FORESTERS VALUE...

Foresters value the enjoyment of living and working in the bountiful forests of America,—a great heritage entrusted to their skill and knowledge for the future.

Memorial Union your college home provides a well-rounded cultural and social program for the enjoyment of Iowa State men and women, in and out of college,—a great heritage from older college brothers and sisters. Built and operated without the use of tax funds, the Union is dependent upon the loyalty of alumni for a future of service and opportunity.

— your college club —

MEMORIAL UNION

resents

Johnny Granson, '37

Membership Secretary

Newest member of the Staff at Memorial Union is Johnny Granson, membership secretary, who received his bachelor's degree here in 1937 and his master's in 1938, both in Forestry. Johnny spent five years with the U. S. Forest Service, which included research work with the Universities of Minnesota, Illinois, Wisconsin and Ohio. Ten years in teaching and private industry gave him experience in manufacturing and merchandising, both retail and wholesale.
For as the rain cometh down, and the snow from heaven, and returneth not thither, but watereth the earth, and maketh it bring forth and bud, that it may give seed to the sower, and bread to the eater.

Isaiah 55:10, 11

ACKNOWLEDGEMENT

It is evident that the fruits of production would not be complete without cooperation in the preparation. Recognizing this, the staff of the 1953 AMES FORESTER wishes to express its sincere debt of gratitude to the students, faculty, alumni and friends for their whole-hearted support and cooperation which made the preparation of this issue a pleasure.

It has been the aim of the editors to provide, in an informative manner, a medium of contact between the Department of Forestry, Iowa State College, the alumni, other forestry schools and all those persons interested in the profession of forestry.
The financial success of this publication is due largely to the generosity of the above persons. We thank them for their patronage.
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CONSERVATION

Virtually unique in the more than 50 years of professional education in the United States is the publication of the AMES FORESTER. For a period of 40 years it has been one of the few publications managed by students to maintain the policy of presenting material of technical nature written by authorities in their respective fields.

Through these 40 years, the AMES FORESTER has watched the conservation movement progress from a highly ideal, theoretical movement propounded by a relative few into a practical, effective program as advocated by many. Now, in view of the increasing awareness by our entire Nation of its dependence upon the continued existence of our resources, it is only fitting that the 40th Anniversary Issue feature Conservation. In the interests of this particular problem of conservation, the 40th volume of the AMES FORESTER is presenting a panorama of some of the various aspects of conservation. Representative groups, who have expressed considerable concern in regard to conservation, present their phases of the entire picture.

The authors of these articles have our sincere thanks for contributing so generously to this publication.
IT will be recalled that, in algebra, subtraction is merely a special aspect of addition, that multiplication cannot be considered apart from division, and that multiplication itself is merely a rapid kind of addition. In other words, all of these operations are phases of a larger field—the relationships of numbers.

Granted that most conservation problems, allowing for their purely technical features, can be thrown into terms of conflicts of interest, no adequate treatment of conflict is possible without an understanding of cooperation. Both are phases of the larger field of human relationships. This, it need scarcely be stressed, is the most difficult field that science has attempted to penetrate. Indeed there are those who maintain that this is scarcely the business of science, or at least not within its power. (See American Scholar Forum, Amer. Schol. 21: 208-225, 1952)

Certainly most of our endeavors to deal with human relationships are still in the intuitive, empirical, trial-and-error stage. Perhaps the best science can do for a long time is to observe and assess the value of these empirical methods, for certainly some groups and individuals have shown themselves far more skilled and successful at resolving conflicts than have others. History records social groups of which it can be honestly said, "They cannot get along with other groups, and if left alone, cannot get along with themselves." In contrast to such groups, whether they be local, tribal, or national, we have examples such as the Swiss, Dutch, and ancient Peruvians, which exhibit a high degree of internal harmony.

My own assumption is that science can very properly examine and compare such phenomena. I make the further assumption that the science basic to conservation, comparable with physics in engineering, and biology in medicine and agriculture, is ecology. For ecology is primarily a study of the process of interrelationships involving life. Conservation is the effort to establish, an effective and durable relationship between human communities and the resources which must sustain them.

