THE COVER

The cover for the 1969 Ames Forester is a free hand ink drawing by J. A. "Skipper" Larsen, associate professor of forestry at Iowa State.

The nickname "Skipper," or "Skip" for short, is one which is not uncommon to many a young American boy. However, one doesn't very often find too many 92 year old men who still sport the name!

Although he was never the actual skipper of his own ship, Dr. Larsen acquired this nickname through his early sailing experiences as a young lad.

Professor Larsen was born in Drammen, Norway, in 1877. Drammen was an inland seaport located on a "brimming river" and lined on both sides by warehouses, sawmills, and a pulpmill; all of which supplied cargoes for the many square-rigged vessels waiting to be loaded.

As a teenager he served as a cabin boy on his father's small wind-jammer freighting sand and bricks for the Oslo building boom. At the age of 16 Dr. Larsen shipped onboard a 3-masted square rigger bound for England and America with a cargo of lumber. At the age of 18, he retired from sailing and went to New Haven, Connecticut, where his two sisters lived.

Dr. Larsen received his B.A. degree and his M.A. in Forestry at Yale. He then practiced forestry from 1910 to 1924 in Montana and Idaho. He came to Iowa State in 1924 to teach forestry, and later received his Ph.D. in 1936. Dr. Larsen retired in 1955, but is still an associate professor of forestry at I.S.U.

It was during his undergraduate years at Yale, when he registered for consecutive semesters in drawing and coloring under the nationally known artist, John Weir, that he awoke to the fascination of art. It was not until 1945 that his interest grew into an avocation, when he began to read and observe more intensely in the field of oil and water color painting.

Professor Larsen has painted over 200 water colors and has given two shows—one in New York in 1945, and the other in Iowa State's Memorial Union last year.

The collection last Fall presented 92 paintings. Dr. Larsen owns upward from 100 paintings while 95 of his paintings (not shown in this show) have been sold to persons living in 21 states from New Hampshire to California.

Dr. Larsen is also presently putting the finishing touches on his autobiography. The story of his life was conceived from a 150 page genealogy of the Larsen family which he began compiling in 1924.
The

AMES

FORESTER

1969
VOLUME 56

PUBLISHED BY
FORESTRY CLUB
IOWA STATE UNIVERSITY
AMES, IOWA
FOREWORD

The growth of forestry in the “home state” should be of interest to both alumni and students. From the Forestry Department the paths lead in many directions. In our diversified profession, graduates find challenge, satisfaction, and a continuation of the learning process. To closer ties among students, faculty, and alumni, the cause of forestry in Iowa, and the success of the individual forester, the members of the 1969 staff have pledged their efforts.

ACKNOWLEDGEMENTS

The Ames Forester is grateful to all those who have helped make this publication possible. We deeply appreciate the financial support of our patrons and advertisers. The help and advice of Dr. Dean Prestemon, our faculty advisor, and Mr. Robert Schwartz of the Iowa State University Press were invaluable. We are further indebted to the faculty members, students, and other individuals who offered help and suggestions.

Photo Credits

Staff, Faculty, and Students
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword and Acknowledgments</td>
<td>2</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>3</td>
</tr>
<tr>
<td>Dedication</td>
<td>4</td>
</tr>
<tr>
<td>Code of Ethics</td>
<td>5</td>
</tr>
<tr>
<td>Ames Forester Staff</td>
<td>6</td>
</tr>
<tr>
<td>1968 Patrons</td>
<td>7</td>
</tr>
<tr>
<td>In Memoriam</td>
<td>8</td>
</tr>
<tr>
<td>A Forester Looks Ahead</td>
<td>9</td>
</tr>
<tr>
<td>Seniors</td>
<td>11</td>
</tr>
<tr>
<td>Activities</td>
<td>19</td>
</tr>
<tr>
<td>Graduate Students</td>
<td>26</td>
</tr>
<tr>
<td>Faculty</td>
<td>27</td>
</tr>
<tr>
<td>Regional Design for Human Development</td>
<td>35</td>
</tr>
<tr>
<td>Secretaries</td>
<td>40</td>
</tr>
<tr>
<td>Summer Camp</td>
<td>42</td>
</tr>
<tr>
<td>Alumni Directory</td>
<td>44</td>
</tr>
</tbody>
</table>
Dedication

SHIRLEY WALTER ALLEN
(1883–1968)

Shirley Walter Allen, one of the nation's outstanding conservation leaders and educators, and graduate of Iowa State University, died in September at Ann Arbor, Michigan. He was 85.

Born on October 14, 1883, in Sherman, New York, Professor Allen received his Bachelor degree from Iowa State in 1909, and he later received his Master degree here. His early work was with the U.S. Forest Service in California, where he rose to supervisor of the Angeles National Forest in 1920. He was also an instructor at State University College of Forestry at Syracuse University and completed war-time service with the U.S. Forest Products Laboratory. For the four years before joining the faculty at the University of Michigan in 1928, he served as forester for the American Forestry Association. During his 30 years there he developed courses in conservation of natural resources and taught the first course in forest recreation, as well as being the author of two books: An Introduction to American Forestry and Conserving Natural Resources.

Professor Allen's professional life was active. In the span from 1940–1947, he served on the Society of American Foresters Council, as vice-president of the Society, and its president. The SAF elected him a Fellow in 1948.

From 1953–1959, he was commissioner of the Michigan Department of Conservation, and he was chairman for one term. He was active in Democratic politics and was advisor to Democratic officials in making appointments in the field of conservation. His professional affiliations included American Forestry Association, Isaac Walton League, Wilderness Society, Nature Conservancy, Michigan Natural Areas Council, and Michigan Academy of Sciences. He was consultant to the National Park Service, official delegate to the Second World Forestry Congress in Budapest in 1936, and in 1950 he was named advisor to the U.S. Secretary of the Interior.

In recognition of his outstanding leadership in the forestry profession and in the field of conservation, this issue of the Ames Forester is dedicated to Professor Shirley W. Allen.

* Portions Reprinted From Journal of Forestry
THE PROFESSIONAL CODE OF ETHICS

A. E. PATTERSON

Effects are the results of conduct. Such conduct may be good or bad, and canons of ethics are the outgrowth of practices, both good and bad. No society is perfect; therefore friction, which is frequently the sign of unethical conduct, exists in all society. From period to period, and from place to place, certain standards of conduct have been listed as acceptable, and others nonacceptable. These standards have not necessarily been the same in different places at the same time, nor at different times in the same place. Seldom among society as a whole have these accepted standards of conduct been written in the form of law, or for that matter written at all. Most are impressed upon the individual before maturity by parents, or associates, or are learned, belatedly, while the results of nonadherence are being endured.

Many of these standards of conduct have preceded the legislative laws later developed to restrict the minority who refuse to abide by the concepts of the majority. Some supersede and are even more strict than the law; and some, as with most professional canons of ethics, set forth those practices which, although not illegal, do not further the wellbeing of the individual, his professional group, or society in general.

Professional canons of ethics are not designed merely to protect the professional worker, or to promote the interest of the profession itself, although these two objectives are frequently found to a greater or lesser degree in practically all such codes. The foremost objective of the professional code of ethics is to further the interests of the public which it serves. It is based, therefore, largely on altruism and a sense of service, rather than egoism.

This attitude certainly does a profession no harm. When advertised in a dignified manner, before the public, it attracts respect for the profession and its individual members. When the general public realizes that the members of the profession are required, not by legislative law, but by their own group action to protect the public interest, a faith in the ability of the individuals and in the work which they perform is generated.

Such is the nature and purpose of most professional codes of ethics. The profession of forestry, however, has an even greater responsibility and opportunity than some other professions. Practitioners in most professions deal with the individual or with small groups of individuals, and their decisions or the results of their decisions are usually of interest only to the individual or a closely related group. Directly, this may also be true of the professional forester, but it is also true that the decisions of the forester will many times affect the well-being of generations yet to come. Thus, no profession has greater need for the guiding principles of altruism than forestry.

Members of several professions, including some members of the profession of forestry, contend that a written code of ethics is unnecessary; that an unwritten code, based on an intensive "esprit de corps" and the supposition that all members of the profession are gentlemen and will conduct themselves both in business and pleasure as such, is enough. In a numerically small, compact profession this line of reasoning is good and frequently workable. In a profession with thousands of members of varied employment and many interests, it is mere wishful thinking.

The written code has proved itself superior in other learned professions; the profession of forestry is no exception. A code reduced to the written form clarifies the thinking of the group, and in itself serves to bind the group more closely together.

In all professions the ideal is service to mankind rather than monetary gain. Whenever a profession accepts a code of ethics it is a declaration to society of this ideal, and to a certain extent enlists the aid of society in the furthering of the ideal. Thus, good relations with the public are established, and public confidence in the profession is strengthened.

No individual member of a profession can live in a world alone. Just as his training and professional knowledge are based on the experience, research, and thinking of those who have preceded him in the profession, his present and future gains must come through a continuous exchange of information with his colleagues. Although he may make some progress without this exchange, it will be slow and halting. Those who have passed their knowledge on to him in the past have given to him not only a means of service and livelihood, but also a staggering responsibility. This knowledge must be put to its best use, and he must consider it his private responsibility that it is used fairly, and only for the purpose for which it was intended.

Thus, in accepting a code of ethics the individual agrees to discipline himself according to the dictates of the code; and in return he is favored with protection from the egotistic and selfish motives of fellow workers. In addition, he receives the confidence of the public, who may not know him personally, but who know the moral obligations of the profession. This public confidence can only be maintained by the individual, by a show of both technical and moral competence in all instances.

In many ways the forester is similar to other professional workers. In a few ways, especially in relation to his work, he is decidedly different. Most foresters, even at an early stage of their career, work alone under a heavy load of responsibility. Their every action may potentially involve large sums of money, or the safety and welfare of present or future populations. Instant decisions are often necessary both in times of stress and in everyday work. In such moments, the forester must rely upon his technical training, his former experience, and his moral judgment. The last of these is seldom the least. Foresters are not exempt from human weaknesses or temptation, and unless they are guided by a code of ethics they may unwittingly make the wrong decision. The code must always be foremost in the mind of the forester, and his every action and decision should be tested within its crucible.

