is two-fold. It places the facts together in a logical sequence and it allows the manager to consider and understand their relationships to each other. This system incorporates the ideas and efforts of many men with a variety of backgrounds.

As you might expect, the system which any land manager uses will require many inputs. To get these inputs requires an inventory of the basic resources. The first step is to make a soil survey. A soil scientist goes into the field and soil types the individual soils as they occur on the landscape. He records his work on a standard four inch to the mile aerial photograph and describes in writing what he has observed. The aerial photograph used by the soil scientist is a copy of the one which other land managers will use when doing their inventory on the same area, thus all information is recorded at the same scale. Once the soil survey is complete, soil interpretations are made for the various resources such as timber, wildlife, water, recreation and range.



Soil Scientist groups soils into landsites with color code. The landsite map will be used by resource managers in making Multiple Use decisions.

U. S. Forest Service Photograph

by the soil scientist along with the aspect and other factors enables him to stratify the landscape into different landsites, based on their potential productivity. In our case six groupings or landsites are developed and are designated as sites A, B, C, D, E and F, with A being the best site and F the poorest one. Once the landsites are separated it is possible to set up a listing of the distinct differences and characteristics of each one. For example, an A landsite is the richest site available in the landscape. It occurs usually in cove areas and along major drainages in the form of alluvial terraces. The soils are deep, usually rock free and have the potential to produce hardwoods, pine and black walnut of excellent commercial quality. The F landsites, on the other hand, have characteristics of poor site quality. The soils are shallow to bedrock, the moisture holding ca-

capacity is very low and the ability of these sites to produce commercial timber is very limited.

After completing the soil survey the soils information is transferred from the aerial photograph to a clear acetate overlay. The landsites are drawn in and are color coded so that each grouping of soils is clear and easily useable. This acetate overlay, now called a landsite map or just "site map," is used by the land manager to complete the field inventory. The present vegetative cover type is added to the landsite map, thus refining the system one step further. With the basic soils information and expected site potential as an added tool, each stand of timber is inspected and a silvicultural prescription and land management decision is made with the benefit of the additional knowledge. The land manager can see site limitation and plan areas to do timber stand improvement work where the greatest benefits are derived in terms of all the resources involved.

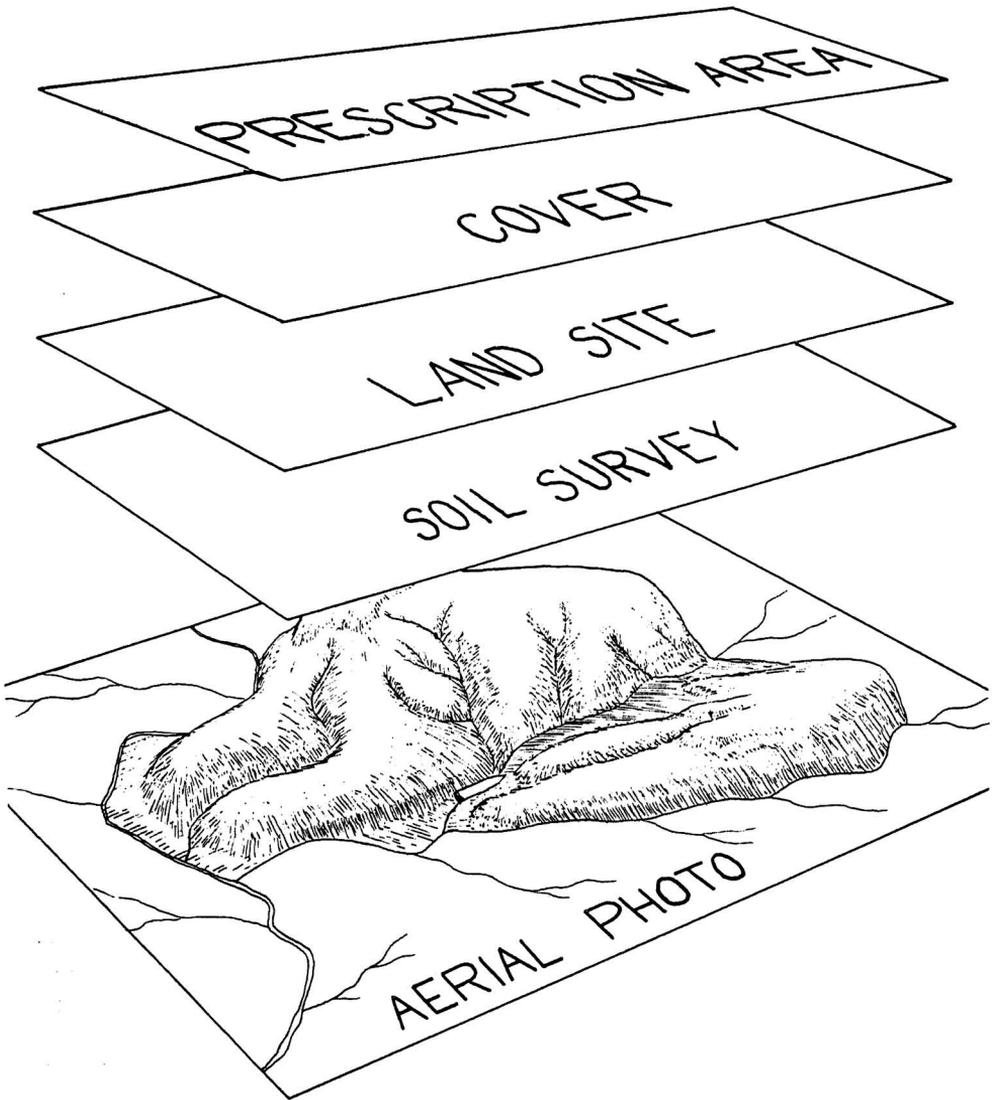
The addition of each new piece of information serves to stratify the landscape into more defined units. For example, we can start out with an area of landscape about which we know very little. It is a ridge top and has a young pole stand of hardwoods on it. With the addition of soils information we find that the soil is a Nixa cherty silt loam and has a very dense, hard fragipan layer at 18 to 20 inches under the surface. Adding aspect and the other factors we can now say the ridge top is a Nixa cherty silt loam, 2-8 percent slope, south aspect and a C landsite. The young pole stand would stagnate at about age 40 to 45 because the roots do not penetrate the dense layer. This limitation has been indicated by the soil type and the fact that the area has been classified as a C landsite.

The potential and limitation of any given landsite has to be expressed in terminology understandable by all managers. In any system a common language is necessary. For this reason soils and geologic information is equated in terms of potential site index for each landsite. The commonly used species for hardwood site index in southern Missouri is black oak (*Quercus velutina*). The soil potential productivity, based on physical and chemical characteristics and including the influence of aspect, is expressed in terms of site index for that species.

To the land manager concerned with wildlife habitat management, this system provides the basic building blocks. It enables him to understand present conditions and project the potential mast and forage conditions into the future.

Large blocks of land can be examined with a standard of comparison and judgment can be made regarding the balance of food and cover which will be required. Management activities can be planned to meet these requirements.

Outdoor recreation is fast becoming a major use for many areas of National Forest land and projected figures indicate the pressure and demand will increase many fold in future years. To the land manager involved in recreational planning and development, the system described provides a working tool. With the knowledge of soils, geology and timber he can bet-



This diagram represents the sequence in which information is placed together under the present management system in use on the Mark Twain National Forest.

ter locate suitable areas for recreational developments. Estimates of human carrying capacity can be more accurately made. Those areas selected can be investigated more intensely and severe limitations due to soil conditions can be recognized in advance. Areas which would lend themselves to special types of recreational development such as nature trails, backpacking, wilderness and horseback riding can be outlined. Additional knowledge is also gained and recorded for unique natural features such as springs and geologic features.

In summary, the resource managers of today are faced with a multitude of complex decisions. To manage requires not only knowledge of the basic resources but also an understanding of their potentials and limitations. Any useful system must stratify the landscape and put each component in proper perspective so the land manager can better evaluate and manage the resources toward multiple use goals. The system should establish a common terminology which all resource managers can use and readily understand when talking about any given parcel of land. Such a system has been developed and is now in use on the Mark Twain National Forest. It can be said that the development of the landsite system and the soil interpretations have given the Mark Twain a common denominator with which to work. It has enabled us to see the landscape more clearly and work more effectively with its various components as true resource managers.

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ELDON, MISSOURI

Modification in Timber Management Designed to Enhance Other Resources of the Forest

**RODNEY F. YOUNG, Forest Supervisor
Clark National Forest**

THROUGH THE MULTIPLE USE-SUSTAINED YIELD ACT of 6/12/60, Congress established its policy for managing the National Forests. This law directs the Forest Service to manage the National Forests for outdoor recreation, range, timber, watershed, and fish and wildlife purposes on a sustained-yield basis. Since the Multiple Use-Sustained Yield Law has been in effect, greater emphasis has been placed on coordination and development of all renewable resources on the National Forests.

Last year hunters, fishermen, hikers, campers, picnickers, and swimmers spent over 509,000 visitor days using the Clark National Forest for their pleasures. Another 288,000 visitor days were spent enjoying the Forest's beauty by sightseeing. During the same period, 26 million board feet of timber were harvested from this same Forest. It is estimated that the timber contributed over \$6 million to the local economy in salaries, services, and profits. Several communities like Raymondsville, Licking, Salem, Shirley, Williamsville, and Ellsinore, are dependent on timber as a primary industry; and thousands of individuals are directly or indirectly dependent on logging or wood manufacturing for their livelihood.

The challenge in managing the timber resource on the Clark National Forest is to enhance the other resources of the Forest as well as to increase the production of timber products. We of the Clark have taken a positive approach to coordinating the resource uses of the Forest. Instead of leaving areas without timber management, our objective is to enhance the wildlife habitat, aesthetics, recreation opportunities and water quality by modification of our timber management practices.

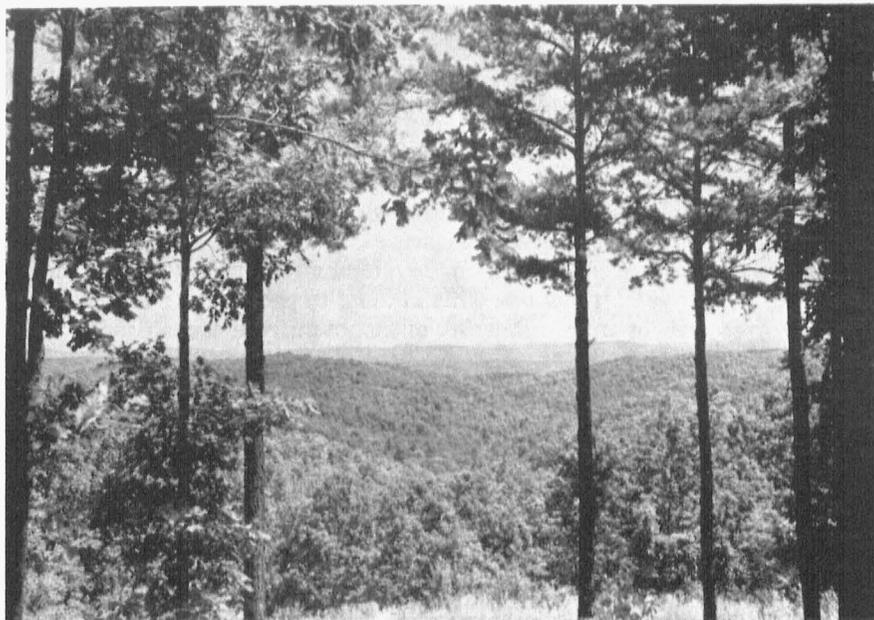
PLANNING

To accomplish the objectives of the Multiple Use Act, each Ranger District has a comprehensive Multiple Use Guide for coordinating all the different uses of the Forest. To make these Guides applicable to on-the-ground projects, the Forest is divided into compartments of 500 to 1,200 acres in size for inventory and detailed planning. Before any major timber management activity is undertaken in a compartment, an intense multiple resource inventory of the compartment is made. This inventory provides the land manager with the necessary information to make sound management decisions based on the needs of all resources.