Assuredly the science whose business it is to study such phenomena is ecology. But ecology is new and exceedingly complex. Perhaps more than most disciplines it must depend upon other sciences, physical, biological, and social, for methods and data. As yet it lacks the support, both intellectual and financial, commensurate with its importance and possibilities. Its function, however, seems reasonably clear. It must, like some of the powerful techniques of higher mathematics, identify and deal with complexes, even though the detailed resolution of those complexes into their factors may not be possible at the time. Perhaps a clearer illustration can be drawn by comparing it with organic chemistry which has proceeded to develop a systematic and useful body of knowledge at a time when the dynamics of organic reactions could not be understood with the same precision as those of inorganic chemistry.

Group Classification Important

In dealing with conflicts and their resolution, which are so important in conservation, ecology must lean heavily on those sciences which clarify group behaviour, in particular upon cultural anthropology. Now cultural anthropology (or normal sociology as distinct from social pathology) has proceeded upon the assumption that each group tends to develop an inner consistency, logic, equilibrium, or order. This order makes sense to the members of the group and provides the values which govern their behaviour.

Actually this is the same situation which the plant and animal ecologist finds in his natural communities. Hereby the process of succession, with each successful organism developing a niche and a role in relation to the environment; a pattern of consistency, equilibrium, and order arises. By virtue of this pattern something approximating the "steady state" of the physical scientist is achieved. Work is done and the system maintained from the energy and materials at hand. Otherwise the community disintegrates.

On this basis we can begin to define conservation. Where the values and resulting conduct of the human
group conforms to the dynamics of the larger "natural" community of which it is part, we have good conservation. Where it does violence to these principles of equilibrium, it destroys the physical basis of its own survival. This obviously is not conservation. A study of groups which have practiced relatively good conservation—say the Igorotes or the Swedes—reveals the existence of a discipline (intuitive in one instance, highly rational and scientific in the other) which insists upon a stable relation to environment. Customs and laws are shaped in harmony with this discipline.

Civilization Is New

By contrast, our own civilization is new, varied in its origins, still immensely rich, and spread over a vast area. Ecologically speaking, it is in a very early stage of succession, with individuals and groups still struggling for niches, still unclear as to their roles in relation to the whole. Being a technological nation, we have accepted without much question those physical principles which apply in, say, industrial design. An airplane which violates those principles falls to the ground and that is the end of it. We do not temporize. But the operation of precisely the same principles (law of gravity in relation to erosion and the water cycle, dynamic equilibrium in relation to crop rotation or wildlife management, etc.) upon the landscape is more deliberate, its effects more diffuse. We can and do gamble, like the man who takes needless chances in traffic and endangers both himself and others.

Of course we have outlaws, individual and organized. But the problem they offer is relatively simple. Our chief trouble comes from those who do not fully understand the rules of the game, because these rules are the laws of nature and not yet a part of our written law, or recognized by our customs. In nature, no individual can continue to flourish indefinitely at the expense of the rest of the community. It must, in some way, perform a function that justifies its existence, or vanish from the picture.

We are all aware of the current political conflict between big business and big government. While we are all more or less involved in both, there is a sense in which the bulk of us are not identified with either extreme. In that sense, we hold the balance of power. On the whole both business and government have served us well, and the best exemplars of both are interested in the same long-range objective—survival through a stable and permanent economy. This is also the idea of conservation.

So far, so good. The trouble is not with the aim, but rather with an absence of principles, or confusion of principles, by which this aim is to be achieved. There is, for example, much talk of an "expanding economy" when we are actually faced with an expanding population in a finite environment. To point out that we are able, by the clever application of science, to stretch the resources of the environment and to find new ones, does not alter the fact that the environment is finite—as to solar energy and critical inorganic materials, to take but two factors. It is also finite as to space, and space for living is certainly important. To speak, then, of an "expanding economy" without qualifying the term, is just as ill-advised as to think of machine design in terms of perpetual motion, and far from dangerous.

I have said that the average citizen, as a group, holds the balance of power. But it is his only if he deserves and exercises it. And his best chance for leverage is at the local level—in the community where he lives. It is here, too, that the problems in resources are most immediate and tangible. In the long run, his decisions will be based upon what he considers to be true and important. If we can somehow fit him to view his problems in the perspective of ecological process, we will have gone far towards reducing the areas of conflict and uncertainty to a minimum.

See also: Sears, P. B. Conflicts of interest in conservation. Yale Conservation Studies, 1: 81-84, 1952.

ABOUT THE AUTHOR . . .