2 Professor of Forestry, School of Forestry, University of Georgia; Athens, Georgia.
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The financial success of this publication is due in a large part to the generosity of the above persons. We thank them for their patronage.
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BARR, R. L.  11
BAUER, KEITH ALLEN  65
BAXTER, W. G.  08
BEBGEEMEYER, F. R.  46
BEVERIDGE, WILSON M.  29
BEYER, J. H.  35
BJORK, CLAYTON ALEXANDER  39
BROWN, KENNETH D.  49
CAMPBELL, SAMUEL LE ROY  34
CASSIDY, H. O.  16
CLEMMENSEN, N. K.  26
DAVIS, WILLIAM E.  .
DEMING, MILO HENRY  20
DIEMER, J. A.  30
EGGERS, W. C.  22
ERWIN, C. E.  41
FISK, V. C.  21
GEISLER, MAX  16
GIBBS, J. A.  M.S.  27
GOTTGHEALTHK, FRED WILLIAM  33
GUNDERSON, OMER J.  39
HANSEL, H. E.  15
HARLAN, H. F.  35
HARLEY, WILLIAM P.  15
HARRIS, ROBERT B.  42
HARTMAN, G. B.  M.S.  41, B.S.  17
HASEK, MILVOJ  26
HAYER, V. B.
HAYES, RALPH W.  M.E.  24
HELM, H. J.  21
HOFFMAN, ARTHUR F.  11
HOYER, VERNE B.  20
HULING, J. H.  27
HUYER, V. B.  ...
JACKSON, M. D.  27
JACOBSEN, REUBEN S.  35
JENSEN, A. W.  51
JOHNSON, G. W.  42
KINDIG, E. R.  39
KINKOR, CLARENCE D.  37
KLINE, GEORGE J.  32
KUPFER, C. A.  07
LANTZKY, A. J.  36
LEHMANN, W. A.  EX.  62
LESSALL, L. R.  12
LIBBY, P. W.  35
LISCHER, D. W.  39
LIVERS, HAROLD ARTHUR  39
LONG, R. S.  40
LOGH, W. M.  25
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MC ELHINNEY, GAIL DAVID  36
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MARRIAGE, LESTER  30
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PLAGGE, N. O.  16
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POSCHUSTA, D. C.  20
QUINT, J. HARLEY  17
RATCLIFF, MARK R.  28
RAY, F. E.  11
REEDER, DOUGLAS  38
REHMAN, T. W.  18
REILY, G. E.  39
RENAUD, LAWRENCE P.  51
RICE, J. S.  40
RINGHEIM, HORACE I.  13
ROBERTSON, G. K.  49
RUMBAUGH, W. P.  16
RUTTER, FRANK  24
SAGE, H. H.  15
SCHRECK, R. G.  16
SCHROEDER, G. M.  34
SECOR, J. B.  38
SHERMAN, E. A.  M.S.  27
SHIRK, R.  EX.  41
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SMITH, PERCY T.  11
SMITH, RUSH C.  15
SMITH, WILLIAM A.  12
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STEPHEN, E. H.  MF 22 BS  13
STERRETT, JOHN C.  14
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STOECKELER, JOSEPH H. M.S. Ph.D.  (Minn.)  31
TAUBE, A. H.  50
TEETERS, J. L.  59
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A Forester Looks Ahead

by Henry DeBruin

Director of Information & Education—Forest Service, USDA

What does the future hold for forestry? What training will be required for the resource manager of tomorrow? What new tools will be supplied by science and technology?

Considering the rapid advancement in science and technology in recent years, we probably cannot predict conditions ten, twenty, and thirty years from now.

But from personal observations and experiences, I shall do my best to look ahead five to ten years.

The resource manager of tomorrow will be in fast company as he enters into his professional life. Young people in other disciplines will be busy extending the fabulous progress being made in electronics, medicine, space exploration, data handling, and a host of other scientific and technical fields. Other contemporaries will be moving equally fast in business, art, politics, and similar fields. The pace of events and the rate of change in our way of life are incredible today—tomorrow they will be even greater!

As a forest ranger, area conservationist, service forester, or a tree-farm manager, the resource manager of the future will be "people-oriented" to a much greater extent than he is today. He will possess a strong base of general information and will have a thorough professional knowledge and a capacity for self-education. Immense pressures from more people on a fixed land resource base will require greater management efficiency, a broad understanding of the total environment, and greater ability, astuteness, and awareness in his personal contacts with people.

The overwhelming scope of new knowledge will require the ability to adapt to rapid changes in outlook and management goals. Even today, changes that once took a generation now occur in 5 years or less.

The full impact of scientific achievement becomes apparent when we consider some recent findings:

- One half of all scientific information existing today has been produced in the past 10 years.
- More than 90 percent of the scientists who ever lived are now at work and publishing their findings.
- The number of doctorate degrees earned between 1960 and 1967 was more than double that earned during any previous seven-year period.
- In 1941, the Library of Congress contained 6 million books and pamphlets. By 1967, it held more than 14 million.

Since World War II, we have experienced the atom bomb and the H-bomb with its staggering potential to all; astronauts circling the world and the moon; color television; 2000-mile-per-hour jet aircraft; satellites sending television and radio messages incredible distances; and many wonders in the fields of medicine, engineering, and pure research. The explosion of knowledge and scientific creativity has been set off by a fuse composed of increasing numbers of well-educated human beings throughout the world and a new capacity for storing, handling and transmitting information.

The increase in the output of scientific publications is now at a fairly standard rate—doubling every 10 years. But this is not a situation of a surplus of information; it is an abundance of information. The difference between a surplus item and an abundant item lies in the usefulness we find for it. And from now on, there is going to be more use for all kinds of knowledge than ever before in history—but it can be used only by those who have access to it and can understand it.

We are learning to live with this information explosion. The technology of gathering, processing, storing, retrieving, and disseminating information is being revolutionized. Automatic electronic equipment and new kinds of information centers are making inroads on the problem. Modern information technology has made it possible to place much of the accumulated knowledge of the human race within reach of a man's fingertips. The computer itself, and our capacity to process data automatically have greatly expanded not only knowledge retention but the use of that knowledge.

The potentialities of this power are awesome. Our social structure is shaking under the impact of rapid change.

In the field of forestry—what does the future hold? What demands will be made on our forests and lands? What specific tools will science provide for the forest manager? And, perhaps of more importance, what will be required of the forest manager in education, training, and adaptability to his environment?

Let us picture this scene—

Bill Smith, forest ranger in charge of the 500,000-acre Wild Creek Ranger District, sits before his office console and listens to the hum of computers relaying information to the dials and viewing screens around him. From remote sensing stations, the data gives him an instant picture of weather, water, soil...
and atmospheric conditions, fire status and resource use activity. The timber inventory print-out tells him that the allowable cut for this month has been reached and measured. Overcrowding at Lake Winston shows on the recreation print-out.

He presses a switch and speaks to his recreation assistant 30 miles away. "How many people do you expect on the lake today, Joe?" "Probably twenty thousand," Joe replies. "Switch to Plan B by noon," Bill says, "and adjust your signs to divert people to alternate sites. I'm coming over for a look at the situation." Flipping off his console, Bill steps out the door, climbs into his helicar and heads for the lake.

The above situation is hardly a forecast—all the tools are already a reality, or are on the drawing board.

The men who will lead in natural resource management at the turn of the century will be of a new breed. They will have learned that every available device, technique, or special skill will have to be brought to bear if resource problems are to be solved and the needs of people are to be met.

His education will have taught him that the foundations of silviculture and mensuration and wildlife behavior are only that—foundations. On top of that, he will have built a keen understanding and awareness of the social, economic, religious, cultural, and political forces which impinge on resources and the community.

This future manager will have been trained to look at the whole of resource management. He will have learned that factors are present in the whole that are not found in separate issues or problems. He will understand that the "big picture" includes the people of a community and a nation as well as land and natural resources. He will also have an understanding of group-interaction so that he will be able to contribute to his county planning committee and to other community groups.

He will be aware of the limitations of his immediate staff, and he will recognize when he needs the help of others to overcome a problem or reach an important management decision. Also, he will have the perspective to shape his actions within the context of improving man's total environment or adding to the sum total of human benefits that can be obtained from the public trust given him to manage. No possible application of satellite mapping, computers, test-tube technology, or biological research will escape his search for new and better ways to meet his responsibilities. No change in the welfare or character of the community of which he is a member will go unnoticed.

Hopefully, he will continue the long traditions of public service, of dedicated devotion to his work, of hard-minded, purposeful pursuit of his objectives, of woodsmanship, and love of the outdoors that brightened the lives of his predecessors.

In his undergraduate work at college, he will have acquired a foundation in the natural sciences, including biological sciences, mathematics, chemistry, physics, agriculture, and natural resources, and the social sciences including psychology and communications. Cybernetics, geology, and aerial photograhpy will also be part of his background.

Into this educational mix will also go considerable exposure to the humanities, history, literature, philosophy, English, and other liberal arts courses. These will make a generalist of him and provide that balanced perspective and judgment he will need in dealing with the problems of his complex society.

His own specialty in the resource field will open the door to his first job. Working first as a specialist will show him how his specialty fits into the whole scheme of things, train him to take direction, and enable him to see that in order to advise the manager, his grasp of things must be broader than his specialty.

Special training in reading, listening, writing, and speaking will be required because these will be vital daily tools of his job. Communicative skills probably will be the key to his being selected for his job, and they will continue to be an important factor in his ability to perform it properly.

The new resource manager will quickly learn that college was only the beginning—the foundation for his education. On the job, he must continue to learn, to be aware of priorities, and of social and political trends around him; in other words, he must possess a built-in urge for self-improvement and a sense of intellectual curiosity.

This, then, is a portrait of the resource manager of the future. Both the resource agencies of Government and the private-resource-based businesses have a responsibility to help the colleges train this man of the future. It is no easy task. It will tax all of our combined efforts.

Business and Government must have greater interchange of ideas with the colleges and their curricula as they are being revised and updated in the future. More practical resource management experiences must be channeled into the educational mix that will prepare this future manager. Professors and college authorities would welcome this contribution of practical knowledge.

The survival of the human race is the greatest challenge facing our society today. Although an earth ecological disaster may not come about—just as large numbers of people may never be blotted out with nuclear weapons—but many scholars believe it to be a possibility, just as nuclear destruction is without question a possibility. The delicate inter-relationships that keep our biosphere functioning could be thrown off balance unless we begin a renewed drive toward the conservation of our total environment.

In terms of our attitude and actions as a society, the issue is grave and urgent. But it is not hopeless. We have the knowledge and technology to reclaim and renew our environment. If it is true that our technology polluted the countryside, it is also true that it can depollute it. In some circumstances, we can control nature, but it is unlikely that we can ever conquer it; our only choice is to harmonize the workings of nature.