Well-planned timber management practices provide opportunities for improving the other resources of the Forest.

WILDLIFE HABITAT

Good wildlife habitat requires that there be a balance of timber types and size classes well interspersed throughout the Forest. The Forest Wildlife Biologist works with the districts in obtaining a better composition of timber conditions for improving wildlife habitat. The plan of the Clark National Forest is: 1) Not to plant open areas less than 10 acres in size



**"Modified Timber Cutting Provides Panoramic View of Ozark Landscape."
U. S. Forest Service Photo.**

to timber tree species; 2) To regenerate at least 10 percent of the forest every ten years to allow for the production of fruiting shrubs and herbs every ten years; 3) To develop at least 30 percent of the forest in park-like stands of saw-timber for space, leaf-litter insects, and mast; and 4) To work to achieve these conditions in each compartment.

In addition to controlling the compartment composition, other measures are taken to benefit the wildlife resource. Log landings are seeded to desirable wildlife plants and areas such as borrow pits used during the construction of timber access roads are converted to wildlife ponds. Also, watering ponds are constructed in cleared areas within the forested areas.

AESTHETICS

Timber management practices have many opportunities to improve the aesthetics of the Forest. Even regeneration cuts (clear cuts), which are so often criticized by aesthetic-minded individuals, can be an aesthetic asset if properly designed and administered. Such management practices can provide much needed openings and vistas which allow the visitor to enjoy more fully the dramatic topographic features of the Ozarks. Intermediate cuts in the form of thinning and timber stand improvement practices provide the visitor with the opportunity to see at greater depths into the forest understory where various forms of wildlife and flowering plants can be seen. Along major public roads timber harvesting is modified to retain and encourage the growth of special interest trees as well as the colorful hawthorns, dogwood, and redbud for the variety and scenic beauty they provide.

The Forest Landscape Architect is employed to assist in this phase of timber management. He provides training to district land managers and necessary guidance on specific projects to insure that forests aesthetics are given proper consideration.

RECREATION

Managing the timber resource in relation to recreation falls in two categories: 1) Management in and around developed recreation sites, and 2) Management in dispersed recreation areas.

In and near improved recreation developments, timber harvesting is limited to the off-season months. This is done to provide for the safety of the visitor as well as for the benefit of removing the trees during their leaf-free period.

In the dispersed areas of the forest, properly restored woods trails and log landings provide parking and undeveloped campsites for hunters, fishermen and hikers.

WATER

Water quality, the size and frequency of floods, the severity of low flows during dry seasons, and the total amount of water produced by a watershed can all be affected by timber management practices. The Forest Soil and Water Scientists work with timber managers to develop and apply methods that will insure that the watersheds are adequately protected both during and after timber sale operations.

To prevent erosion and protect water quality, logging roads and skid trails must be properly located and adequately drained. Soon after the harvest operation has been completed, abandoned roads and trails must be sloped and seeded or otherwise "put to bed" so that gullies will not occur.

Herbicides and insecticides are important tools in managing the timber resource. The Forest is selective in the use of these chemicals to safeguard the water resource and other aspects of our environment.

SUMMARY

Land managers on the Clark National Forest are dedicated to Multiple Use Management. Timber management practices are designed to enhance the quality of the other resources and to obtain the maximum benefit from the Forest.

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Management Practices in Missouri

KIRWIN HAFNER

Missouri Conservation Commission

“ASK, AND YOU WILL RECEIVE; seek, and you will find; knock, and the door will be opened.” These instructions were given some two thousand years before the term *multiple use* was coined, which may help explain why no really clearcut definition of this term can be found by those who diligently ask, seek, or knock at the doors of the learned.

Assuming that the majority of the readers of the *Missouri Log* are either embryonic or full time foresters, I would suggest that you dig out your October 1969, *Journal of Forestry* and turn to page 718. Author Kenneth P. Davis has, in my opinion, come closer to opening a door for the definition of multiple use than most other attempts that have been made. At least he has recognized that the subject is complex, that no two areas (forest or otherwise) are exact equals, that multiple use management objectives cannot be the same for all types of ownerships, and that you will find as many different opinions of the degree of multiple use encompassed in a particular management approach as there are individuals reviewing it.

Land managers with enough experience can overcome most of the complexities involved in trying to weave land capabilities and ownership policies into a management pattern. The impasse is reached when the element of human desire is added. This ingredient might be stirred in by an individual, innumerable individuals, clubs, cliques, politicians, pressure groups, or a combination of such interested parties. The forester responsible for the overall management of an area often finds himself not only caught but gored by the horns of the dilemma. Today, these horns are being sharpened on such terms as ecological systems, pollution abatement, and environmental crisis.

Despite some of the problems and inconsistencies mentioned by Mr. Davis and the preceding paragraphs, the Missouri Department of Conservation is making a determined effort to manage their 200,000 acres of state forests under the multiple use concept. As indicated, this is an extremely complex form of land management and an ever-changing one. The resources involved are as variable as the physical location of the land. The management practices employed must become a part of the total picture and not just fit a local scene.

From an isolated tract atop a granite glade in St. Francois County to a bottomland hardwood site by the Mississippi River in Pike County, our foresters are called upon to manage a wide range of capabilities and needs. To the fisherman sunning himself on the bank of the Mississippi, that rock outcropping east of Farmington is practically worthless. How-

ever, a botany class from the local high school can learn a great deal from the lichens and grasses that grow in association with granite glades. Both viewpoints represent the needs of the individual or groups involved, and an attempt is being made to satisfy as many needs as possible.

In any management situation it is necessary to manage what you have and steer your management practices in such a way that you eventually arrive at what is wanted. The lands that we manage have been acquired by the Department by purchase and/or donation over the past forty years. The majority of it lies in the heavily timbered Ozarks and at the time of acquisition was in pretty sorry condition. This sad state was equally true for wildlife, timber, watershed, recreation, and aesthetics. The first management needs were time and protection. While this would appear to be quite simple and basic for any management, I assure you it was a task that none of us wish to repeat.

Hopefully, we have arrived at the threshold of what is considered to be the opportunity for intensive management. The field foresters have recently inventoried some ten percent of the Forestry Division's holdings. This inventory, while concerned with timber volumes, was aimed more at finding out the condition, size class, stand location, site capability, etc. When this is completed and the information has been compiled and printed into some usable form, we will be ready for step three of our long-term management program. This is the time to inject some of the "people" needs we've mentioned.

Those 9 thousand acres that make up the old Deer Run Refuge in Reynolds County are important as a timber production area. Since the first commercial timber sale in 1946, this tract has furnished several man years of employment annually to the Ellington community. The dollars invested in these timber operations circulate through several local businesses as well as businesses far removed from Missouri. An even flow of dollars, in this situation, must be considered and it becomes a part of management. During the twenty-three years that the timber cutters have been removing trees from Deer Run, there has been more wood growing than has been removed. The new growth is of better quality and will have more value to the citizens. This, of course, is tree management that foresters have practiced for decades. For every man hour of employment this forest has furnished there have been ten hours given to recreationists. Hunters have harvested squirrels, raccoons, and deer in amounts comparable to the board feet of lumber removed. Management plans have been altered slightly to enhance this added forest value.

The Rockwoods Range is 1,800 acres of hardwood timber in western St. Louis County. It supports some of the larger size oak stands managed by the Department. Despite this fact, little emphasis can be placed on the economic impact the sale of this timber would have locally. In fact, our only planned cutting will be for special needs. The primary one being demonstration cuttings to allow us to show and educate the public in the need for forest management versus preservation. The principal

management aims for this tract will be people oriented. Hiking trails, educational walks, sites available for a city scout to work on his conservation merit badge, a green belt close to a million people; all these and others will take preference over more conventional timber management. The difficulty here may be in standing firm against the profit motive. A blacktop highway separates this tract from a 22 million dollar development that will draw millions of visitors annually. It also adjoins a county installation that would like to use it for large group camping. A right-of-way for a major highway improvement is much cheaper, if it can be acquired from another public agency. Housing developments are building within 10 feet of the property line. These are the management principles involved in the multiple use concept today that will add to the gray cast of your hair tomorrow.

Don't panic future land managers! Those who have been buffeted by the ideals of hordes and soothed by the passage of the years have yet other gems for your collection. Time brings change. People can be educated by you as well as by selfish interest groups. The "in" thing of today will change by tomorrow simply because the "in" group must be different to be "in". Once the water becomes crowded, they loudly splash on to new pools. Some of the pools they ripple with their waves of dissatisfaction need draining. If it were not for such searchers for the truth, there would be literally thousands of acres of stagnant water. The trick lies in determining if the water is really stagnant, or if it is just awaiting the annual June rise.

Look back as well as ahead. If all past practices were wrong, there would be no forests or forest products to worry about today. A continuing survey would indicate that while there is certainly room for improvement there has also been much progress. As custodians of a priceless resource, you will find that ye olde forestry training has made you capable of the stewardship.

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Some Random Comments on Multiple Use—The Missouri Scene

J. M. NICHOLS

A WIDE RANGE OF THEMES has been covered in the *Missouri Log* in 20 years of publication by the Forestry Club. These have included "Fifteen Years of Missouri Forestry" in 1948 and "The Challenge of Wood Products," "Forestry Research," and "Forest Recreation" in later volumes. It has now been fifteen years since Multiple Use has been explored on these pages. I'm sure this has not been because subsequent editors thought Multiple Use was not a useful concept in land management in Missouri although they may have felt the subject had been pretty well overworked in the literature during that period. Anyway, the previous three articles dealing with land-use problems and efforts toward their solutions on National Forests and State Forests indicate that public land managers are aware of present and impending pressures and are taking action.

Land managers learned years ago that it is much easier to philosophize and build multiple use on paper than to interpret and put good plans into action; the responses by the beneficiaries of multiple-use benefits keep getting in the way. A facetious explanation of the concept as actually practiced by many individual interest groups is all too true: "all other uses of this particular land area are welcomed provided OUR use is in NO way affected!"

Early considerations of the idea of multiple use revolved around whether each area (sometimes narrowly interpreted as each *acre*) should be managed to produce a full mix of goods and services or for its best primary use with other needs fitting in as they could. In practice, the primary-secondary allocation of production has prevailed. This has been true in Missouri. It has been possible to separate uses physically to eliminate direct conflict because there generally has been a sufficient area of land available. However, competition among uses is increasing, not to mention competition among users such as those looking for widely differing recreational experiences. Both solitude seekers and Honda riders are recreation participants, but I daresay their objectives are considerably less compatible at a given time and place than those of the forester and game manager.