Paul Bigelow Sears was graduated from Ohio Wesleyan University in 1913 with a B.S. degree. He received his M.A. degree from Nebraska University in 1915 and his Ph.D. in Botany from Chicago University in 1922. He received an honorary D.Sc. degree from Ohio Wesleyan in 1937. His long educational career has included the teaching of botany at Ohio State, Nebraska, Oklahoma, Oberlin, and at field laboratories in the Rocky Mountain states. He is now Chairman of the Conservation Program at Yale University, and is a member there of the Forestry and Plant Science faculties.

Dr. Sears is a member and officer of various scientific organizations, a lecturer and consultant, and author of a number of books and articles on conservation and biological subjects including: This Useful World; Deserts On the March; Life and Environment; This Is Our World; and Who Are These Americans.

Dr. Sears was born in Bucyrus, Ohio, in 1891, and his wife is the former Marjorie Lea McCutcheon of Virginia. They have three children and four grandchildren.
CONSERVATION
A FOUNDATION FOR
NATIONAL WEALTH

By Lieutenant General Lewis A. Pick
Chief of U.S. Army Engineers

Waste not, want not!
The wisdom of that advice has never been doubted.
Until recent years, however, the necessity of following it has not been fully appreciated in America. It is today becoming more and more evident to the people of this country that if we are to remain nationally strong and economically stable, the conservation, preservation and development of our natural resources must become a matter of national concern and united effort—for these natural resources form the only solid foundation for national wealth. This is particularly true of resources that are self-renewing and capable of continuous production.
Sci! and water—the two most life-giving resources—have these essential characteristics. They must be regarded as the most precious prizes that could be possessed by this or any nation, for without them generations in the past have withered and died. Their reckless depletion and needless waste must be considered as grave a peril as a hardened criminal threatening the security of your home and community.
It would be erroneous to regard this peril as a new danger suddenly found lurking on our national doorstep. The peril had its seeds in the unwise use and exploitation of the material wealth of the nation when our forefathers were settling this country, when it appeared so vast and fertile that no thought was given to husbanding its seemingly limitless resources. The peril found nourishment in the inevitable waste and drain of wartime demands. It grew strong in the association of conservation with shortages in the minds of the people—a misconception that conservation meant
hoarding, saving, sacrificing the needs of today for that theoretical "rainy" tomorrow; rather than an understanding that conservation means the wise use and re-use of all resources to insure maximum benefits to the people to whom they belong, both now and in the future.

The United States has been endowed with resources unequalled by those of any other nation—resources which can serve as a crystal ball promising greatness or predicting mediocrity. From our coasts—indented with bays and inlets for the development of ports—flow numerous rivers reaching into the interior; the mightiest of all river systems—The Mississippi and its tributaries—weaves its way through the heart of America, and the Great Lakes provide this country with the busiest inland waterway in the world. With our territories and possessions we extend from the arctic into the tropics. Our great size has provided us with a diversity of soils and climates favorable to mankind and to the production of a wide range of human needs. Rich veins of minerals run like pulsing arteries under the surface of our land.

**The Loss Is Ours**

As custodians of such treasures we have exercised neither care nor judgment. Virgin forests are largely gone. Distressingly large areas of land in our agricultural regions have been worn out by improper land use practices or have depreciated in value through soil erosion. Rich mineral resources have been exhausted or diminished through long continued use. The decline of our fish and wildlife resources has been a matter of grave concern. Our great water resources remain more potential than real; free to wreak the havoc and the suffering of floods; free to carry priceless top soil away from the land and into the sea.

The increase in general water consumption brought about by the rapid rise in population, together with skyrocketing industrial water demands, has multiplied the daily national requirements to 170 billion gallons of water every day—with an additional billion gallons a day needed to generate hydro-electric power—and has resulted in acute shortages in some sections of virtually every state in the Union. This widespread shortage, if prolonged, could eventually lower the American standard of living and could present a very serious obstacle to our industrial progress. Already this year ten million pounds of vitally needed aluminum have been lost because of water shortages in the Northwest, and if the situation continues, 119 million pounds are in jeopardy of being lost, according to the National Production Authority. But the situation must not be allowed to continue. A solution must be found—and it lies in conservation.

The first and most vital step must be the elimination of the waste and destruction of uncontrolled water. Man cannot regulate rainfall and snow melt, but he can analyze the factors leading to floods and plan and provide measures for their control. It is left to the skill of man to catch and store the surplus water during periods of excess flow to prevent flood damages and to make the water thus stored serve his domestic, industrial, and agricultural needs; to put it to use for the production of power, for navigation, irrigation, drainage, fish and wildlife preservation, stream pollution abatement, recreation, and other known and unforeseen needs.