This is our challenge today. It will be the accelerated challenge of the resource manager of the future.

The requirements of the successful resource man-

(Continued on page 43)
Seniors

GENE ALBERTS
Management. Gene comes from Malvern, Iowa and went to summer camp in Minnesota in 1968. He will work for the Forest Service this summer and plans to work for them after graduation next fall. Gene is a member of Forestry Club, Xi Sigma Pi, and enjoys fishing and sports.

RONALD BAKER
Management. Ron is married and will graduate in July. He attended summer camp in Montana in 1966, is a member of Forestry Club and representative to the Ames Conservation Council. He has worked for the Forest Service and hopes to work for the Ames Nursery this summer. Ron plans to work for the Forest Service after graduation.

STEPHEN BENNETT
Management. Steve is from Des Moines, Iowa. He went to summer camp in Montana in 1965, and spent two summers at Sullivan Lake, R. S. Colville National Forest in Washington. He is a member of Forestry Club and was a member of NROTC rifle team. Steve’s hobbies include hunting and fishing. After graduation in March, Steve plans to join the service.
DENNIS BSCHOR
Management. After graduation in May, Dennis plans to serve with the military and eventually attend graduate school. He is a member of Forestry Club, Xi Sigma Pi, Alpha Zeta, Gamma Sigma Delta honoraries, Delta Upsilon social fraternity, and Naiads. His summer work experience includes city forestry work in Peoria, Illinois, which is his home town.

BAIRD COOK
Management. Baird will graduate in November, 1969 and then hopes to work for the Forest Service or the Wisconsin Department of Forestry. He hails from Beloit, Wisconsin and attended the 1966 Montana Summer Camp. Baird is a Forestry Club member, Forestry News Letter Editor, member of Student-Faculty Relations Committee, House Conduct Committee member, Activities Chairman, and was in the orchestra for two years. He worked for the Forest Service in Northern Minnesota.

CORDON DREIER
Management. Cordon is from Hubbard, Iowa and attended the 1967 Montana summer camp. The summer of 1966 he worked on blister rust control and fire suppression on the St. Joe National Forest in Idaho. He was Beyer House secretary and president, a member of Forestry Club, and participated in MRA intramural activities. After graduation Gordon plans to work for a few months then serve in the military.

JOHN FREY
Management. John is married and will graduate Fall, 1969. He is from Fort Madison, Iowa and attended summer camp in North Carolina in 1964. He worked for the Forest Service in Montana, is a member of Forestry Club, and enjoys photography, hunting, fishing, and athletics.
JOHN GILDEA
Management. John is from Dike, Iowa, and will graduate in November of 1969. He attended the 1966 Montana Summer Camp, and worked two summers at Seeley Lake, Montana for the Forest Service. John also worked one summer in Colorado with the U.S.F.S. He is in Forestry Club, on the Music Council, and his plans after graduation are uncertain.

RICK HALL
Management, Biological Science. Rick is married and is from LaMoille, Illinois. He attended the 1966 Montana summer camp. The summer of 1965 Rick was a lookout on the Kaniksu National Forest, in 1967 a Research Aid at the Institute of Forest Genetics, Forest Service, in Rhinelander, Wisconsin, and in 1968 he was a Research Aid for the Iowa Agricultural Experiment Station, in Ames. He has been secretary, vice president and president of Forestry Club and was chairman of Student Faculty Relations and Yeishoe committees. He is a member of Xi Sigma Pi (Forestry Honorary), Phi Eta Sigma, Gamma Sigma Delta, Phi Kappa Phi and the university honors program. After graduation in May, he plans to attend the University of Wisconsin to do graduate work in Forest-Genetics. After that and military service, Rick hopes to work in forest research.

ROGER HANNA
Management. Roger comes from Onslow, Iowa, and attended summer camp in Montana in 1966. He worked on the Ottawa National Forest in 1967 as a Forestry Aid, is a member of the Navy Drill Team, and a member of Sextant (naval honorary). After graduation in August, Roger will serve in the Navy for three years.

JOE HARTMAN
Products, Industrial Administration. Joe is married and comes from Cedar Falls, Iowa. He attended summer camp in Montana in 1966, worked for the Forest Service, International Paper, and the Forestry Department at ISU. He is a member of the Forestry Club, participated in freshman track, and enjoys hunting, fishing, reading, sports, and raising exotic fish. After graduation in March and Army OCS, Joe plans to work in forest products sales.
DON HILT
Management. Don is from Keokuk, Iowa and attended summer camp in Montana in 1967. He has worked for Wright Tree Service in Montana, the Forest Service in Idaho, and worked on forest survey in California. He is a member of Forestry Club, Xi Sigma Pi, Agricultural Curriculum Committee, and Phi Kappa Phi. After graduation in May, Don plans to join Army OCS and afterwards work for the Forest Service.

CRAIG HOLLINGSWORTH
Management. Craig is from Marshalltown, Iowa and will graduate in March, 1969. He attended the 1966 Montana summer camp, worked on CFI in New York and with the Forest Service in Utah. He is a member of Forestry Club, MRA scholarship chairman, and a member of Alpha Gamma Rho Social Fraternity.

DOUG JOHN
Management. Doug is married and hails from Indianola, Iowa. He attended summer camp in Montana in 1966, is a member of Forestry Club, and was Intramural Chairman of Wolf House in 1966–67. Doug's summer work includes herbicide spraying. After graduation in May, his plans include the Army and possible work with the Forest Service.

STEVEN JUNGST
Management. Steve is married and will graduate this spring. His college activities include marching band, Forestry Club President and vice president, chairman of the Game Banquet and a member of Xi Sigma Pi. Steve is from Creston, Iowa and enjoys hunting and fishing.
TERRY LANE
Management, Economics. Terry is from Cedar Rapids, Iowa and attended summer camp in Montana, 1967. He worked for the Forest Service on the Tonasket Ranger District, Okanogan National Forest in Washington. College activities include Kappa Sigma Fraternity President and Vice President, Greek Week Assistant Coordinator, Campus Chest Assistant Coordinator, Interfraternity Council Expansion Committee, and Rush Committee. After graduation in May, Terry is looking toward Navy Service, then graduate school followed by work with the Forest Service.

LARRY MALLETTE
Management. Larry is married and attended summer camp in Montana in 1966. He spent two summers with Weyerhaeuser Company in Klamath Falls, Oregon. Larry was Forestry Club vice president, and likes to hunt and fish. After graduation during the summer, Larry plans to enter Navy OCS.

DENNIS MARTINSON
Management. Dennis is married and will graduate Fall, 1969. He is from Creston, Iowa and attended summer camp in Minnesota in 1968. He has worked on the Ames Forester and enjoys flying and raising tropical fish. His work experience includes the Ames Nursery. After graduation, he hopes to work for industry.

DENNIS MICHEL
Management, Forest Recreation. Dennis is married and comes from Loretto, Nebraska. He attended the summer camp in Montana, 1967, worked as a Recreation Aid on the Yellow River State Forest in Iowa, and worked three years part-time for the U.S.D.A. Plant Introduction Station at ISU. He has been secretary and president of Forestry Club, Assistant Editor of the 1968 Ames Forester, and Editor of the 1969 Ames Forester. He was also a member of the Iowa State Judo Club for two years. After graduation in May, Dennis will serve in the Air Force and eventually plan to work for the Forest Service, or State Forestry.
STEVE PETERSBURG
Management, Wildlife. Steve is married and hails from Hanlon
town, Iowa. He attended the summer camp in Montana, 1967 and will graduate this spring. He is a member of Phi Eta Sigma, Gamma Sigma Delta, Phi Kappa Phi, Xi Sigma Pi (Forestry Honorary), FarmHouse Fraternity, Oratorio Choir, and Men's Glee Club. After graduation Steve plans to attend graduate school.

DARYL RAHFEYD
Management. Daryl is from Zearing, Iowa and attended sum-
mer camp in Montana in 1966. He spent his summers working
on his father's farm; is a member of the Navigators, Interde-
nominational Christian Organization, a member of Xi Sigma
Pi, and a member of the Society of American Foresters. His
hobbies include hunting, fishing, and sports. After gradua-
tion, it is either missionary work, the Forest Service, or the
military for Daryl.

DAVID RUEBER
Management. Dave comes from Ventura, Iowa. He attended
the Minnesota camp in 1968 and worked in Minnesota the
same year. He is a member of Forestry Club and Xi Sigma
Pi Forestry Honorary. Dave will graduate in the Fall of 1969.

THOMAS SAWIN
Products, Botany. Tom is married and hails from Union, Iowa.
He attended summer camp at Montana in 1967. The summer
of 1968 he worked as a research laboratory assistant under
Dr. Bensend. He is a Forestry Club member and enjoys skiing,
swimming, and amateur radio. After graduation in March, he
plans to work for the Bordens Chemical Co. Inc. in Baton
Rouge, Louisiana, as a technical representative.
STEVE SCHMIDT
Management. Steve is married and is from Spirit Lake, Iowa. He attended summer camp in Montana in 1966, and worked for the Alaska Department of Fish and Game in law enforcement on Kodiak Island. Steve was residence house vice president, and activities chairman. He was on the Executive Council of Men's Residence, a member of Forestry Club, Agricultural Council, All Agricultural Fall Festival publicity chairman, Tomahawk Independent Student Honorary, and Chessmen (Men's residence honorary). Steve belongs to Alpha Zeta Agricultural Honorary and Xi Sigma Pi Forestry Honorary. Steve will graduate in May.

CARL SMITH
Management. Carl is from Brighton, Iowa. He worked for the Forest Service in Minnesota in 1967 and 1968, and attended summer camp in Montana in 1966. He is a member of Forestry Club, the Pistol Team, and Intramural wrestling. After graduation this spring, Carl plans to serve in the military.

DENNIS STIRLER
Management. Dennis will graduate in May, and plans to go into the service. He went to summer camp in Montana in 1966, is a member of Forestry Club, and likes to hunt, fish, and bowl. His work experience includes two summers with the Forest Service at Seely Lake, Montana and one summer at John Day, Oregon.

JOHN STITT
Products. John is from Memphis, Tennessee and attended the 1968 Minnesota summer camp. He has worked with Buckman Laboratories as a lab technician and assistant technical sales representative. John's college activities include Phi Delta Theta social fraternity, Forestry Club, and T.A.P.P.I. student member. His future plans, after graduation in November, 1969, include the military and graduate school in Business Administration.
KENNETH TOW
Management. Ken will graduate in the Fall of 1969. He is from Superior, Iowa and attended the 1967 Montana summer camp. Summer work for Ken includes work as a Fire Control Aid in Montana, a Forestry Aid in Washington, and will work for the Forest Service in Region 9 this summer. He participates in Forestry Club, choral groups, residence hall work, and he is a Head Resident.