Terminology employed to categorize land uses can sometimes hinder rather than help understanding among user groups. To illustrate, let's consider consumptive and non-consumptive land use. Since "non-consumptive" implies that nothing is used, this term engenders the thought that a non-consumptive use is automatically good and desirable and by like token a consumptive use perhaps should be viewed more critically. But what is considered non-consumptive to one person may appear consumptive to someone else. The float-tripper on the Current River no

doubt looks upon his excursion down the river viewing the scenery as non-consumptive; the river is still there; the scenery is intact except for the litter he may have carelessly left and he knows the Park Service people will clean it up. But the timber grower who owned the land along the river before it was condemned for a Scenic Riverways might rightfully see the recreational use in a different light; to him recreational use consumed the land from timber production. As farmers move fences, destroy fence rows and convert woodlots to pasture, they bring unused land into what they believe will be permanent future production. To the hunter and game manager, game cover, food and "edge" have been consumed and wildlife production potential permanently reduced.

The additional comments I would like to make concern the land ownership pattern in Missouri and related implications for the land use picture. Not all lands capable of supplying multiple benefits are in public ownership; public lands make up only about 3 percent of the total land area of Missouri. A small portion of this is located within a one-day-use radius of the major population centers. With high and increasing land values (even though there are some indications that land prices are leveling off because per-acre returns from agricultural and forest land investments are not keeping up with other forms of investment) it appears unlikely that large acquisitions for additional public ownership will be possible.

What are the prospects for public use of private lands in Missouri? This question can be partially answered by considering sizes and numbers of individual ownerships. There are only two in the 100,000-acre class and relatively few over 5,000 acres. Total ownership of the forest industries is about ½ million acres. The remaining 12 million acres of forest land is held in about 200,000 ownerships according to latest forest survey figures. However, there are good indications this number is even greater now. John Farrell of the U. S. Forest Service interviewed owners of 105 parcels of Wayne County timberland in 1958; a resurvey of the ownership of these same parcels in 1969 showed 205 owners. Even though some of the increase resulted from subdivision into small summer home lots, there was much fragmentation from large tracts into 40 and 80-acre blocks.

According to several recent articles the forest industry in the U.S. is providing many public benefits in addition to wood production. Professional managers of these lands have recognized a responsibility to offer secondary uses to the public. Generally, the opportunities offered have amounted simply to opening lands to public hunting and fishing and to a lesser extent for camping and picnicking. Some companies charge nominal fees for public entry; however, the value of good rapport with the public probably far outweighs any additional income. A few firms owning lands with high recreation potential are developing sophisticated complexes including summer home developments, convention centers, large impoundments, golf courses and spectator sports arenas.

The picture is entirely different for small ownerships. Several years ago a number of U. S. D. A. publications extolled the potential for recreation ventures such as campgrounds, as partial salvation for the family

farm. These enterprises never caught on for the same reasons farmers have not practiced high intensity management on their woodlands. The economic potential in terms of absolute dollars is low and farmers typically lack expertise as entrepreneurs dealing with the public. A study of private recreation enterprises in Missouri in 1963 by Ronald Bird showed that very few produced significant incomes. However, a number of farm owners have been successful in selling deer hunting rights.

Most private owners probably would prefer to control public access to their lands. I suspect many recent purchasers of personal "mountain-tops" have promptly posted "no hunting" signs. But with increasing pressures and an apparent growing disrespect for property rights, only the resident owner can really maintain control. Reports of vandalism on both private land and developed public use areas are more and more frequent. So, like it or not, private owners will provide a portion of the multiple use mix.

The apparent trend of increasing numbers of people buying small tracts for vacation and weekend use will have some impact on the future supply of goods and services. These new owners will not be looking to their properties for income so they will not be clearing land for pasture; neither will they be growing timber for the market. Their land use probably will not detract from, and might improve, aesthetic values, watershed protection and wildlife production.

Lands closest to cities will of course receive greatest pressure and open space belts will be a must. We can expect to see more governmental efforts in zoning, public easement purchase and in altering the tax structure. The removal of liability responsibility would encourage both large and small owners to permit ready access to their lands for compatible public use.

The present larger owners can be expected to continue "open door" policies. Other wood industry companies are expected to begin acquisition programs in the Ozarks. So, along with the present fragmentation of many ownerships there is likely to be much consolidation also. The possibilities for public use of these lands will depend largely on their location in relation to "free" use areas on public land. Intensive private developments cannot be expected unless the possibility for use charges exists.

The observation has been made many times that the past 35 years have brought vast improvement in Missouri's forest land resources. This improvement is only partially a reflection of good planning and manipulation; forest fire protection and sound game management practices coupled with the inherent recuperative process over 35 years have been largely responsible. Future multiple production will require skillful and imaginative management by the professionals and the awareness of layman landowners of the importance of their stewardship. Meeting the needs of the many publics will not be quickly accomplished; the entire land resource will be required. Satisfactory management will be a demanding task but represents a realistic goal.

ONE YEAR LATER

PHIL HEIN '71

OF THE 27 FORESTERS WHO GRADUATED from Mizzou in January, June, and August of 1969, 2 have elected to go to graduate schools, 5 are working for state forestry organizations, 3 are employed by wood merchandising industries, 6 are serving in the Armed Forces, 3 are employed by federal forestry agencies, and 4 may be classed as "miscellaneous."

Perry Sweet, after a marriage which catapulted him close to Missouri's First Family, is presently serving a hitch in the United States Marine Corps.

Dennis Dietrich is presently working for a surveying company in St. Louis after summer employment in Wisconsin. Dennis plans to get married June 27, 1970.

Johnny Dunehew is "enjoying" Army life as a 2nd Lieutenant in the Signal Corp at Augusta, Georgia.

Harold Holland is the Assistant District Forester for the Missouri Department of Conservation at Rolla, Missouri. Harold and Evelyn became the proud parents of a son born December 29, 1969.

Peter Jones is a subcontract planner for McDonnell-Douglas Astronautics at St. Louis. He plans to enroll in graduate school in September of 1970.

John Prochazka, Jr. is employed by the North Central Forest Experiment Station to conduct a state-wide timber survey of Missouri. John works out of Salem, Missouri.

Mike Schroeder is a graduate assistant here at 'Ole Mizzou. The ex-Marine is pursuing graduate work in forest mensuration under Dr. Nash.

Claude Day is a 2nd year law student at the University of Missouri.

Larry Baer is employed by the Wisconsin Department of Natural Resources as a Forest Survey Field Man. Larry's home is in Tomahawk, Wisconsin.

Lonnie Schelp is an ensign on board the USS Hancock in the West Pacific. A dedicated Navy man, Lonnie is a Foods Service Officer in the Supply Corps.

Floyd Wilson was employed by Weyerhaeuser Lumber Company at Tacoma, Washington, until he was drafted September 22, 1969. He is now stationed at Fort Ord, California as a construction draftsman. Floyd will return to Weyerhaeuser at the end of a two year tour of duty.

Before Ted Jenn got drafted November 17, 1969, he was a forester for the Bureau of Indian Affairs on Colville Indian Reservation. Now Ted is studying heavy artillery at Ford Ord, California.

Steve Green is an inside salesman for United States Plywood at St. Louis, Missouri. Steve completed his chores for "Uncle Sam" in December, 1969.

Mike Warden is a field survey man for the Wisconsin Department of Natural Resources. He travels "around the state working for other foresters on timber sales, forest taxation, and land appraisal on county, private, and state forests." Mike and his wife live in Tomahawk and he reports that he is looking forward to spring when the wild rivers of Wisconsin will find him a frequent visitor.

Patrick Stanosheck is an inside salesman for the Georgia-Pacific Corporation at Lincoln, Nebraska.

Eric Heyn, Airman 1st Class, is currently stationed at Nellis Air Force Base just outside of Las Vegas, Nevada. Eric's duties include intelligence work using photo interpretation techniques.

Edward Tamerius is the Assistant District Forester in charge of timber management at Ellington, Missouri for the Department of Conservation.

Scott Curtis, basking in the tropical island of Samoa, is a range forester working closely with Potlatch Forests, Inc. which has most of the logging rights to one of the islands in the Samoan group. He is also in charge of wood utilization research on Samoan hardwoods.

David Pearson is temporarily employed at a local department store. In June he plans to marry Susan Geyer.

Gary Mallams is the timber sales compliance forester for the Washington Department of Natural Resources in Port Angeles, Washington. Gary reports that "this is a real progressive outfit to work for."

Joseph Wallace was employed by the Wisconsin Department of Natural Resources as a farm forester during the summer of 1969. Presently Joe is looking for permanent employment.

We hear that Martin J. Albers is an officer aboard a Navy cruiser. Just where, we don't know.

Bill Ogden is specializing in Entomology Engineering for the Air Force at Travis Air Force Base, California.

The whereabouts of Ron Strawn, Roger Gabelman, Carl Wellenkoetter and Richard Tinsley are unknown.

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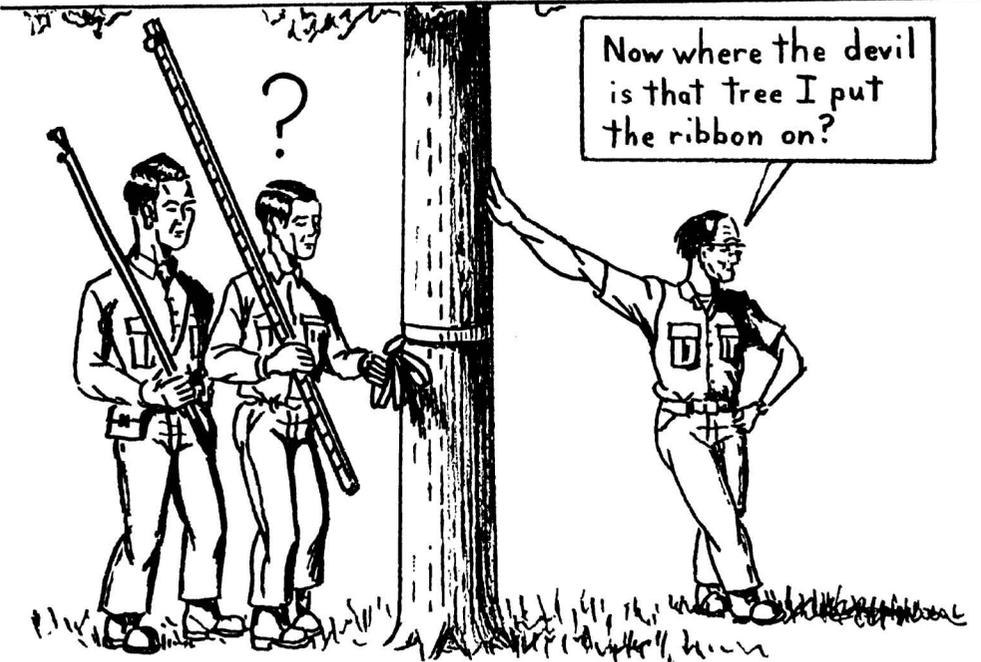
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SUMMER '69



Summer Camp '69

BILL EICKMEIER

THOREAU WENT TO THE MASSACHUSETTS WOODS about a hundred and thirty years ago to learn what the trees and the forests could teach him. During the summer of 1969, 41 modern-day "Thoreaus" and 1 "Thoreauess," went into the southeast Missouri woods to learn the ways of the forests.