**There Is a Definite Responsibility**

Congress has assigned to the Corps of Engineers responsibility for the conservation and development of the water resources of our country for flood control, navigation, and allied purposes. The first projects assigned to the Corps were concerned with problems of navigation, and we have been performing this civil function for 128 years. Later, when flood control was recognized as a Federal responsibility, this task was also assigned to the Corps of Engineers and comprehensive studies, approached from a nation-wide standpoint and taking into consideration all multiple-uses of water, were initiated. Today we are working in more than 200 river basins throughout the country. The national flood control program—although a relatively recent activity of the Federal Government and one that was almost completely stopped during World War II—has already prevented flood damages of well over five billion dollars, or 300 million dollars annually. This is compared with the 2.3 billion dollars appropriated through the last fiscal year for construction, maintenance, and operation of the projects—and their useful life, in some cases, is just beginning. Over 860 communities and over 26 million acres of rural land, with an aggregate population of about 4,600,000, are now afforded protection.

**An Ultimate Goal**

But the job is only half finished. The remaining average annual flood damage actually experienced in this country totals some $500,000,000. While there remains a single unprotected river valley, floods will continue to plague and harass the people with double trouble—the waste of too much water today, the want of not enough tomorrow. Floods that destroy past labor and prevent future progress are not man's inevitable heritage. He can himself create and pass on the ultimate goal. Complete protection from floods, and maximum utilization of water resources must be the ultimate goal. No tributary stream possessing a flood threat must be allowed to go uncontrolled; no stream must be permitted to impose a drain on regional and national economy. In returning to the sea from whence it originally came, our water must be made to serve beneficially every need known to man in his ambitious quest for all that is good in life. In accomplishing this complete utilization, our planning must have vision. It must reflect the resourcefulness of our people and be responsive to their will. It must be characterized by flexibility rather than rigidity to better meet the
The central industrial district of Kansas City, Missouri, is paralyzed by the raging waters in which investments totaling $600,000,000 are being jeopardized.

complex, changing needs of our generation and the anticipated needs of future generations.

The Corps of Engineers has long recognized the need for close cooperation and coordination among the various Federal agencies charged with different phases of land-and-water resource conservation and development, and our engineering studies have always taken full cognizance of all uses of water—and all accepted methods of control and conservation. The various uses are carefully studied and analyzed by the Corps of Engineers, working jointly with other interested Federal agencies, local and state governments, and with the people in the affected areas. Projects which provide for multiple water uses have been constructed to the maximum extent feasible.

Navigation improvements in the Corps of Engineers civil works program have provided the country with over 27,000 miles of improved inland waterways. This unsurpassed system of navigable waterways has become a vital element in the national transportation structure in both war and peace. Improvement of seacoast harbors and channels has resulted in the current maintenance of 286 commercial harbors which have been essential to our peacetime ocean-borne commerce, and have served as ports of embarkation and sites for shipyards and naval bases in time of war. Improvement of harbors and connecting channels of the Great Lakes has produced 131 ports on that natural waterway system, which provides the basic transportation structure for the midwest industrial development.

Development of the hydroelectric power potential of our river basins is one of the most important aspects of water resource development. Corps of Engineers projects, either completed or under construction, have provision for an ultimate capacity of approximately 8 million kilowatts of hydroelectric energy, and plans—to be carried on over a long period of time—contemplate the development of over 15 million kilowatts.

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The disposal of sewage and industrial waste is an important problem of water conservation, especially in metropolitan areas. In its planning for river basins the Corps of Engineers has worked closely with the Public Health Service and with appropriate State and local agencies where pollution abatement problems were involved, and it has been apparent in many cases that civil works improvements could contribute substantially toward solution of this problem.

In contributing to fish and wildlife conservation, the flood control and navigation projects of the Corps of Engineers have provided three and one-half million acres of wildlife range for development, management and use of wildlife resources which otherwise would not have been available. In addition to the great value of these areas for conservation, they are in active use for hunting and fishing. Last year the harvest of fish from Corps of Engineers reservoirs totalled over eight million pounds of sport fish and more than sixteen million pounds of commercial fish, providing a substantial supplement to the food supply of the nation.

One hundred man-made lakes have been added to America's recreational resources by projects in the civil works program of the Corps of Engineers. During 1951 over 26 million visitors used the lands and waters of these projects for various recreational activities.