ALAN WAITERS
Products, Wood Science. Alan comes from Cedar Falls, Iowa and attended summer camp in Montana in 1966. His summer work includes work with Masonite Corporation and Weyerhaeuser Company. His college activities include Head Resident, Xi Sigma Pi, Curriculum Committee, and Forestry Club. After graduation in May, Alan plans to join the Peace Corps or serve in the Army.

GERALD GARVEY
Management, Forest Soils. Jerry is from Stratford, Iowa and will graduate in November, 1969. He attended summer camp in Montana, 1966 and spent two summers as a Fire Control Aid on the Kootenai National Forest in Montana. He was Forestry Club Christmas Tree Chairman, Big Brother Chairman, secretary, and freshman orientation guide. He was a member of the Newman Student Association, and the Young Democrats. Jerry's after-graduation plans include the military and then permanent employment with the Forest Service.

ROSS WRITER
Management, Journalism. Ross is from Onawa, Iowa and is married. He attended summer camp in Montana in 1965, worked for the Forest Service Experiment Station in Ames, the Polk County Conservation, and for the Forestry Department at ISU. He is Ranger for Xi Sigma Pi Forestry Honorary, a member of the Ames Forester Staff, a Daily staff writer, staff writer for Ethos, was an editor for the forestry newsletter, and has been a member of the Forestry Club. After graduation in May, Ross hopes to work for the Forest Service or private industry.

SETH NELSON
Products, Industrial Engineering. Seth will graduate this spring and plans to work for private industry. He comes from Ottumwa, Iowa and attended the 1966 Montana summer camp. Seth is a member of Sigma Chi Fraternity, participated in intramurals, men's glee, a member of the Varieties Central Committee, spent three years in skits and was in the S.O.V. production of West Side Story. He has worked for Long-Bell Co. at Fort Smith, Arkansas.
ACTIVITIES

Bulls eye!!!

My GIRDLE is killing me!!

Anyone for tube steaks?

Hurry up and measure this damn tree before Dr. Thompson comes around.
Fall Forester’s Day

The goal of the fall foresters’ day was to introduce the incoming freshmen to the upperclassmen and faculty in the department.

The activities were held at the Izaak Walton League Park on Sunday, September 22 and the foresters braved the elements. Competition began approximately at 2 PM and the last fire was extinguished about 6 PM.

The winners of the various events were:

TRAPSHOOTING
Men: Steve Schmidt
Women: Mary Ann Hartman (the only woman who shot!)

CANOE RACING
Men: Joe Hartman and Carl Smith
Woman: Cheryl Kirkegaard and Mary Ann Hartman

PISTOL SHOOTING
Carl Smith

TWO MAN BUCKING
Paul Egeland and Tim Glover

MATCH SPLIT
Craig Neppl

Forestry Club Wives

The I.S.U. Forestry Student Wives Club has continued to function as a social group this year.

In September there was a family picnic at Brookside Park, which aside from a few volley balls in the soup, went very smoothly. In November, Dr. George Thompson gave the inside story of summer camp. The quiet which dominated the February meeting reflected the concentrated efforts of the group, as Mrs. DeWitt Nelson taught them how to make burlap flowers. The results were varied and quite pretty. In March the club hopes to have a pot luck supper with their husbands. The April meeting will be held at the Webster's home and the group will play bridge and “nirtz,” which was played in members' homes at the October, December, and January meetings. P.H.T. diplomas will be presented in May to wives of graduating students.

Mrs. Dean Prestemon has been the faculty advisor and is Champion Nirtz Player of 1969.

The current officers are:

Mary Smith .................... President
Nancy Miller ................... Vice-President
Gayle Dale ..................... Secretary-Treasurer
Bev Smith ..................... Corresponding Secretary and Historian

Game Banquet

The annual Game Banquet was held on Wednesday, March 19, this year with approximately 70 people attending. The tradition of game meat was broken this year and ham was served as a substitute. However, no serious objections were heard.

Dr. Thomas C. Nelson of the Southern Forest Experiment Station presented the after dinner talk which was concerned with how to succeed in forestry. Dr. Nelson concluded his visit Thursday with seminars for both graduate and undergraduate students.

Although the Forest Products Research Society award was discontinued this year, several other awards were made. William Eldridge received the Keith Bauer Award. The Hoo Hoo Award, a scholarship for $300 was given to Gene Morden, and a year’s paid membership to the Society of American Foresters was awarded to Rick Hall and Steve Jungst.
The Hartman Trip

In 1962 an alumni memorial fund was established in the Forestry Department to provide professionally significant travel opportunities for selected students. The fund consists of donations made in honor of George Hartman, former department head of ISU forestry, and has provided for five trips to different parts of the country since its establishment.

The fifth trip in this series, taken during fall quarter of this school year, found four students—Harold McAlpine, Fred Simon, Don Hilt, and Rick Hall—and two faculty members—Professor DeWitt Nelson and Dr. Henry Webster—traveling to several of the eastern states.

Having left Ames on Sept. 25, the group flew from Des Moines to Pittsburgh and traveled on from there by car through West Virginia and Virginia to Washington, D.C. Enroute stops were made at the School of Forestry—U. of West Virginia, Fernow Experimental Forest, the supervisor’s office for the Monongahela National Forest, and the Shenandoah National Park. At each of these places discussions were held with the people in charge on the work and problems involved with their activities. Topics discussed included the shaping of forestry education, research on the silviculture of the northern hardwoods, the development and administration of the Spruce Knob-Seneca Rocks National Recreation Area (on the Monongahela N.F.), and the Park Service’s role in meeting recreation demands.

In Washington, D.C., a day and a half were spent in various additional discussions. These took place during visits to the offices of Resources for the Future, a research subunit of the Ford Foundation, the headquarters of the Forest Service, and Iowa Congressman Neal Smith. Discussions here centered on forestry economics research, natural resource legislation, and topics of individual concern to the students. Time was also available for a limited amount of sight-seeing in the Capitol city.

Concluding their stay in Washington, D.C., the group traveled by train to Philadelphia where the remaining days of the trip were spent in attendance at the convention of the Society of American Foresters in the Sheraton Hotel. Members of the group attended both general and specialized sessions of the convention which had as its theme “Forestry and the Human Environment.”

After eight days of travel the group returned by plane to Iowa. Through a program presentation at Forestry Club and individual discussion the students who participated in the trip have tried to share the insights gained from it with the rest of the forestry students.
Forestry Club

Forestry Club was destined to be a success this year because it started out with a positive bank account, something quite rare in the past few years.

The first meeting bore this out because 80 people turned out to hear Dr. Thomson's program on a few of his experiences with life.

Part of this success can be attributed to Jerry Garvey and his "Big Brother Program." The program consists of having the upper classmen write an incoming freshman a letter over the summer months and making sure that BOTH of them come to Forestry Club.

The club's first big activity this year was Fall Forester's Day held on Sunday, September 22. Joe Hartman did a good job organizing the activities and the food, and the freshmen were shown just what fun a forester can have. Hopefully, Spring Forester's Day will prove to be as much a success.

Three more meetings were held fall quarter. Dave Smith presented a program on some of the conservation problems of the world; Rick Hall, Don Hilt, Harold McAlpine, and Fred Simons gave a résumé on the Hartman trip. The last meeting of the quarter, Mr. Nelson spoke on the new Redwood Park.

Fall quarter activities ended with the annual Christmas Tree Sales which, due to a fine job by Ron Olson, netted over $250.

Al Waters and Dr. Benschend presented an open forum on curriculum problems for the first club meeting of the winter quarter. Dr. Bauchman, at the next meeting, presented a program on water quality from the fisheries and wildlife point of view. If meetings remain the same quality, they should prove to be very worthwhile.

Spring quarter holds a number of activities. Steve Jungst is chairman of the Game Banquet which will be held on March 19th. Dr. Thomas C. Nelson, director of the Southern Forest Experiment Station in New Orleans will be the speaker.

Spring Forester's Day always draws a crowd, and this year should be no exception.

Don Hilt is in charge of the Veishea display this year and it will be built in conjunction with the Outdoor Recreation club. Let's hope they do as good a job as the two clubs did last year.

In short, this is one of Forestry Club's best years and anyone in Forestry is missing opportunities to meet new people and a chance to be a part of a real worthwhile organization, if they don't belong to the club.

Rick Hall ...................................................... President ...................................................... Steve Jungst
Larry Mallette ............................................ Vice-President ............................................. Cheryl Kirkegard
Mike Luza .................................................... Secretary ..................................................... Tom Risdal
Dave Braley .................................................. Treasurer ................................................... Dave Braley
Steve Schmit ................................................ Sr. Ag. Council Rep. ..................................... Bill St. Clair

L. to R.—Dave Braley, Treasurer; Dr. Fred Hopkins, Advisor; Cheryl Kirkegard, Vice President; Steve Jungst, President; Tom Risdal, Secretary.
You'll marry my daughter or else!
Alpha Gamma is the Iowa State chapter of Xi Sigma Pi. Twenty-one new members were initiated into the honorary, bringing the total membership to forty-five. Activities for Xi Sigma Pi include regular meetings and a special invitation to attend weekly staff seminars.

Along with Xi Sigma Pi national objectives, Alpha Gamma Chapter at Iowa State puts special stress on the development of a professional spirit among its members and participation in professional activities on the student level. Alpha Gamma Chapter encourages active communication between students and staff to further its objectives. The chapter has been in existence at Iowa State for four years.

The national objectives of Xi Sigma Pi are to secure and maintain a high standard of scholarship in forestry education, to work for the upbuilding of forestry, and to promote fraternal relations among earnest workers engaged in forestry activities.

It is the intention of Xi Sigma Pi to honor the student who excels scholastically and who has a personality that would tend to make him successful in forestry work. The fraternity aims at stimulating scholarship in forestry and at bringing together in good fellowship those students who have shown exceptional ability. The establishment of chapters at various universities and colleges throughout the United States has resulted in linking together students from various parts of the country with a common interest.

The fraternity stands for high scholarship and its members, both individually and collectively, encourage forestry activities at the institutions with which they are connected by active participation in the projects of their forestry clubs and by special chapter projects for encouraging the development of leadership in school activities.
Forestry Honorary


Quick draw McGraw.