While Thoreau toiled in rather primitive and spartan surroundings at Walden pond, the interpid woodsmen of summer camp 1969, lounged in cozy, air-conditioned cabins; drank not from cold, clear streams and springs, but from Coca-Cola machines and water fountains; gazed not at the fire in the hearth in the evening, but viewed the round glass windowed, electronic marvel, the television; cooked not over the glowing coals in the wood stove, but dined on the mess hall fare three times a day. On the whole we were well provided for this summer.

For the first two weeks this summer, we learned the art of the chain, the Abney, the compass, and the jake staff. Many miles of roads were laid out on the steep hillsides surrounding Lake Wappapello. We also learned to watch out for fishermen and their telltale beer cans. Next came log and lumber grading, and sawmill operation under the guidance of that jovial team of Brown and Adair (No, not the old Vaudeville act of days gone by). We must have done very well in our studies because Mr. Adair was at a loss for words when he tried to describe our performance. He claims it was laryngitis, but we didn't believe him.

For the following two weeks we became ecologists. We learned about the wide variety of instruments used to record temperatures, humidities, soil water content, wind, and the like. It was very enjoyable, but things really began to swing when we discovered the sling psychrometer. Things were pretty mundane until Dr. Settergren outdid himself with the watershed lecture. As the lecture began, the skies let loose and provided us with a very effective visual aid, in the form of about an inch of rain. We all began to wonder about this when it was reported that Dr. Settergren was seen doing a strange dance prior to the lecture. Only one casualty was suffered during these two weeks. Harrison (the Mouth) Wells tackled a poison ivy patch and lost; fortunately he was blessed with a somewhat speedy recovery.

One of the highlights of the two weeks of Silviculture session was a trip to Salem, Missouri. We visited the Sinkin Experiment Forest and the Pioneer Forest. We had an interesting stay at the Walnut motel. The Coke machine occasionally gave out free sodas, which were immediately used to take the sting out of various types of liquid refreshment on hand. After the pancakes, the next morning, we all eagerly boarded the buses for another day on the road. We had lunch on the banks of the Current river. After a very refreshing swim in the river, we decided that Steve Lindsey and Jim Lackey were very much in need of cooling off, so some of the braver of the bunch threw them in almost fully clothed. This was intended as a token of our admiration for the great assistance that they

had given us. After the swim we had the best meal of the summer, compliments of Leo Drey. The menu included barbecued chicken, baked beans, homemade lemonade, and ice-cold watermelon. We had a wonderful time, and would like to thank Mr. Drey for the fine meal. It was with great reluctance that we returned to camp.

During the last week of Forest Inventory everyone let his hair down, so to speak, except Bill Blessing, who had his hair down all summer long. We had a Field Day with a number of interesting events. Dick Sanders won the bolt throw, no doubt to impress the few females present at the events. Other events included the log roll, the match splitting contest, and a tug of war complete with a mud pit, through which the reluctant losers sloshed. There must have been a few hard feelings, as the losers began throwing the winners into the mud, a rather unsportsman-like thing to do. Mike Richards was aided beautifully in his unique swan dive into the mud. A few of the winners escaped this muddy fate.

We then moved to the greased pole and pillow fight area. A large peeled pine log was tied about four feet off the ground and amply smeared with axle grease. Then, two at a time, the antagonists mounted up with their pillows and started to fight it out. The loser could look forward to a rather long fall to the ground. Dr. Nash even showed his mettle, and surprisingly did quite well.

After a short rest, everyone went over to the nearby oasis, Ethel's Trading Post, for a fish fry and beer blast. After dinner, and after a number of beers Susan Cook, our only girl at camp, graced us by dancing on top of one of the picnic tables. We were really disappointed when Dr. Nash had to take her back to camp. About this time tragedy struck our happy little group, the CO₂ tank on the keg gave out, and while a replacement was being sent over, Dick Sanders faithfully guarded the keg to see that no harm would come to it, or else to see that nobody else got in line before him. Anyway, we were very thankful to him for his services.

Later on in the evening, from out of nowhere came none other than Dick and our fearless leader Dr. Nash galloping along on a commandeered horse. Just as we all turned to admire their bravado, the horse decided that the adventure should come to an end and deposited both riders in the middle of the road. The riders sustained only minor injuries, which were quickly treated with a medicinal quantity of beer.

The last week of summer camp was spent down in Hope, Arkansas. Using Hope as a base of operations, we visited a number of large forestry operations. It turned out to be quite a long week, but finally we all reached camp after a marathon bus ride, very relieved, for summer camp 1969 had drawn to a close.

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Who Put the Butter in the Jelly?

SPENDING TWELVE WEEKS NEAR LAKE WAPPAPELLO alone with forty-one boys seemed to be the perfect summer vacation after a long, hard year at Mizzou. The idea of work appalled me and a chance to go to summer camp was one I couldn't pass up. So, June 9th, with jeans, boots and insect spray, I prepared myself for a summer of fun. Little did I know!

The first realization I had of being thrown into a man's world was when I went to the mess hall for breakfast. I'm used to being the only girl in a roomful of boys, but usually I've had a chance to wake up beforehand. Seeing forty-one of them sitting there in their unshaven glory made me wonder what I was getting myself into and if I should get out while the going was good. I ate off metal trays for the first time in my life; you know, the kind that have compartments so the beet juice won't run into the breaded porkchops and beans. Then there were the cardboard cereal boxes that leaked and the ever-present communal jelly jars. By communal, I mean, everybody's knife went in the jar, and the conglomeration of toast crumbs and butter got a little bit gross by the end of the summer.

Even though I'd taken Entomology, I was totally unprepared for the insect world I encountered. I was used to seeing one wasp, or maybe even two, flying around, but nothing was more horrifying than seeing a whole nest of them come boiling out of a snag when one of my team members did a little TSI work. I've never seen four people scatter as fast as we did, clipboards, notebooks, lunches, canteens, everything, flew in different directions when we realized our predicament.

Spiders and ticks posed a real problem for me, along with an earthworm that just happened to get in my purse. Daddy Longlegs had this habit of falling on the top of my cowboy hat and walking around the brim, just for kicks. The first time this happened, I threw my hat on the ground, and stomped the spider good, but later in the summer I developed a live-and-let-live philosophy. Then there was this worm. We had just got back from Salem after a trip to Sinkin Experimental Forest and Pioneer Forest. I reached in my purse and found brown crud all over everything. I didn't think too much about it at the time, but the next morning I discovered the cause—a huge, ugly earthworm lay curled around my best lipstick, dead. They do crawl in the funniest places.

The cobwebs were out-of-sight too. They weren't normal cobwebs; these things would be stretched 10 feet between trees. And big, they had to be at least 4 feet in diameter. The webs had a tendency to be attracted to hot, sweaty people and the more you tried to get the web off, the harder it would stick. Ducking or dodging them didn't work either. The spiders had this system you couldn't beat, kind of like the draft.

Tobacco rolling and spitting were the "in" things at camp. I'd chewed all the tobacco I'd ever want at Initiation so I didn't indulge in either thing. Tobacco rolling, though, was the most fascinating to watch. The

guy would carefully shake what he hoped was the right amount of tobacco on the paper. Invariably, he would then take a deep breath and frowning in concentration, try to roll a round cigarette. Beginners succeeded in making their cigarettes square, oblong, or triangular, but never round. Many times, though, he never got to the second step because the wind blew the loose tobacco off his paper and onto the ground. When this happened, he cussed royally, got out the tobacco can and started again.

Outside of drinking, volleyball was the chief means of excitement at camp. I played it once, just to show the guys I couldn't and proved my point beyond a doubt! The last two weeks of summer camp were spent in a tournament to see which cabin was the best. Cabin 2 was represented on the sidelines by George "Wildcat" Landis (volleyball was also conducive to sprained ankles) and his running commentary livened up the otherwise routine games that were played after jungle rules were dropped. At one point, though, his domain was threatened by a funny-looking cheerleader who needed a shave.

Summer camp was an experience I'll never forget, as hard as I try! For a week after I got home, when I went to sleep, I was riding the bus, hopelessly and forever lost in the backwoods of Missouri. I learned a lot at camp, because there is so much about forestry I don't know, but I was very glad when that phase of my college career was over.

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POPLAR BLUFF, MISSOURI

Custer Lookout

GEOFFREY MIDDAUGH

A POPULAR MISCONCEPTION OF A FORESTER is a person who sits up in a tower all day and looks for forest fires. This line of thinking is similar to thinking that everyone who works for an airline is a pilot and anyone who works for the Forest Service is a lookout and fights fires. This last summer I was able to see what a lookout job was really like, and, to myself, and I hope to a lot of others, am now able to explain something about this popular stereotype of a forester. I worked in the Challis National Forest in the Clayton Ranger District and my lookout was on top of 9742 foot Custer Mountain.

It is obvious that the major job of a lookout is to look for forest fires but there are also a variety of other duties. Besides the regular look around of the countryside every fifteen minutes, the lookout must keep a record of all radio communication to and through his station. He must relay messages from the Guard Stations to the Ranger Station and during extreme fire danger, he must keep track of all the work crews who periodically check in with him so that they can be contacted in case of a fire. Also general maintenance of the cabin and just the normal everyday chores of cutting wood, getting water and cooking help to fill out the day. It is quite true, though, that the days fall into a routine, so I shall try to explain a typical day's routine on Custer Lookout.

A typical day on Custer Lookout usually begins about 5:30 or 6:00 o'clock in the morning, not because I had to get up that early, but because the little puppy I had with me as a companion was not housebroken and usually had business at hours contrary to mine. My "alarm clock" actually went off at 7:00, when I had the first of my check-ins with the central lookout. The second check-in was at 8:00 and I would check-in throughout the rest of the day at 2 hour intervals until 20:00. I would stoke up my wood stove, scrape a little mold off of my bacon, crack a couple of eggs and try to revitalize my sourdough biscuit starter as I fixed breakfast as I did every morning for the 62 days I was on the mountain. After breakfast was the time of day I used to get my chores done because of the usual low fire danger in the morning. After washing the dishes, I would usually cut some wood, sweep out the cabin, clean up after the dog and fill out the radio log for the start of another day. The 10:00 check-around began the period where I had to start looking for forest fires. I only had three reported smokes that summer. One where a boy in a campground had set fire to a porcupine and the porcupine ran up the mountainside (only a little ways) and consequently burning up 150 acres on the BLM. I reported another fire at a dump and a false smoke from a bulldozer raising dust while building a road. Actually a pretty quiet fire summer. Throughout the rest of the day until 20:00, I was supposed to look around the countryside for fires at regular intervals. This was the time of day where I started a lot of reading. I had made

sure that I brought a good supply of books with me. The schedule for the rest of the day was pretty well set; look and read, look and read, ad infinitum. But each day was different in a lot of respects. Lightning storms were always exciting. Going out on the catwalk and waving at an airplane was a much enjoyed change of pace. Watching the chipmunk population around my cabin grow throughout the summer was also very interesting. It's amazing how interesting chipmunks can be. And as much as my puppy would allow, I tried to make friends with a few of them. I felt towards the end of the summer that one of the major jobs of a lookout was to feed and protect the chipmunks living around his cabin.

At 12:30 it was lunchtime and the daily task of reshuffling my supply of canned food into a somewhat decent lunch was always a challenging and character building experience. Another highlight at noon was when I could turn on my little transistor radio to KBOI-FM from Boise, Idaho and listen to Arthur Godfrey and his social commentary. Late in the evening I would also listen to my little radio and if it wasn't for KNX in Los Angeles, I wouldn't have been able to listen to the United States put men on the moon; if it wasn't for KOMA in Oklahoma City, I wouldn't have known that there was a Woodstock Music Festival. After lunch the look and read cycle was modified to a work, read and write routine with sometimes a few games of solitaire thrown in for variety. I got two paragraphs towards that novel that I've always been going to write and then I convince myself or it convinces me that I was never made out to be a novelist.

At 18:00 I would again match wits with my canned food supply as I attempted to add variety to a growing monotonous diet. I actually became quite good at canned food cookery by the end of the summer. After the dishes were cleaned and the last check-around was over, all the monotony of the day was repaid by the peace and tranquility offered by the view from my mountain. The evening was the most beautiful and peaceful time of day. Every night I would watch the sun slowly set over the Salmon River Mountains which never became monotonous or tiring to watch. Every sunset is different and with each day they seem to increase in their beauty. Just watching the moon rise over the Lost River Range to the east or the stars pop out into a blue crystal Idaho sky is a unique experience. Many evenings I could see deer in the meadow about 1500 feet below my cabin. Many times eagles would soar and glide in the sky around Custer Mountain with such ease and peace that the exhilaration of watching them is impossible to convey. Times and scenes like these made it easy to imagine myself as being the only other person in the world alive and all I wanted to do was sit, and look, and dream.

In no ways will I ever forget or regret the summer I spent on Custer Lookout. I didn't receive a lot of valuable "on the job experience" from the lookout job, but I came off that mountain a more enriched individual. I had seemingly been hurrying for 20 years of my life and it was nice to slow down for one summer and try and orient myself.

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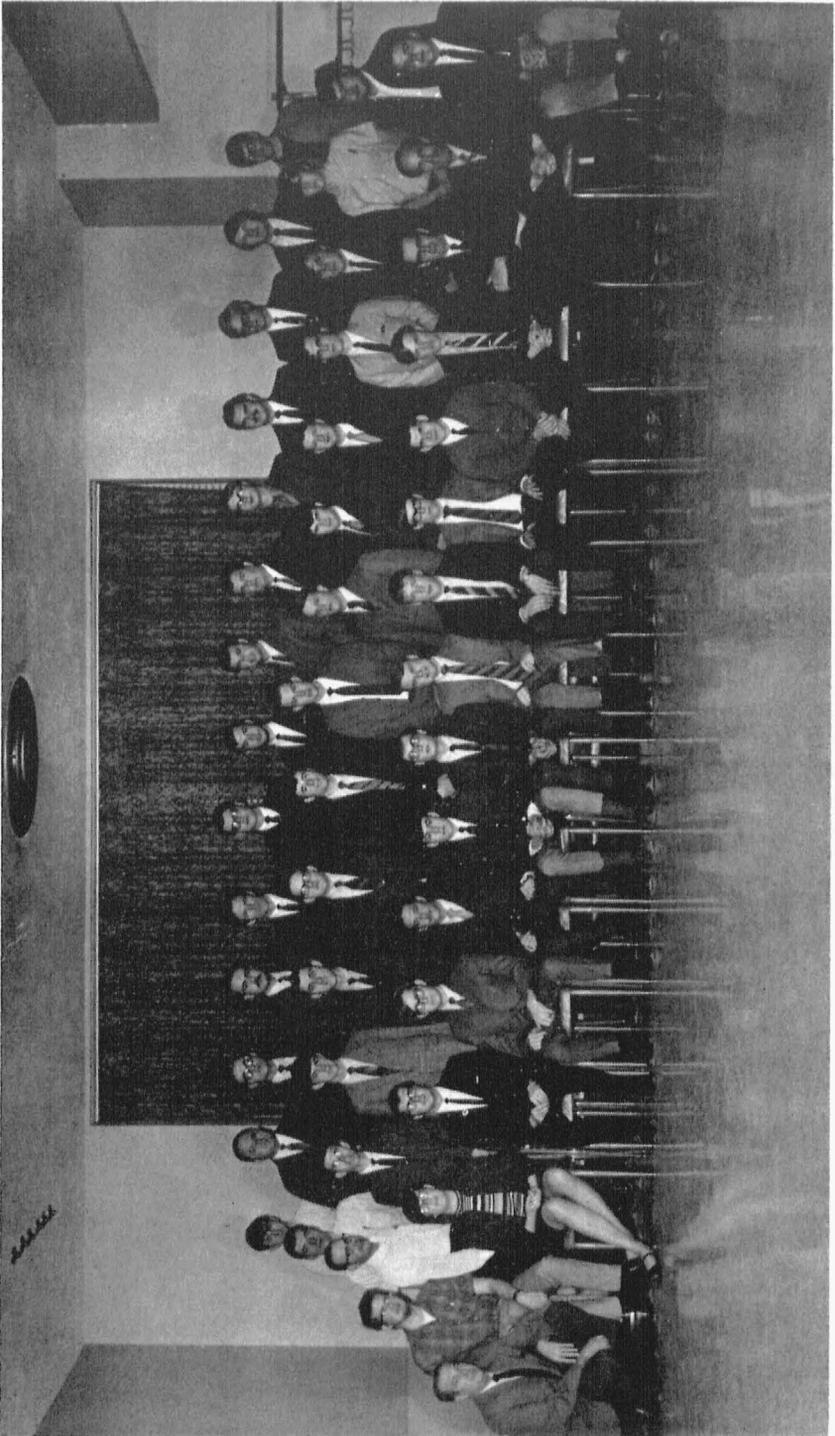
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Secretary

Treasurer

Ranger

Historian

Parliamentarian

Advisor

Winter Semester

Ronald Keubler
 Jack Woods
 Tom Oldham
 Bud Morton
 Jim Winkler
 Dennis McDevitt
 Bob Sanders
 Lee K. Paulsell

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 John Angst
 Rich Aubuchon
 Mike Baffrey
 Steve Bartley
 Danny Bogler
 Roger Bond
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 Terry Clark
 Susan Cook
 Wayne Cook
 Dr. Gene Cox
 John Darwent
 Harry Diesel
 Dr. Donald Duncan
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 Greg Hickman
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 Bill Howser
 Jim Jarosik
 Jim Johnson
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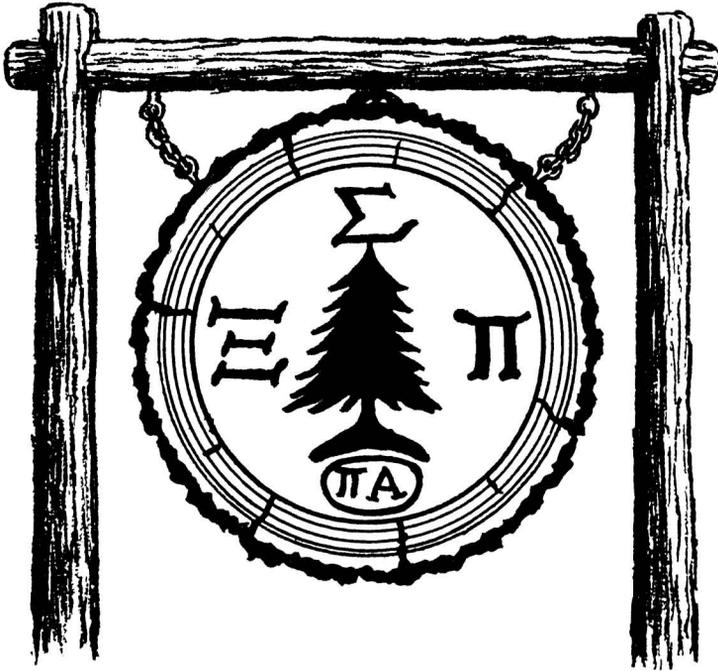
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TAU CHAPTER, XI SIGMA PI

1970



P. THIES and W. EICKMEIER

Xi Sigma Pi, the National Forestry Honor Fraternity, was founded in 1908 at the University of Washington. The objectives of the society were set as the promotion of scholarship and professional forestry.

Tau Chapter provides several services for the School of Forestry. This fall Tau Chapter sponsored Saturday luncheons for both the alumni and Advisory Council. At the Forestry Club Banquet, Freshmen and Senior awards in recognition of superior scholarship were presented to John Rolf and senior Calvin Meier.

Outstanding leadership for the 1969-70 academic year was provided by Bill Eickmeier, Forester; Dave Sims, Assistant Forester; Jack Woods, Secretary Fiscal Agent; and Paul Thies, Ranger. Special recognition goes to Kent Downing, faculty advisor.

Forestry Club Initiation

TOM OLDHAM '71

IT WAS A COOL, CRISP OCTOBER NIGHT when Foresters and Foresters-to-be met to become one through the tradition of the annual Forestry Club Initiation. And as they sat together around the fire, the “old salts” of the forests treated the lowly initiates to their famous and glorious tales of fire-fighting, cruising timber, last year’s Bar-B-Q, and just making it through physics by the skin of their teeth. They even tried to teach the initiates some of the famous old songs of the forest. But the newcomers, with their logs around their necks, just stood in awe hoping some day they would be as cool as their leaders. Then suddenly a shotgun blast rang out and it was time for the neophytes to take the test.

The first part of this test was easy—simply an easy jaunt through the area to acquaint them with the silvicultural aspects of forest sites in Missouri. Some complained of the dampness in specific areas, but they needed a bath anyway. In fact, many liked it so much they went back for more.

Then suddenly they were facing a huge bonfire, behind which, in all his majesty, stood Paul Bunyan. Paul was not alone, for with him was the Devil, Babe, and of course, the Old-Man-of-the-Woods. The Devil visited with each prospective member to make sure his log didn’t have any wild-lifer’s name on it and to see how they liked their chew. When the Devil was through with them, he sent the happy initiates, one by one, to Babe. They will always remember their final jolt when Babe said, “Congratulations, you are now a member of the Forestry Club.” When they were all through, the Old-Man gave his inspirational talk welcoming them to the Club and reminding them of the responsibility they have as a Forester here at the University. With cider and donuts, the Foresters, old and new, concluded the annual initiation.

Congratulations new members, now you’re cool too!

Foresters’ Field Day

BYRON MORRISON

AMID SHOUTS OF ENCOURAGEMENT and the thud-thud of falling axes the 1969 Foresters’ Field Day got underway. As is the MU Foresters tradition, they, with friends and spectators gathered on a warm Saturday afternoon in April among a variety of woodsmen’s paraphernalia on the Agriculture Building lawn to participate and applaud the perfect (or not so perfect) execution of skills developed by past woodsmen.

Our most hardy soul, Dan Erion came through to achieve the award for best performance by an individual in all events. He won first in bolt throw, chain throw, and he and Jack Woods were first in log rolling. Jack Rowland was second overall winner with a first in one-man bucking and chopping.