Timber!!!
Graduate Students

HENRY H. WEBSTER, PH.D.  
Head of Department  
Forest Economics

Dr. Webster was appointed Head of the Forestry Department on June 1, 1967. He received his Ph.D. in 1960 and his M.F. in 1956 both from the University of Michigan. His B.S. degree was awarded in 1952 from the State University of New York, College of Forestry at Syracuse University. Dr. Webster was with the U.S. Forest Service from 1953 to 1963. During 1962 he served as visiting lecturer at the University of Minnesota. He joined the faculty of the University of Wisconsin in 1963 and was appointed chairman of the Department of Forestry in 1964. Dr. Webster is currently chairman of Heads of Midwest Forestry Education and Research Programs, Representative of the North Central Region on the Executive Board of the Association of State College and University Forestry Research Organizations, and vice-chairman of the Council of Forestry School Executives. He is also the author of more than 25 technical publications.

J. D. WELLONS, III, PH.D.  
Assistant Professor of Forestry  
Wood Science

Dr. Wellons is completing his fourth year of forestry instruction at Iowa State. His B.S., M.F., and Ph.D. degrees were obtained at Duke University. His research is primarily concerned with wood-liquid relations and chemical modification of wood. The objectives are to understand how organic liquids and vapors interact with wood and to develop a process for modifying the properties of wood with synthetic plastics. He is using vapor treatments coupled with gamma-radiation.
DEWITT NELSON
Professor of Forestry
Forest Conservation, Forest Recreation, Forest Administration

Professor Nelson joined the permanent staff after spending four quarters here in 1966 and 1967 as a Visiting Professor, followed by a Regent's Professorship at the University of California during the winter quarter of 1968, and a Visiting Professorship at Oregon State University during the spring quarter of 1968. Professor Nelson graduated from Iowa State University in 1925 with a B.S. degree in forestry. From 1953 to 1966 Professor Nelson was Director of the California Department of Natural Resources and Director of the California Department of Conservation. Here his responsibilities covered a wide range of renewable and nonrenewable resources as well as recreation. From 1944 to 1953 he was State Forester for California. During that period much major conservation legislation was enacted and implemented under his leadership. Nineteen of his 41 years of public service were spent with the U.S. Forest Service. During this time he was supervisor of four different national forests in California. He has held numerous top national professional positions and has served on several national advisory commissions. Here at Iowa State he, in addition to his teaching activities, has given numerous speeches concerning controversial issues of forestry.

KENNETH D. WARE, PH.D.
Professor of Forestry
Forest Mensuration, Dynamics of Forest Stands, Forest Resource Surveys, Research Methods in Forestry, Advanced Forest Mensuration

Dr. Ware, a member of the I.S.U. staff since 1961, has a B.S.F. from the West Virginia University, and M.F. and Ph.D. degrees from Yale University. In addition to regular duties in teaching and research in forest mensuration, Dr. Ware was involved in several other professional activities during the past year. He participated in the International Symposium on Foundations of Survey Sampling at Chapel Hill, North Carolina, in April 1968, and was host and chairman for the Second Workshop of Midwest Forest Mensurationists at McGregor-Marquette, Iowa, in early September. He attended the National Meeting of the Society of American Foresters in Philadelphia where John Hazard, a graduate student doing research under his direction, reported on “Convex Programming for Sampling on Successive Occasions with Multiple Objectives.” At that SAF meeting Dr. Ware was elected national secretary of the Division of Forest Mensuration. In February he lectured at a conference on “Computer-Oriented Forest Inventory Design,” sponsored by the University of Washington, Seattle. Also the December 1968 issue of Forest Science contains a paper, “3-P Sampling and Some Alternatives,” co-authored by Dr. Ware, one of his colleagues and one of his graduate students. In this paper, they report results of some of their research about unequal-probability sampling for forest inventory.
**VICTOR G. SMITH, M.Sc.F.**

*Instructor in Forestry*

*Introduction to Forestry, Forest Protection, Forest Conservation, Forest Mensuration*

This is Mr. Smith's third year on the staff at Iowa State. He received his forestry education at the University of Toronto. Currently Mr. Smith is working on his Ph.D. here at Iowa State. His research centers around the application of sampling methods to forest operations. He belongs to several forestry organizations in Canada and has joined the Society of American Foresters since he has come to the U.S. Before joining our forestry staff Mr. Smith worked in the pulp and paper industry in northern Ontario and taught logging and wood technology at Michigan Tech.

**GEORGE W. THOMSON, Ph.D.**

*Professor of Forestry*

*Forest Photogrammetry, General Photogrammetry, Forest Management, Range Management, Farm Forestry*

Dr. Thomson became an undergraduate student at Iowa State in 1939 and has taught in the forestry department since 1948. He received his B.S., M.S., and Ph.D. degrees from I.S.U. Dr. Thomson has served as Chairman for the Mensuration Section of the S.A.F. He has recently become a member of the Range Service Courses Committee. Dr. Thomson has just completed an about to be published study of a decade of forestry student success prediction. He directs the management research problems of graduate students who are working on masters degrees.

**DAVID W. SMITH, M.S.**

*Instructor in Forestry/Research Assistant*

*Forest Biology*

This is Mr. Smith's first year on the staff at Iowa State. He obtained his B.S. and M.S. from Iowa State University and is currently working on his Ph.D. in Forest Biology. His research work centers around soil-plant-water relationships. Mr. Smith was Extension Forester for Iowa State in 1967 while working on his M.S. degree. He is presently teaching the silviculture course at ISU.
DR. WAYNE H. SCHOLTES, Ph.D.
Professor of Agronomy, Professor of Forestry
Forest Soils

Dr. Scholtes received his B.S. in forestry from I.S.U. in 1939, his M.S. from Duke University in 1940, and his Ph.D. from I.S.U. in 1951. In addition to his teaching, he is doing research on the evolution of the landscape in relation to soils. He was voted professor of the year by students of Agriculture in 1960, and received the Gamma Sigma Delta award for distinguished service to agriculture in 1967. He has been a visiting professor at the University of Illinois and at the University of Arizona. He is Director of the Soil Science Institute at I.S.U. In addition to all of this, he holds the life-long self-appointed title of “Great Soil Scientist.”

DEAN R. PRESTEMON, Ph.D.
Associate Professor in Forestry

This is Dr. Prestemon’s fourth year in the Department of Forestry. His B.S., M.S., and Ph.D. degrees were obtained at Iowa State University and the University of Minnesota and California, respectively. About fifty percent of Dr. Prestemon’s time is devoted to forest products research with the remainder spent in extension and resident teaching. One current research project involves an investigation of consumer preferences for Iowa housing. His extension activities focus on the correct use of wood in residential construction. Dr. Prestemon is actively involved in continuing education programs for builders and lumber dealers.

JOHN C. MEADOWS, M.S.
Instructor in Forestry
Forest Operations Analysis

Mr. Meadows is a new faculty member at Iowa State this year. He received his B.S. degree at Auburn University and his M.S. from the Georgia Institute of Technology. Mr. Meadows is presently working on his Ph.D. degree from Duke University in the field of Forest Economics. His dissertation is on the impact of timber resources on regional economic growth. Mr. Meadows attended Duke University for two years prior to coming to Iowa State, in the fall of 1968.
HAROLD S. McNABB, JR., PH.D.
Forest Pathology, Wood Deterioration
Professor of Plant Pathology, Professor of Forestry

Dr. McNabb has taught at Iowa State for 16 years. He received his B.S. at the University of Nebraska and his M.S. and Ph.D. at Yale University. Dr. McNabb has traveled throughout Europe visiting with people in the profession, represented the U.S. as an official delegate at the FAO/IUFRO Symposium at Oxford, England and served in a similar capacity at the International Botanical Congress at Edinburgh, Scotland. Two of his recent projects included research in these general areas: relationships between soil fungi and plant roots, and host resistance reactions in woody-plant wilt diseases. He is chairman of the North American Committee on Elm Research.

ROBERT A. McQUILKIN
Research Forester

Mr. McQuilkin arrived at Iowa State in April of 1967. He received his B.S. from Muhlenberg College and his M.F. from Duke University. He is now working on his Ph.D. from the University of Missouri. He worked at Salem and Columbia, Missouri, for the North Central Forest Experiment Station from 1961 to 1967. His research here at Iowa State for the Forest Service is concerned with soil moisture and fertility problems associated with hardwood plantation establishment.

FREDERICK S. HOPKINS
Associate Professor of Forestry
Forestry Economics, Forest Recreation, Economics Research

Dr. Hopkins came to Iowa State in 1959. He obtained his B.S.F., B.B.A., and M.F. degrees at the University of Michigan and his Ph.D. at New York State University. Dr. Hopkins served as Director of the 1968 Summer Camp, and he is presently on the Forestry Curriculum Committee. He is also on the University Committee on Student Conduct which is a student-faculty committee. This quarter Dr. Hopkins is teaching a course called the Political Economy of Forestry. He is also the Forestry Club Advisor.
GORDON E. GATHERUM, PH.D.
Professor of Forestry
Forest Biology
Dr. Gatherum first taught at Iowa State in 1953. He obtained his B.S. at the University of Washington, his M.S. at Utah State University and his Ph.D. while teaching at Iowa State. On Jan. 20, 1969, Dr. Gatherum left the Iowa State staff to begin a new position at Ohio State University. He is both chairman of the Forestry department at Columbus, Ohio, and chairman of the Ohio Agricultural Research & Development Center at Wooster, Ohio.

A. EDWIN GRAFTON, M.S.
Extension Forester
This is Mr. Grafton's first year at Iowa State as the Extension Forester. He obtained his B.S. and M.S. degrees from West Virginia University. He is currently working on his Ph.D. degree in Forest Economics. Mr. Grafton spent two and one half years in Kenya, Africa, on an A.I.D. contract before coming to Iowa State. Prior to his African teachings of forestry, he taught at West Virginia University for two years.