The first in two-man bucking went to Tom Ronk and John Timmermann. Byron Morrison took first in match splitting. Also to take first was Jim Winkler in the more sophisticated event known as tobacco spitting.

As the last drop of tobacco juice dripped and the last chip came to rest, clean-up began with everyone in the spirit of great conquests at Conclave in Houghton, Michigan this fall. However, only time would tell to what extent these ambitions would be fulfilled.

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LUMBER JILLS 1969-1970

The Lumber Jills opened the school year in October with a meeting in the home of Mrs. D. P. Duncan. About 20 new forestry student wives were welcomed. The wife of any student in the School of Forestry is welcome to join our group. Our goal is to stimulate interest in the forestry profession.

In November our fall "Get-Together" was held to give us a chance to become better acquainted with each other. Mrs. Allen McGinnis, our faculty advisor, welcomed us into her home for our Christmas party. Along with a small gift for a gift exchange, we brought food, clothing and toys for our charitable project. We adopted a needy family through the Christmas Planning Service.

Other activities throughout the year included monthly business meetings, and programs covering a wide range of subjects. Our social activities included a Pot-Luck Dinner held in February with our husbands and the faculty and their wives, and a picnic in May for the Lumber Jills' families and the faculty and their families.

Mrs. J. M. Nichols guided our bridge group which met each month. We wish to thank her for her patience and help.

Twice a year P. H. T. (Putting Hubby Through) degrees are presented to the girls whose husband receives a degree. We wish all these girls and their husbands the best of luck in their new job.

We wish to thank our advisor Mrs. McGinnis for her guidance during the past year. She has helped lead the Lumber Jills through a very enjoyable and successful year.

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TEA, MISSOURI

Annual Spring Barbecue

JOHN R. TIMMERMANN

THE 1969 SPRING BARBECUE was held on a sunny Saturday afternoon in May. The annual event was held in a secluded spot a few miles from town. The spot was so secluded that all but a gifted few had to walk in from their parked cars.

Soon after arrival one of the two "buttermilk" dispensers was set up. Club members lined up to sample the delectable liquid. Meanwhile a few athletes were putting up the volleyball net.



Come on, Gary, get the sauce on those chickens.

Another center of attention was the barbecue pit. Several Club members helped in assembling it. The fire was started and the halved chickens were laid on the grill. They were about to begin the final phase of their long journey to some forester's waiting stomach. Soon afterwards the pork steaks were put on the grill to meet the same fate. The sauce was prepared and applied by the skilled hands of the chef.

The process of food preparation took some time. During this time the foresters managed to keep themselves busy. Some played volleyball. Others joined in the annual event of "keeping the ball away from the seniors." There is always a dispute over who wins, but it was all in fun. Naturally everyone joined in frequent excursions into the woods.

All of this activity resulted in many hungry foresters. When the food was ready, so were they. Everyone enjoyed the food immensely. Before it was over barbecue sauce was spread from ear to ear.

With the food gone, the main attention was again focused on finishing the "buttermilk." As the sun began to set, the 1969 Forestry Club Barbecue came to a close. A good time was had by all.



Everything's ready!



Tom decides to cool off—fast!

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Conclave 1969

RON KEUBLER

MISSOURI'S 17-MAN CONCLAVE TEAM started out for Houghton, Michigan at various times on October 9. The team left a day early knowing they faced a 900 mile drive to Michigan Tech. on the upper Michigan peninsula. Different routes were taken and the time of arrival varied.

After some rest Friday morning and a noon meal under our belts, we had a practice in the afternoon mainly to get a look at the competition.

Supper was next on the agenda and after this, there was much discussion in our comfortable dormitory rooms about who was going to win what event the next day.



We just lost another event.

Lights went out about 10:30 p.m. after the dendro team was talked out of staying up late night to study their trees.

We were up at six to ready ourselves for a 7:00 a.m. breakfast and an 8:00 a.m. starting time for events.

The first events were dendro and traverse. Byron Morrison, Jack Woods and Ron Keubler found that the trees had changed appearance this far north and they failed to place. Tom Ronk, Bob Sanders and Dan Van Petten tried their luck and Tom placed fourth giving Missouri their first point.

After these two, came the judges favorite event—tobacco spitting. Having trouble with the wind, Jack Woods, Bob Sanders, and Ron Keubler failed to place in this event.



Left: The pause that refreshes.

Right: Oops! I just swallowed it.



The teams of “Bud” Morton and Bob Sanders; Jack Woods and Tom Ronk; and Ron Keubler and Dan Van Petten, were participants in the log rolling contest. Through some fast pevyng and quick stepping, Bud and Bob got second to give us three more badly needed points.

The pace never slackened that morning, and we moved right into the next event, which was chain throw. Because of adverse weather conditions, Dan Bogler, Jim Jones, and Steve Swain failed to place in this event.

Missouri’s entries of Grege Hickman, John Timmerman, and Jack Rowland, in the one-man bucking event; and our entries Bud Morton and Jack Rowland; Tom Ronk and John Timmerman; and Jim Jones and Bud Sanders, in the two-man bucking event, gave it their all, but failed to place.

After the sawing events, we took a long awaited break for lunch, where strategy in the remaining events was hashed over.

The first afternoon event was chopping where John Timmerman, Jim Jones and Jack Rowland were our entries. Jack barely missed third place, but got us a fourth for another point.

Duane Parker, Tom Oldham, and Ron Keubler gave match splitting a whack but were unable to find the match.

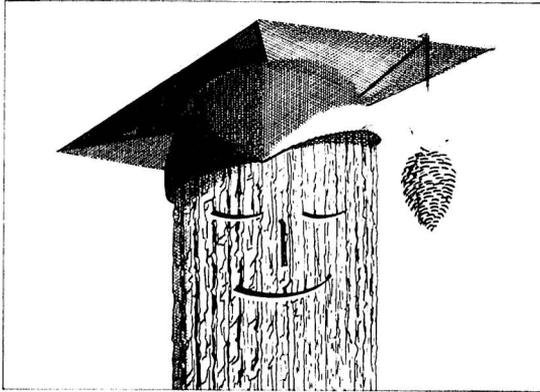
In the bolt throw, Bud Morton, Thomm Smith and Byron Morrison put in an “all out” effort but failed to place.

Our special event team of Jack Rowland, Don Bogler, John Timmerman and Tom Oldham placed third and gave our spirits a lift on a chilly Michigan day.

Over all, we placed 6th in a field of 8 teams.

After the supper meal, a weary team headed back to Missouri. We didn’t stay for the ice cream social because of the long drive we faced and because we were anxiously anticipating our Monday morning classes.

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CHRISTMAS TREES



JIM WINKLER '72

THE 1969 FORESTRY CLUB CHRISTMAS TREE SALE was a booming success. Approximately 700 Scotch Pine and a good number of wreaths were sold. The sales location was 5th and Locust, on the MFA parking lot. Sales began on a cold Wednesday morning and ended on Saturday, December 10.

About 400 Scotch Pine were cut from the Club's plantation near Ashland, Missouri. The remainder and the wreaths came from Gwinner's plantation in the Pea Ridge Forest near Hermann, Missouri.

The Club profited greatly and is looking forward to another fantastic year in the seventies.

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POPLAR BLUFF, MISSOURI

Paul Bunyan Bounce

TOM RONK '70

ONCE A YEAR PAUL BUNYAN trades in his "star tobacco pouch" for a white handkerchief and his newly tailored tux. This year, December 13th was the Forestry Club's annual Paul Bunyan Bounce, in which students, dates, wives and faculty members gather in the Student Union Ballroom for a good time.

The entertainment this year was provided by members of the Studio Band. During the band's break, additional entertainment was furnished by the notorious "Foresters' Five Plus One." This well-known group was composed of Tom Oldham (#1 soprano), Dennis McDivett (Group Leader and #1 Joke Man), Tom Ronk (#2 Tenor and Rhythm Leader), Dan Van Petten (#1 Hummer), Don Smith (Hummer and Sound Effects) and Steve Kick who was just along for a good time. This well-harmonized group sang the chorus of "Denver" and "Oh Where, Oh Where." Although the audience pleaded for more, the group ended its career with several jokes (?).

The Bounce had its serious side, however, and a sense of excitement filled the air as Santa Claus (Jim Winkler) introduced the queen candidates. It was then announced that the lovely Mrs. Sandy Ragsdale was the new queen. Sandy was given a \$25 gift certificate to Suzanne's Downtown and a dozen long-stemmed red roses. Sandy was escorted by her proud husband, Mizzou Forester Rick Ragsdale.

As the night lengthened and the punch bowl deepened, the crowd was reduced to several who were helping in the clean up. Just like everyone else, Paul Bunyan had a very enjoyable time, although he did spill punch on his white shirt.



Beautiful Sandy Ragsdale with Rick.

Nineteenth Annual

Forestry Club Banquet

HARRY DIESEL '71

THE NINETEENTH ANNUAL FORESTRY CLUB BANQUET was held March 21, in the large ballroom of the Memorial Student Union. There was a large attendance for the occasion; over 160 faculty members, students, and guests (including several lovely young ladies) were present. Rich Aubuchon was the toastmaster for the evening.

After the invocation led by Tom Ronk, the buffet-style meal was served. It was a pleasant change from the serving style in years past. Once the meal began, the tensions eased and everyone became better acquainted with his neighbors. It was generally agreed that the meal was a rare one.

Special guests were introduced after dinner. They included Mr. James Berlin, Supervisor, Mark Twain National Forest, and Mrs. Berlin; Mr. George Brooks, Assistant Director, Financial Aids, and Mrs. Brooks; Dr. Robert Campbell, Professor of Zoology, and Mrs. Campbell; Mr. Osal Capps, State Forester of Missouri, and Mrs. Capps; Mr. and Mrs. Leo Drey, owners of Pioneer Forest; Dr. Homer Folks, Associate Dean, College of Agriculture, and Mrs. Folks; Mr. Allan Purdy, Director of Financial Aids, and Mrs. Purdy; Dr. Clarence Scrivner, Professor of Agronomy, and Mrs. Scrivner; Mr. Ed Woods, Forest Manager, Pioneer Forest, and Mrs. Woods; and Mr. Rodney Young, Supervisor, Clark National Forest, and Mrs. Young.

Dr. Donald P. Duncan, Director, School of Forestry, introduced scholarship holders and the sponsors or representatives of the organizations making these scholarships available. The winners were Glen Wiegstein, by the Marguerite Krueger Conservation Club; Ron Carpenter, by the Missouri Federation of Women's Clubs; Dwight Slocum, by the National Association of Home Builders. Ronald Krupicka received the William G. Kohner Scholarship; James Jones was awarded the Oliver J. Ferguson Scholarship; Ron Musser, the Lumber Dealers Scholarship. Winners of the David and Gertrude Gwinner Forestry Scholarships were Tom Oldham and Stan Ponce. The Alpha Phi Omega Scholarship went to Steve Cannell; the McDermand Scholarship went to William Eickmeier. The winners of the Richard M. Higgins Endowment Scholarships were Mike Richards, Jack Woods, Ron Keubler, Dave McNabb, Glenn Bandler, Dave Sims, and Jesse Lyons.

Each year, the Xi Sigma Pi awards are given to the outstanding freshman and to the outstanding senior for scholarship and service. Calvin Meier received the senior award this year. The freshman award was given to James Rolf. Bill Eickmeier made the presentations.

Dr. A. J. Nash presented the Westveld Awards. The freshman award, for high scholarship, went to Mark Waterman; the sophomore award, for the greatest contribution to the Forestry Club, was given to Robert San-

ders; Philip Hein, junior, received an award for high scholarship in courses other than forestry; Jack Woods, senior, was presented an award for high scholarship and service to the club.

Dr. R. C. Smith presented the R. H. Westveld Prize in Forestry to David Degenhardt.

On rare occasions, Honorary Memberships to the club are awarded. They are the club's highest mark of recognition to individuals in the field of forestry. Only four have been given in past years. This year, two additional Honorary Memberships were given. One was to Mr. Leo Drey, owner of the 140,000 acre Pioneer Forest in the Missouri Ozarks; the other went to Mr. Ed Woods, manager of the Pioneer Forest.

Every year at the banquet, a Headless Ax Award is given to the student and to the faculty member who made the biggest "goof" during the past year. Mike Richards presented the award to Christopher Finlay for his valiant but futile attempt to locate a rare surveying instrument—a miniature transit for surveying small angles! (In fact, it compares to "barber pole paint" in rarity.) Professor K. E. Moore won his prize by establishing easy-to-find (?) surveying stakes.

Entertainment was provided by "The Tiger Tones," a local barbershop quartet. The feature speaker was Mr. Jean Madden, Director of Alumni Activities for the University, who presented a stimulating and refreshing talk on "The Anatomy of an Alumnus."

Congratulations to

The Class

of

1970

SKEET SHOOT

ROBERT L. SANDERS '72

IT WAS FEBRUARY 21, 9:00 A.M., the temperature was a brisk 45 degrees, and the sun had finally broken through after about two weeks behind heavy cloud cover. About twenty-five foresters converged on the gun club for the first trap and skeet shoot sponsored by the Forestry Club. Most of the men had never shot on a skeet field before, but they adjusted to this new type of shooting and found the clay birds weren't as elusive as they had anticipated.

Dennis McDevitt, the forestry club historian, was instrumental in the organization and management of the shoot. Along with two of the owners, Denny gave instruction to new shooters such as: lead the bird 1.5 feet, keep the gun swinging after you shoot, and don't jerk the gun. As a result, the men broke more birds than they thought they would.

The most important factor on a skeet field is a safety. This must have been uppermost in all our minds, because although everyone wasn't an expert at breaking the clay birds, they were excellent at safety. Having that number of inexperienced men on a skeet field could present problems. However, the club members deserve to be commended on their safety habits, for none of these problems developed.

When foresters get together they usually have a good time; the shoot was no exception. Everyone was kidded about his shooting but each forester did his share of the kidding too. McDevitt recorded the scores and will use them to assign handicaps for the next shoot. This will allow competitive shooting among the club members and it will be much more fun. The shoot was a great success; as a result, another one was tentatively scheduled for sometime in the spring.

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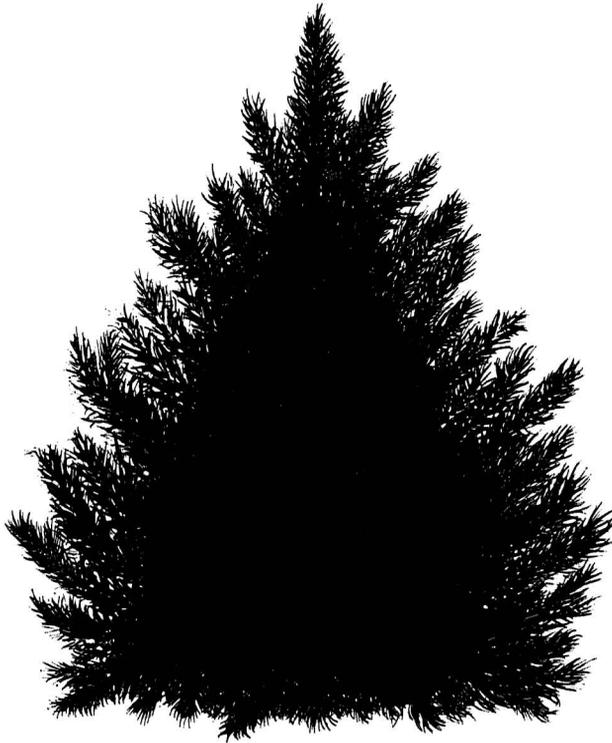
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Chronicle of a Float Trip

Forestry Club Meeting in February:

"We've got a skeet shoot, barbecue, field day, Christmas tree planting and the banquet all lined up now. How about a float trip? Who's for a float trip?"

"Sure, let's have a float trip in April."

"O. K. you guys, I'll appoint a committee. Be sure to sign up."

Forestry Club Meeting in March:

"Alright, we've got 46 signed up for the float trip. We'll leave on Friday afternoon April 10 and meet at Round Spring. It's up to you to choose partners, arrange your own food and transportation. We'll be on the river by 6:30 Saturday morning the 11th and float down to VanBuren by Sunday night."

Friday Evening, April 10:

The group which had dwindled from the original 46 to 36 began arriving at Round Spring—some arrived early, some late but by 8 p.m. everyone was on hand. It was a moonlight night and very peaceful—after the guys had settled down and the trucks had stopped roaring through our campground. Lucky were the ones who had a camper truck to sleep in, they were WARM. Everyone else froze in the 30 degree weather. By 5 a.m., more sleep was out of the question and the main thought was to get warm by a fire, but that meant getting out of an almost-warm sleeping bag. The range of cold weather clothing was unbelievable—stocking caps, thermal underwear, sweaters, gloves, unzipped sleeping bags used as a wrap-around horse blanket, and then there was Jack Woods running around with a short-sleeve shirt on pretending he wasn't cold at all. Breakfast was the first order of business and it sure tasted good—and smelled good to a bunch of dogs which had hopefully come to cash in on the goodies.

By 6:30 everyone was ready for the canoes but there was a hitch—where in **?!** was the canoe man? He arrived at 8 o'clock—more huddling around the camp fires to keep warm—more waiting.

Saturday Morning, 8:30:

Big conference about where to put in. Upstream? downstream? Finally it was settled. We'd start at Cedar Grove (where was that?), float to Pulltite Spring (where was that?) the first day and then back to Round Spring the second, a total of 26 miles. The business of getting the guys and their gear to Cedar Grove was kind of laughable—cars running all over the country getting lost, trucks and canoe trailers trying to catch

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up, the lost cars trying to find the main group and Dr. Adair just HAD to get out of step by leaving his car at Pulltite Spring because he was driving back to Columbia on Saturday evening with Dr. Settergren. FINALLY men, canoes and gear got together at Cedar Grove; gear was wrapped in plastic bags and tied in. We were on our way!

Saturday, 10:30 to 5:00 p.m.:

This was a float? A float implied lying back and letting the current (river, that is) do the work for you while all you had to do was to steer. Ha! ha! It would have taken 10 hours to go the 18 miles, so it meant work—paddling, skirting rocks, running riffles and shoving off gravel bars. But it was pleasant work and the river was beautiful—alternatingly quiet and angry, shallow and deep, narrow and wide, surrounded by high limestone cliffs with many caves or by fields with grazing cattle.

We drifted past Welch Springs where a private recreation was built many years ago but which has since been abandoned. Many stopped there for lunch and to stretch their legs. Fortified by food, we got added strength and paddled on.

There were a few water fights on the river. The canoe skippered by Settergren took on Ronk's canoe and both came close to dumping. Adair lost a paddle and didn't even know it, the battle was so fierce. Captain Don Smith with Engel as bow man got into a running fight with Admiral Lough and First Mate Moffett. Didn't someone call someone else a chicken? The canoes were made ready for battle and the maneuvering

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was unbelievable (literally, since neither crew really knew how to steer the darn thing). Orders were issued to ram broadside and if that failed, to send over a boarding party. Nobody seemed to know how to get the canoe into ramming position—and if it got there accidentally, what to do with it and the water was too cold and deep for boarding. So the battle was by paddle and nobody got tipped over (that was accidental too).

On the way, we saw interesting sights and heard interesting sounds; some caught trout, others didn't; we heard the mating call of wood ducks, kingfishers and Rolla-based college kids; we saw all the sights that the Current River had to offer.

By 5 p.m. everyone had reached Pulltite Spring and was ready for supper and rest. Drs. Adair and Settergren decided to go down stream in the canoe to see the spring and to paddle back to the campground. Going down was easy; coming back against the fast-flowing river was something else again. Did your gear (and your camera) ever dry out?

Supper was varied—from sandwiches, pork and beans to T-bone steaks—but mighty good no matter what it was. From out of nowhere, Orville Sundberg brought out a guitar and led the group in some good songs; thanks, Orville, you sure lightened up the end of the day. By 9:30 everyone had had it and quietly slipped away to sack out. It was cold again but not quite as bad as on Friday night.

Sunday, 6:00 a.m.:

Bleary eyes and tousled heads started emerging from the sleeping bags like a bunch of moths coming out of cocoons. Camp fires were stoked up and the delicious smell of bacon frying was all over the campground. What's nicer than the smell of hearty food cooked over an open fire? By 7 a.m. canoes were on the river to go the last 10 miles to Round Spring. But wait a minute, what happened to the beautiful weather? Today was dull and damp and anything but cheerful.

Sunday, 7:30 a.m.:

What was that? thunder? Couldn't be, it must be a jet going over. But how come jets go over with a big flash of light? Oh! oh! it must have been thunder because here come the wind and the rain! Heads down and paddle hard, no point in prolonging this any further. The 10 mile trip from Pulltite Spring to Round Spring usually takes about 3 hours; today it takes 2 hours and no fooling around on the river. At Round Spring, the canoes were pulled out of the water, gear is packed away in the cars and the end of the float trip is just about here. No canoes tipped over, but lots of guys got wet; sleep didn't come easily because it was so cold; there were many sunburned backs; there was lots of laughter and good comradeship.

Sunday, 1:00 p.m.:

The drive from Round Spring to Columbia took about 3½ hours. There wasn't much talk because everyone was tired, but there was agreement that the float trip was a great success. How about a bigger crowd for next year—are you ready?