RAYMOND F. FINN, PH.D.
Associate Professor of Forestry
Project Leader of U.S.F.S.—Ames Research Center
Dr. Finn came to I.S.U. in his present capacity in 1961. He received his B.S. from the University of Minnesota and his M.S. and Ph.D. degrees from Michigan State University. In connection with his job of directing the research carried out by the research center, Dr. Finn has visited many of the top forestry research and experimental stations throughout the country. A paper showing in color the foliar nutrient deficiency symptoms for a number of forest tree species has been submitted for publication. One of his research projects entails the inorganic mineral nutrition of black walnut and other fine hardwoods, with the primary objective being to determine the levels of the essential elements which will maximize growth as determined by stand nutrient culture studies.
RICHARD E. DICKSON, PH.D.
Research Forester

Dr. Dickson came to Iowa State in the fall of 1968 and is a research plant physiologist for the Forest Service. He received his B.S. and M.S. degrees at Southern Illinois University, and his Ph.D. at the University of California. Dr. Dickson served as a research assistant for approximately 10 years while earning his degrees. His research here at Iowa State for the Forest Service is concerned with water relations and mineral nutrition of plants.

Dwight W. Bensend, Ph.D.
Professor of Forestry
Wood Technology I, Seasoning and Preservation, Mechanical Processing and Wood Finishing, Formation of Wood

Dr. Bensend received his B.S. and Ph.D. degrees from the University of Minnesota. He joined the staff at Iowa State in September of 1947. He took leave from Iowa State in 1961–62 to take an assignment at the University of Indonesia, Bogor, Java. Dr. Bensend is a past chairman of the Midwest Section of the Forest Products Research Society, and a past secretary-treasurer of the Society of Wood Science and Technology. He is currently on the Education Committee of both the Midwest Section and the National Forest Products Research Society. He is chairman of the Forestry Curriculum Committee. Dr. Bensend's major research is in the areas of wood anatomy, wood properties, and gluing.
Regional Design For Human Impact

by Philip H. Lewis, Jr.
Chairman of the Department of Landscape Architecture
at the University of Wisconsin.

An overwhelming portion of the history of mankind is a record of man's efforts to discover and establish his relationships to the natural environment. Up to the present century most of man's time, energy and intelligence has been dedicated to the sustenance and protection of human life, either in a struggle with the forces of nature itself, or with other men over the allocation of the environmental resources.

Today these same basic struggles certainly continue, but we have in this country reached a stage of scientific and social development in which decision need no longer be based only upon the immediate needs for survival. We have sufficient knowledge, abundance and leisure so that a variety of choices is both possible and necessary for the intelligent allocation and utilization of the resources found in the natural environment.

An acre of land is no longer simply another acre to be drained, stripped of trees and foliage, fertilized, plowed and planted for food crops. Now the same acre of land might be more effectively utilized as a wildlife habitat, a nature preserve, or simply as a green belt or corridor to provide relief from the visual monotony of the urban landscape. There is now a possibility of choice—thanks to our affluence and leisure.

It used to be a simple matter to determine the uses of environmental resources. Fish and game provided food, forests provided lumber for shelter, fertile soil, when planted, yielded crops, and rivers and streams were for transportation and the disposal of human and industrial wastes. Now that we are aware of a wider choice of uses, the time has come for a second look at our basic landscape resources.

Certain resource patterns, if developed by man, still offer potential threats to his life and well being, while others, protected and enhanced, can continue to provide many valuable experiences for living, working, and playing.

In an age of explosive population patterns, a 'second look' must consider at least the following patterns as 'form determinants' for human development if we are to protect and create a balanced natural and human habitat for tomorrow.

The following are form determinants for human development:

ABOVE-SURFACE PATTERNS

Weather

By understanding the various patterns of weather we may shortly and with extreme accuracy predict future paths of storms, forewarning farmers and urbanites of potential crop and property losses. Today we still build some of our highways within snow belts when a new alignment but a few miles further south would have them from the hazards of slippery driving, loss of life and limb, and the cost of extensive snow removal.

Toxic Patterns

By a combination of predictable wind patterns and land form patterns we today can suggest where temperature inversion layers are most probable. When concentration of internal combustion machines pour carbon monoxide, carbon dioxide and other poisonous gases into inversion layers, they can become a most serious health problem to human habitation within.

SURFACE PATTERNS

Fire Hazards

It is relatively simple to identify textural landscape patterns that in a dry season become highly inflammable and threaten all forms of life within their boundaries. Forest fires and grass fires destroy hundreds of homes each year because man through ignorance or gamble still chooses to build within these scenic but dangerous patterns.

Flood

High water marks graphically portray the fringe areas of past water patterns created by early thaws and spring rains, or the ravaging waters of hurricanes and tidal waves. To build within such patterns invites certain loss of property and possible loss of life.
**Disease Vectors**

Certain landscape patterns serve as habitat for disease carrying insects that transmit sickness to man. An increasing effort to study and understand these habitats will furnish additional guidelines for human habitation patterns.

**Cropland**

The soil scientist has identified patterns of soils that, in their present state or with the addition of fertilizers, offer the best opportunity for food and fiber production. As populations explode around the world, many areas may well face famine and starvation within the next five to ten years. As responsible citizens, we should protect these most productive soils from human encroachment and see that they are maintained for even higher production through new agricultural technology.

**Natural Areas**

In the analysis of various landscapes it is apparent that we have small remaining areas of landscape as yet relatively untouched by the ax and the plow. Science needs these natural areas as check points; medicine and agriculture may still find in these natural patterns new drugs and new crops; and mankind can always profit in the relief these many natural textures afford from the brick, steel, glass, and asphalt of our cities. These area-wide patterns might vary from one tenth of an acre to many thousands in various parts of the country.

**Landscape Personality**

Aside from what remains of these relatively untouched patterns, we can further identify the varied forms and combinations of man-modified natural resources in different parts of the landscape that give each area its distinguishing characteristic. The visual sum or result of these combined patterns of water, topography, wetlands, or forests results in a unique series of regional personalities. The various three dimensional visual patterns of agricultural production, urbanization (tOWnscape), and transportation, also have their own unique personality patterns and add to the perceptual patchwork that is our environment.

Contemporary construction reflecting local qualities of texture, color, and pattern and not a uniform, so-called modern style should be encouraged. The landscape heritage is worthy of expression through varied architecture in harmony with this heritage.

**Ethnic Patterns**

Several other kinds of patterns are important to environmental planning and development. Studies have indicated the variety of ethnic patterns; an extensive variety of local architecture, cooking, handicrafts, museums, customs, and holidays exists within these cultural patterns. This variety is important to environmental quality and needs continued recognition if it is not to be submerged in the current tendency toward conformity.

The ethnic heritage serves not only as a valuable environmental quality and as a tie with the past, but serves also as an important recreational and tourist attraction. It is a heritage not to be exploited, but to be protected and valued. It can continue to help make life interesting and pleasant to both residents and visitors.

**Environmental Corridors**

An opportunity for a comprehensive second look at Wisconsin environmental patterns for ‘recreation’ was made possible by former Governor Gaylord Nelson’s fifty million dollar Outdoor Recreation Act program. It is apparent from this study that the elements and glacial action through the ages have etched linear patterns (web-like on a regional basis) on the face of the midlands. The flat, rolling farmlands and the expansive forests to the north have their fair share of design beauty, but it is the stream valleys, the bluffs, ridges, roaring and quiet waters, mellow wetlands and sandy soils adjacent to water that combine in elongated design patterns, tying the land together in regional and statewide corridors of outstanding landscape diversity.

In our statewide studies we call these patterns “Environmental Corridors.” These patterns offer outstanding opportunities as units for recreational-open space and environmental planning. Once inventoried and mapped, they encourage planning for total environmental design.

These patterns of water, wetland, slopes of twelve percent or over, rims, enclosing slope, and sandy soils adjacent to water, when combined into an environmental system, offer a source of strength, spiritual and physical health, and wisdom for the individual in addition to open space for play, recreation and enjoyment.

By mapping these corridors over the past four years and identifying their precise values, we hope to make the people of Wisconsin clearly aware first of all that such patterns do exist, that they generally encompass the flood-plains and topography too steep to plow and are the very lands with a low tax base, and that the critical task is one of seeing that they are protected.

Expenditure of great sums of money on recreational development rather than protective programs simply will not get the most important job accomplished. We can always develop lands once they are protected, but these quality lands will not be available within a few years unless they are protected today!
Individual Resources and Resource Nodes

In any statewide program to inventory the many patterns needing protection and wise development, attention must be paid to the landscape features appreciated by farmer Bill Brown, who generally owns the fringe area now passing from country to city.

To tell Bill Brown that we want to protect his aquifer recharge areas, his atmosphere, his hydrosphere, his physiographic divisions, microclimate, environmental corridors or even flood plains takes a heap of explaining.

However, to inventory his trout stream, balanced rock, natural bridge, waterfall, rapid, lighthouse, Indian mound, cave, and log cabin interests him; we have found that he is often willing and capable of assisting in the inventory of these isolated resources occupying a limited space on his "back forty."

In Wisconsin we now have inventoried and mapped more than 220 isolated specific resources with the help of the farm agents, soil conservation agents and the field people of the conservation department. In turn, these regional representatives worked closely with the local inhabitants—the voting public whose support is critical—in these field studies.

Perhaps the most rewarding result of this statewide resource value inventory was not so much the success of working with the local people (the mere fact of involving them develops a greater appreciation of landscape values), but the fact that by plotting water, wetland, and slope on a county-by-county basis we have discovered that more than ninety percent of all the individual resources held in high esteem by the local population also lie within the corridor patterns, often in concentrated areas we call resource nodes. Areas outside these corridors, being less favored by accidents of nature, or reflecting heavier impact by man, are more conducive to human alterations for economic and commercial exploitation, transportation, urban development, farming, and similar activities by man. Nodes possessing many different resources have, in turn, reflected the choice park areas within the corridor having multipurpose possibilities.

These areas of high diversity, if protected, offer the greatest flexibility in assuring needed resources for both desires and needs of the future. Protected and developed wisely, these nodes, like beads on the corridor necklace, offer a recreational system with a variety of environmental experiences.

Potential Reservoirs

Water supplies have become extremely limited in many parts of the world, and will depend on new reservoir systems. In planning new reservoirs we consider land forms that create natural bowls and can easily be developed. These patterns must be identified and protected from urban encroachment if they are to serve as new sources of water.

(See table on following page)

Utility and Transportation Corridors

Environmental and functional factors can suggest the most logical patterns for future utility lines, street expansions, and highway alignment. These corridors must be identified and protected from other urban uses if we are to develop these systems in a comprehensive way for the future.

Human Waste and Disposal

Few people today, if asked, could identify where in a university or industrial community all past wastes from chemistry and research labs have been disposed. Some, no doubt, have been unwisely located above geological formations, making it possible for seepage to pollute underground water supplies. Offensive odors from such areas can also make human occupation impossible.

SUB-SURFACE PATTERNS

Aquifer Recharge

Within many of our landscapes we find our aquifer recharge patterns. These are basically porous patterns that permit our surface waters to penetrate the surface of the landscape and refill our natural underground storage systems. Protected from high density development, and assuming that we will have a normal rainfall, our underground storage systems will continue to provide drinking water for present and future generations.

Ground Water

Geologic processes have created beneath the land's surface underground water storage systems. Since they contain much of our future water supply it is vitally important to know where these deposits are.

Building Material

In many landscapes the geologist has identified patterns of sand, gravel, limestone, and other minerals all necessary for the construction and reconstruction of our expanding cities and transportation networks. Human encroachment should be prevented above these valuable deposits if we are to have an economic supply near expected development. Underground excavation of minerals may also leave surface patterns unstable and subject to cave-ins and loss of property.
# LANDSCAPE RESOURCES FOR REGIONAL DESIGN

### Intrinsic     
#### (a) Water Resources

<table>
<thead>
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<tr>
<td>1. Waterfalls</td>
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<td>2. Rapids, whitewater</td>
<td>20. Boating facilities, ramps</td>
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<tr>
<td>4. Agate beaches</td>
<td>22. Marinas</td>
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<tr>
<td>5. Natural springs, artesian flows</td>
<td>23. Boating areas</td>
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<tr>
<td>6. Canoe routes</td>
<td>24. Outfitting posts</td>
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<td>7. Wild rice areas</td>
<td>25. Harbors of refuge</td>
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<td>9. Fish habitat</td>
<td>27. Canals</td>
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<td>11. Trout</td>
<td>29. Locks</td>
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<td>12. Muskellunge</td>
<td>30. Lighthouses</td>
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<td>13. Walleye</td>
<td>31. Fish hatcheries</td>
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<td>15. Northern pike</td>
<td>33. Reservoirs</td>
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<td>16. Sturgeon</td>
<td>34. Shelters for ice skating areas</td>
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<td>17. Catfish</td>
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<td>18. Panfish</td>
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### Intrinsic     
#### (b) Wetland Resources

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<td>38. Observation platforms</td>
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<td>36. Wildlife observation</td>
<td>39. Wetland projects, levees, ditching and dyking</td>
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<td>37. Wildlife hunting</td>
<td>40. Wildlife preserves</td>
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<td>41. Hunting preserves</td>
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### Intrinsic     
#### (c) Topographic Resources

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<td>42. Caves</td>
<td>50. Ski lifts</td>
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<td>43. Balanced rocks</td>
<td>51. Ski rope tows</td>
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<td>44. Castle rocks</td>
<td>52. Ski slope structures</td>
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<td>45. Exceptional glacial remains</td>
<td>53. Snow play areas, sledding, etc.</td>
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<td>46. Natural bridges</td>
<td>54. Ski trails</td>
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<tr>
<td>47. Stones and fossil collection areas</td>
<td>55. Ski (cross-country)</td>
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<tr>
<td>48. Mineral ore outcroppings</td>
<td>56. Riding</td>
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<tr>
<td>49. Outstanding soil conservation projects (also farm conservation)</td>
<td>57. Hiking</td>
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<tr>
<td></td>
<td>58. Nature trails</td>
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<tr>
<td></td>
<td>59. Trail shelters</td>
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<td>60. Picnic areas</td>
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<td>62. Youth camps</td>
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<td></td>
<td>63. Nature camps</td>
</tr>
<tr>
<td></td>
<td>64. Day camps</td>
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* Unique geological formations
Volcanic-Earthquake Patterns

Each year we read of loss of life and property because man located his human use patterns in the paths of potential lava flows or straddles unstable vault lines. Homes, highways, campgrounds, and whole cities have been known to suffer severely because of such improper location.

HUMAN IMPACT

If we are to develop alternative guidelines for directing human impact in harmony with these recognized patterns, it is becoming more obvious that we must also know more about the range of human impact.

At a recent conference in London entitled “Countryside 1970,” it was discovered that although the English have not inventoried their natural and cultural values as one would expect, they have classified their human impacts on the countryside. In Paper #2 of an earlier “Countryside 1970” meeting, Dr. E. M. Nicholson and A. W. Colling suggested that while many discussions and analyses have been made of various parts of the problem of human impacts on the countryside, it appeared that no really comprehensive list and description was available. They then proceeded to create a chart identifying all activities and operations having an impact on the English landscape, area or land-type affected, nature of effects arising, incidence-time, space, degree, parties interested, and examples of problems and possible solutions.

In conclusion they pointed out that the chart was a tool for overall survey, for tracing relationships and for putting particular impacts or other factors in perspective. One of the broad points which seem to emerge from the chart was the very heterogeneous nature of the activities and operations responsible for impacts on the countryside, and the apparent lack of awareness among those concerned of their role in this respect.

Human Needs

To seek an ‘optimum’ environment through ‘awareness’ programs, then, requires not only a better understanding of the diverse landscape patterns and the nature of human impacts, but also requires a much better understanding of the environmental needs of man. Our new Environmental Design Center at the University of Wisconsin stresses that research findings have identified relationships between the physical environment and human performance; that physiological health and psychological well being are affected by environmental variables; and that social behavior is influenced by enabling elements of the physical environment. Much still remains to be done in giving design interpretation to these many physiological and psychological factors.

Inventory Tools

Recognizing that the time, talent, and funds needed to obtain such comprehensive environmental data by traditional means is inconsistent with practical situations demanding integrated development at various scales and that there is the added problem of keeping current such project inventories, it is time we seriously consider solutions to these critical problems.

Aerial photography has been investigated sufficiently to indicate that, although far from ideal, it clearly offers one of the best hopes for efficient data collection. It promises results in a realistic time span at a cost that is in proper proportion to each inventory phase. An even more promising inventory tool might be the nonconventional air borne sensor. A sensor system placed in a stationary satellite might provide not only current data but, linked to a regional computer graphic system, offer new and changing patterns as they evolve.

Awareness Centers

Identifying in any manner the most outstanding natural and human values does not, of course, assure their protection and wise development. Techniques must be developed for presenting these environmental studies to the general public in conceptual and pictorial form.

Until clear pictures and concepts about man and his environment, the problems, potentials and causal relationships are disseminated and become part of the common stock of knowledge, there can be little progress in guiding human impact in harmony with identified natural and cultural value patterns.

Recent advances in audio-visual presentation have developed a more direct relationship between the subject and educational materials. Nothing short of exploring these new dioramas, three dimensional movies, computer programmed slides, and “think boxes” will do if we are to develop environmental ‘awareness’.

By integrating a broad scientific and perceptual awareness of the meaningful environmental patterns with human impact, human needs, new inventory tools, and imaginative Regional Awareness Centers much can be done to create a new design form for our local and regional environments. The design form which would evolve from this deeper understanding will not likely be arbitrary or preconceived. Rather it will be a functional expression consistent with the inherent needs of man and his environment.
Departmental Secretaries

Janet Teply

Judy Jutting

Sharon Cole
Kathy Jacobson

Chloris Hubby

Linda Holland

AMES FORESTER
There comes a time in every young forester’s life to spend a summer in the woods learning those things that are not written in the textbooks. For forty of these student foresters that summer was to be spent in the tropical rain forests and mosquito swamps of northern Minnesota.

The decision concerning the location of the 1968 Summer Camp came after much careful consideration by the staff, plus the fact that the Forest Service had a group of buildings leased to Iowa State University badly in need of repair. These buildings were located near the thriving metropolis of Wirt, Minnesota. Soon after deciding on the Wirt location, the staff members had second thoughts and later, the original camp director, Dr. G. W. Thomson, sprained his ankle in hopes of shortening his term. The other instructors managed to arrange the schedule so they only had to stay for two or three weeks at a time. The only staff member to stick it out for the duration was Dr. F. S. Hopkins (he was the camp director)!!

On Sunday evening, June 2, practically everyone had arrived and after the initial shock had worn off they began to set up camp. It didn’t take long for the guys to learn about such things as KP duty, dish washing, Mrs. Caldwell, sandwich making, and the girls down the road. Three dried out boats were discovered and after several attempts at repair, two of them were pronounced sea-worthy. For the first three weeks of camp the subject was RAIN and only two days of sunshine were counted. Leaky roofs and wet firewood didn’t do much for the morale of the campers.

Mr. Victor Smith showed us how to run open and closed traverses through the swamps and driving rain (Canadian style). The mosquitoes finally got to him after three weeks and he turned over his mensuration teaching duties to Dr. Thomson, whose ankle had healed by that time.

After touring many processing plants, and sawmills, interest began to lag and Dr. Hopkins, Forest Operation, resorted to comparing sawmills with playboy foldouts in hopes of stimulating interest. On one of these many trips we visited the world’s largest open pit iron mine and viewed their operations. One of the highlights of these trips was a visit to Canada.
to learn about their methods of fire control by airplane.

The middle two weeks of camp were constructively used by Dr. D. R. Prestemon who taught us the finer points of wood products. This time was spent touring some of the major wood utilization plants in the surrounding area.

The Forest Biology course was split between Mr. Richard Schultz and Mr. Dave Smith. These two devoted instructors introduced us to the mysteries of soil pits and the joys of pruning trees. The general agreement among us was to leave soil pits to grave diggers and tree pruning to forest biologists.

Plans were made early for the breaking of camp and on the appointed day, camp was quickly and noisily deserted. Looking back on the 1968 summer camp, it was a very educational and enjoyable experience, so GOOD LUCK next year guys!!!

A Forester Looks Ahead—
(Continued from page 10)

ager of the future will be high, and it may seem as though we were designing a machine instead of a man, but the complexities of the job will demand a high-calibre man and a high performance. Machines and specialists he will have at his command, but the man must dominate, for no machine equals the mind of a man.

A demanding task does not necessarily mean drudgery. The greater the challenge, the greater the interest and satisfaction in seeing it through. The basic background of our future resource manager will give him confidence, his service to people in building a better environment will increase understanding—all to one end: to becoming a people-oriented generalist with taste and judgment.

As many of us before him, we will recognize that to learn is to grow, to grow is to live, and to live is to make the fullest use of one’s God-given energies and talents. Simply stated, our goal is a world worth living in and a life worth living. Our profession works for the first and when fully understood brings a reward of fulfillment.
BEBENSEE, BRUCE MAX. B.S. 1940. 3203-13th Avenue, Meridian, Mississippi. Assistant Plant Manager, Plantate Company.


BEIL, CHESTER MARTIN. B.S. 1941. 2227 Reclamation Avenue, Klamath Falls, Oregon. Forester-Fremont National Forest.