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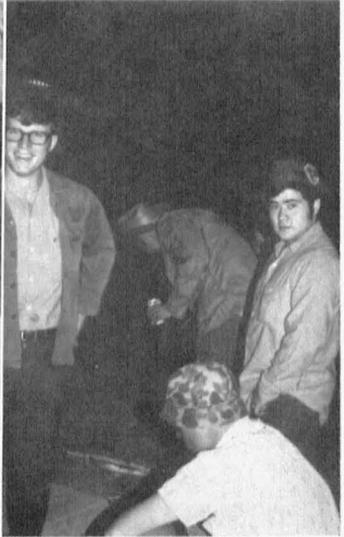
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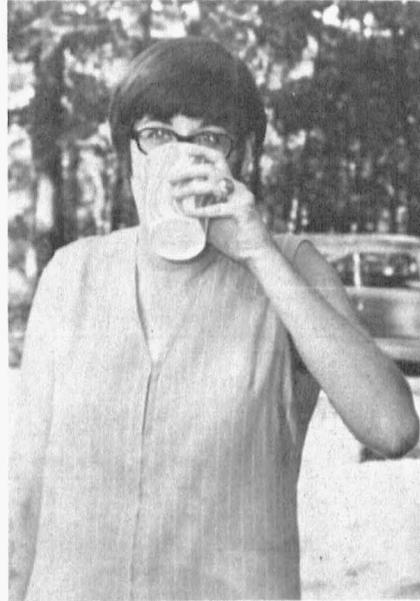
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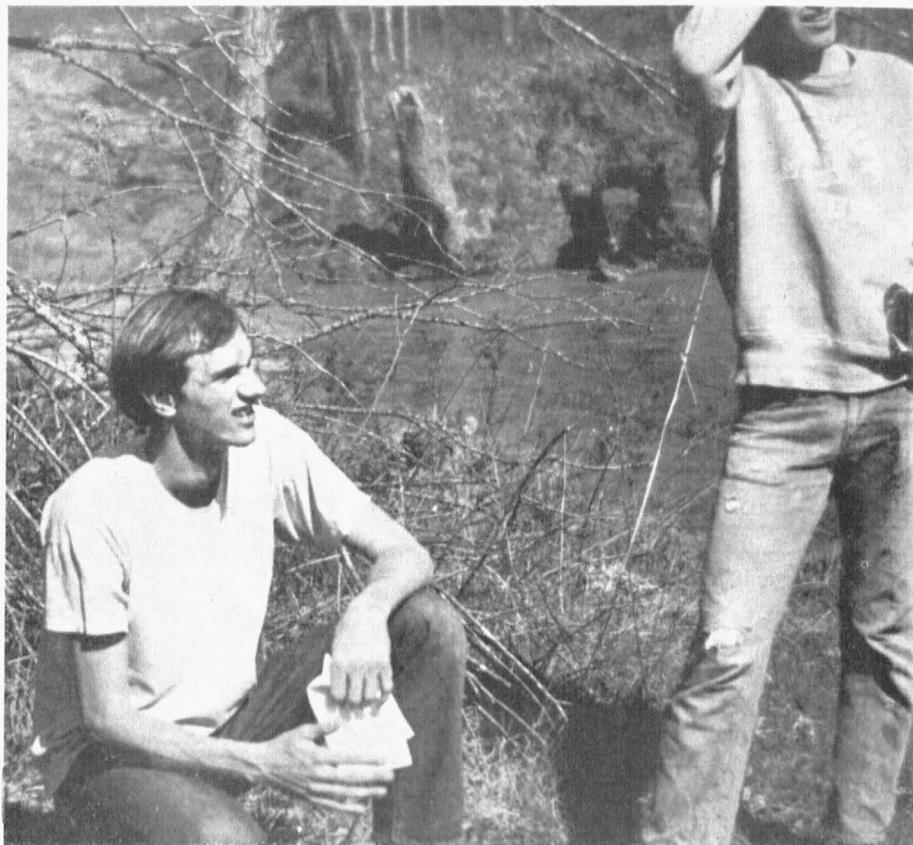
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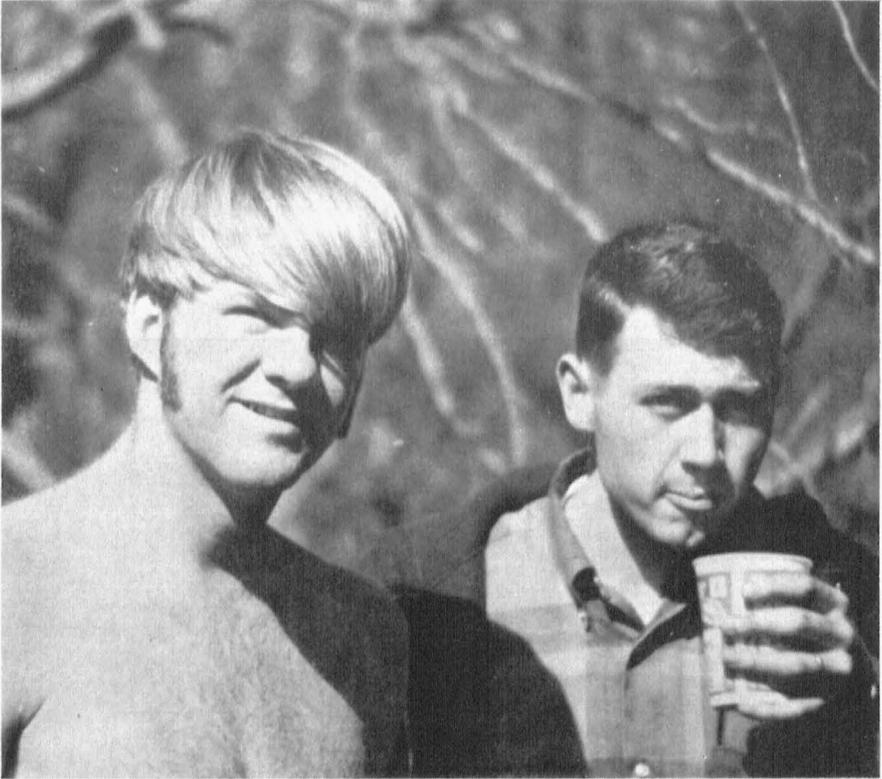
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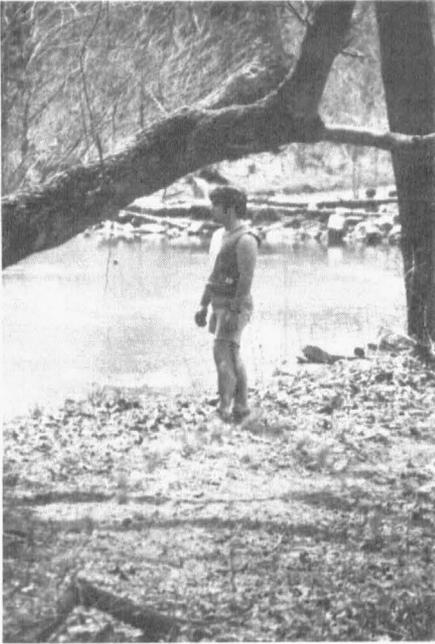
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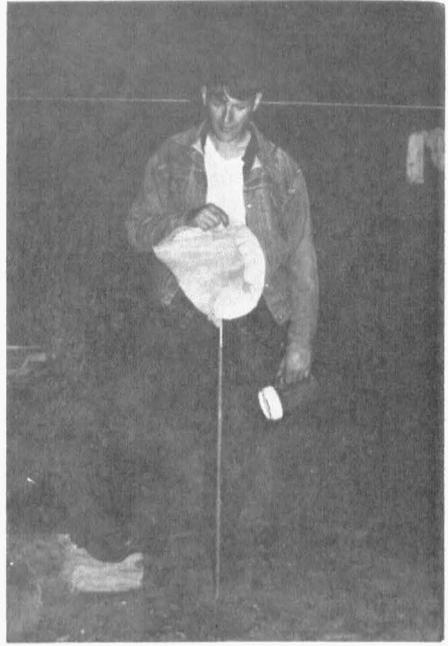
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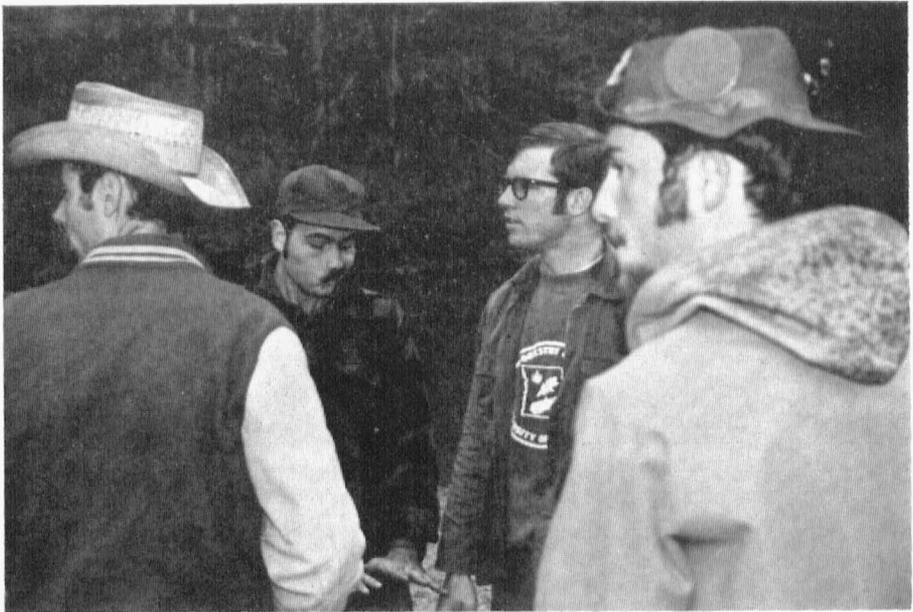
Is there a barber in the house?



Where did everybody go?

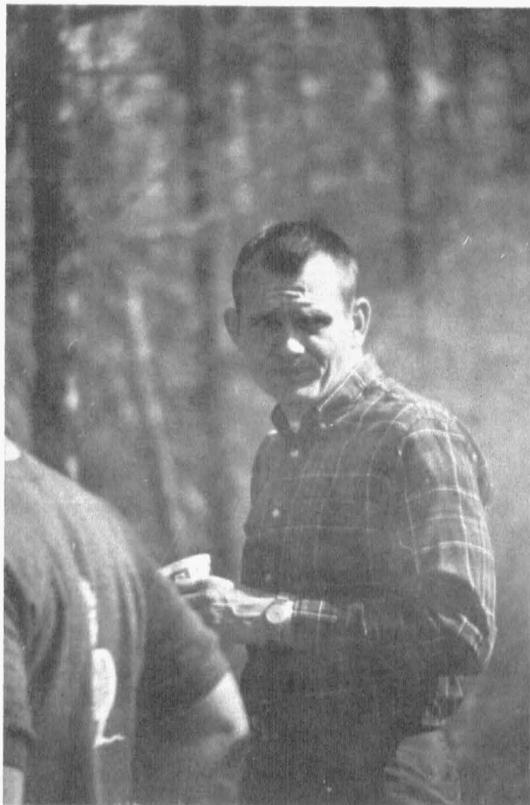


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Who said it was spring?

I'm disgusted.



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I tried hard but no points for our team.



That's no oak tree, Morrison.

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ACKNOWLEDGMENTS

THE STAFF OF THE *Missouri Log* would like to thank everyone that has helped with the *Log* this year. We would especially like to thank our advertisers for their interest and support. A special thanks also goes to the School of Forestry, Alumni Association, and the Forestry Club for their support.

Our fine feature articles were by J. M. Nichols, J. S. Berlin, R. F. Young, and K. Hafner. Thank you for your articles and pictures.

A special "thanks" goes to the School of Forestry secretaries for the typing of articles appearing in this issue.

We also would like to extend our gratitude to Mr. Stan Hlasta and his staff at Kelly Press for making our job a lot easier. Thanks a million.

Dr. A. J. Nash and Dr. R. H. Westveld are also due a thank you for their aid in obtaining articles and providing advice.

Last, but not least, we would like to thank those who have given time, advice, pictures, and help to this year's *Log*. We truly appreciate your assistance and sincerely hope you enjoy this issue.