BELCHARD, LAD WILLIAM. B.S. 1942. 44 Tulane Avenue, DeRidder, Louisiana. Vice President & Merchandise Mgr., West Brothers Department Stores.


BERGMANN, HARRY ARTHUR. B.S. 1946. Lufkin, Texas. Assistant Professor of Forestry Yale University.


BEVERIDGE, WILSON M. B.S. 1939, DECEASED.


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BISHOP, CLINTON GERARD. B.S. 1940. 2026 Cook Avenue, Billings, Montana.


BJORN, CLAYTON ALEXANDER. B.S. 1939. Deceased.


BLACKMORE, WM. WINKLER. B.S. 1942. 50 Country Circle, Mason City, Iowa. President and Owner Blackmore Landscape Service.


BLASE, ROBERT ALBERT. B.S. 1939. 504 Havasupai Road, Flagstaff, Arizona. Division Manager, Southwest Forest Industries-Wood Procurement Operations.


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BLount, JAY VAN WINKLE. B.S. 1939. 215 Wagler Street, Marion, Ill. 61550. Salesman, Central Iowa Service Company.

BLUMENTHAL, DONALD KAMP. B.S. 1951. 643 Lorren Way, Livermore, California.

BLYTH, JAMES EDWARD. B.S. 1954. 2457 N. Chatsworth, St. Paul, Minn.—55113.


BOGATIEN, ROBERT LEO. B.S. 1941. 2908 N. Sheridan Road, Chicago, Ill. 60657. Sales Department, Masonite Corporation.


BOECKH, FREDERICK EDWARD. B.S. 1928. 1015 Second Street International Falls, Minn. Assistant General Manager—Falls Division Minnesota & Ontario Paper Company.


BOGGER, ALFRED J. B.S. 1923. 13431 Danbury Lane—Apt. 134F, Seal Beach, California.


BORGLOM, DONALD WENDELL. B.S. 1942. 3000 Brussel, North Bend, Oregon. Reforestation Forester, Weyerhaeuser Co.

BORSING, CONRAD O. B.S. 1940. 1020 Pacific Traction, Klamath Falls, Oregon. Weyerhaeuser Company.

BOSWELL, MARTIN MCKAY. B.S. 1940. 303 Bay Meadows Drive, Bend, Oregon. Soil Conservationist, Soil Conservation Service.


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BURNS, RICHARD ROY. B.S. 1952. 2466 Vivian, Lakewood, Colorado (80215).


BURT, WILLIAM HARRY. B.S. 1951. 8731 Stearns, Overland Park, Kansas. Clerk, Wood Preserving Sales Long-Distance Div., International Forest Products Co., Inc.

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CAMPBELL, DONALD OLIVER. B.S. 1951. 1 Gainscott Lane, Wilmar, Minnesota. Recreation Planner—Dept. of Interior, Bureau of Outdoor Recreation.

CAMPBELL, JACK GILBERT. B.S. 1947. 623 Meadowview Road, Flagstaff, Arizona. Assistant Research Forester, Southern Forest Experiment Station.


CAMPBELL, SAMUEL LEROY. B.S. 1934. Deceased.


CARLSON, MANUEL ROBERT EDWARD. B.S. 1949. 675 5th, Ogden, Utah.


CARIPELLO, ROBERT LEE. B.S. 1963. 1010 North Iowa Street, Chicago, Illinois (60110).


CARMICHAEL, CLARENCE. B.S. 1953. 1115 N.W. 36th Ave., Gainsville, Florida. Research Forester—Southern Forest Experiment Station.


CARTWRIGHT, WILLIAM. B.S. 1950. 3413 Grandview Drive, Flagstaff, Arizona. Research Forester—Southern Forest Experiment Station.


CHRISTENSEN, JESSE ROBERT. B.S. 1951. 1018 Nighland, Magnolia, Arkansas, 71753. Manager—Unit Structures.
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<td></td>
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<td>216 Orange St., Apt. No. 7, Newark, New Jersey</td>
</tr>
<tr>
<td>FLEMING, RICHARD EDWIN</td>
<td></td>
<td>1952</td>
<td>2809 Scenic Drive, Modesto, California</td>
</tr>
<tr>
<td>FLETCHER, RALPH</td>
<td></td>
<td>1920</td>
<td>210 Orange St., Apt. No. 7, Oakland, California</td>
</tr>
<tr>
<td>FLY, HARRY JOSEPH</td>
<td></td>
<td>1951</td>
<td>734 S. Vine Street, Orrville, Ohio</td>
</tr>
<tr>
<td>FOH, ROY ROBERT, Jr.</td>
<td></td>
<td>1947</td>
<td>425 E. George Washington Blvd, Des Moines</td>
</tr>
<tr>
<td>FOHT, RICHARD DEAN</td>
<td></td>
<td>1958</td>
<td>1689 Georgia Street, Minneapolis</td>
</tr>
<tr>
<td>FORMAN, LAWRENCE PAYNE</td>
<td></td>
<td>1952</td>
<td>2891, Rifle, Colorado 81630</td>
</tr>
<tr>
<td>FORMAN, JOHN LATHMER</td>
<td></td>
<td>1901</td>
<td>Route 1, Bridgeport, New York</td>
</tr>
</tbody>
</table>

Who ever heard of wearing contact lens when you’re cruising?

All right! What did you guys do with my plane?

FRANKLIN, ROBERT PORTER. B.S. 1938. 1689 Georgia Street, Salem, Oregon 97302.

FREDERICKSON, PAUL WENDELL. B.S. 1952. 13375 N.W. Pettygrove St, Portland, Oregon.


FREEMAN, FRANK G. B.S. 1911. 1928 Greenleaf Street, Santa Ana, California. Insurance. 


FRENCH, ROSE JOHNA. B.S. 1940. 122 South Pennsylvania Ave., Beaver County, Utah. Air Force—In charge completion section, Aeronautical Chart & Information Center, St. Louis, Missouri.


FRIETCHER, EARL EDWIN. B.S. 1950. 10721 Art Street, Sunland, California. Chief Structural Engineer on Amtelope Valley Freeway Project.

FROEHLCHE, JOHN LEONARD. B.S. 1939. 536 North Harlem Ave., River Forest, Illinois. Assistant Chief Forester, Forest Preserve District of Cook County.

FRUEH, LEO HENRY. B.S. 1963. 330 Clarke Drive, Dubuque, Iowa. R. S. Bacon Veneer Co., Hubbard Walnut Division, Dubuque.

FRY, HARRY JOSEPH. B.S. 1951. 734 S. Vine Street, Orrville, Ohio. Treatmen Supervisor—Koppers Company, Inc.

FULLERTON, NEIL. B.S. 1927. Box 351, Thompson Falls, Montana.


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GALEY, CARL DELBERT. B.S. 1945. Division Maintenance Engineer, Iowa Highway Commission, P.O. Box 107, Centerville, Iowa.

GALLAHER, WALLACE BERT. B.S. 1949. 801 S. Pacific, Dillon, Mont. 59725. Forest Supervisor, Beaverhead N.F.

GANZER, PAUL DAVID. B.S. 1967. 208 East Walnut, Muckaquata, Iowa. 52060.


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CATHRINE, GORDON E. B.S. (Univ. of Wash.), M.S. (Utah State). Ph.D. 1959. 2727 Thompson Drive, Ames, Iowa. Pro-
Assistant Department of Forestry, Iowa State University.

GEISLER, MAX B. 1916. Decreed.

GREER, ROBERT LEON B.S. 1950. U.S. Forest Service, Peters-

GERLACH, GEORGE MILLER. B.S. 1949. 9824 Overbrook Court, Kansas City, 13, Missouri (Shawnee Mission). Home Builder,

GETTY, RUSSELL ELIAS B.S. 1936. M.S. 1951. R.H. 1, Gibbs Rd.

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CRISWOLD, RICHARD KING. B.S. 1954. 7006 Elkton Drive, Springfield, Virginia 22150. Forester, Division of Watershed Control, Chief Of Office, Virginia Department of Forestry.


GROVE, HARRY LEE. B.S. 1947. 3255 W. Ridgeland, Portland, Oregon. Manager—Industrial Wood Parts Development, Weyer-

GUENING, WILLIAM EDWARD, Jr. B.S. 1953. 5608 Oaktree Drive, Kansas City, Missouri (Lee's Summit). Assistant Fire Chief, Jackson County Fire District.

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HADLOCK, FRANK DILTON. B.S. 1918. M.E. 1923. Route 1—

HALBLEIB, DUANE WHEELER. B.S. 1960. 601 Phelps Lane, Win-


HAKENSON, CARL COY. B.S. 1950. 2912 Tennessee Street, Al-


HAMMETT, MAHLON CLAIR. B.S. 1967. 215 N. Gifford, Sumner, Iowa.


HANLAN FABRICIUS, B.S. 1959. 735 W. Stanton Avenue, Worthington, Ohio. N.E. Forest Experimental Station—Forest Prot-
HARVARD, HERBERT EDSON. B.S. 1952. Bawson Circle, Albany, N.Y.

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ALBERT A. FOY

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T. A. Foley Lumber Co., Inc.

HICKS, LYELL ELMER, B.S. 1939. 3401 Lewis Farm Road, Raleigh, North Carolina. Manager, Forest Service, North Carolina Division of Forest Resources.


HILL, EDWIN, B.S. 1928. 4103 Parnack Avenue, Madison, Wisconsin. Assistant Soil Conservation Service.


HILLMAN, KENNETH W., B.S. 1959. 1160 Park Avenue, Ketchikan, Alaska. Forcer See, United States Steel Corporation.


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HUTCHINSON, ROBERT RILEY, B.S. 1935. 12617 Seventh Street, Yuma, California.


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INMAN, LAWRENCE LLOYD, B.S. 1947. Revadah, Saudi Arabia. 147th Ave. S.W., Oelwein, Iowa. Head, Department Field Service, University of Iowa.


IPSEN, LORENZ R. B.S. 1949. 1424 HiVeen Drive, Des Moines, Iowa. Lumber Sales, Jewett Lumber Company.

ISHERWOOD, JUDSON G. B.S. 1969. c/o Mrs. Earl McInnerny, R.R. No. 1, Red Oak, Iowa. ISU Grad Student, 2176 West Grand Avenue, Iowa City, Iowa 52242.


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JONES, ROBERT, B.S. 1937. 4103 Parnack Avenue, Madison, Wisconsin. Assistant Soil Conservation Service.
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