In alleviating the growing threat of inadequate municipal water supplies, twelve reservoirs will be used to furnish water to combat this menace. Dallas, Texas, which at the present time is faced with less than a scant four months normal supply, will be one of the municipalities thus aided.

Concurrent with the conservation of our water re-
sources, must be the equal conservation of our other basic resource—soil. In a world pleading for increased food production we can do no less. But we cannot do it if we continue to destroy our land—to wear it out or watch it wash away. As a nation we started with 600,000,000 acres of good tillable land. Today we have 500,000,000 acres of high-class cropland left on all the farms of the nation—and we are considered still a young nation. One-fourth of that cropland is now being damaged by erosion at a critically rapid rate; and another fourth is being eroded at a less critical but still serious rate; and another fourth is suffering from a decline in fertility. We are allowing about 500,000 acres of our cropland to be lost by erosion each year, and present estimates indicate that some 90,000,000 acres of land now cropped regularly should either be retired to permanent cover or should be cultivated only once in five or more years. This is indeed a gloomy picture, but it need not remain so. Soil fertility need not be diminished. European farms cultivated for a thousand years have demonstrated this fact. We know the secret—it is conservation. But it requires more than knowing—it requires practicing. Water is the irremediable limiting factor in crop production. We have thousands upon thousands of acres of land needing only the moisture from controlled streams, and proper farming practices, to multiply by many times the richest crop and livestock yield we have known. To offset the loss in present cropland, good land not now used for agriculture could be brought into cultivation through drainage, irrigation and other needed improvements.

**FEDERAL FLOOD CONTROL IS AN ANSWER**

In addition to the prevention of flood losses, the effect of the Federal flood control program on agricultural land is largely one of improvement, and similar in effect to the provision of supplemental water, rather than of reclamation of new land. It has been estimated that, on the average, when three acres are given a good degree of flood protection, there results an increase in productive capacity at least equal to that produced by reclamation of one acre of new land. This factor, if applied only to the agricultural lands affected by the flood control program of the Corps of Engineers which are suited to farming and which have been given from good to full protection, would give a new-land equivalent of at least eight million acres. In other words, the improvement in production made possible or to be made possible by the Federal flood control program is equivalent to the reclamation of eight million acres of land.

But flood control works cannot retard erosion of the soil resulting from improper land-use practices. On the other hand, proper soil conservation practices cannot eliminate floods—there were floods on our rivers long before the white man’s plow bared top soil to wind and rain.

Consequently our programs—one for the preservation of the land, the other for protection of the land from floods—are natural complements of each other. Only by such combined programs can the needed controls be obtained and uninterrupted production of agriculture be assured. Together they can end the needless dissipation of precious resources, end the needless waste and, with the help of God, eliminate future want.

Every measure for the control of floods and use of the water must be considered and applied, just as every technique for soil conservation and restoration must be given the widest possible practical application—for therein lies our hope for the future. But conservation of our natural resources is not the responsibility of a few specialized groups or government agencies. It must be the responsibility of every individual to share equally in the task as they shall share equally in the benefits. The resources of our country will be secure only when each of us—the true owners—understands our responsibility, and through unity of desire and unity of purpose, achieve the greatness that can be ours: for in the words of Ralph Waldo Emerson: “He who knows what sweets and virtues are in the ground, the waters, the planets, the heavens, and how to come at these enchantments, is the rich and royal man.”

**ABOUT THE AUTHOR . . .**

General Pick attended the Virginia Polytechnic Institute, and was graduated from there in 1914 with a Bachelor of Science Degree. In 1917 he was appointed first lieutenant, Engineers Reserve, and in 1920 he joined the Regular Army.

During World War I he served in France with the 23rd Engineers. In 1921 he was assigned to the 3rd Engineers and stationed in the Philippines. In 1924, he became Professor of Military Science and Tactics at the Alabama Polytechnic Institute.

In World War II he was commander of an Advanced Section, Army Service Forces, India-Burma Theater of Operations. While there he was responsible for the construction, operation and maintenance of the Ledo Road.

In 1945, he became Division Engineer, Missouri River Engineer Division, Omaha, Nebraska.

On March 1, 1949, he became Chief of Engineers for a four-year term by presidential appointment.
By E. F. Heacock
Managing Forester
Weyerhaeuser Timber Company

[Lee Merrill Photos for Weyerhaeuser Timber Company]

The Forest Industries Council was formed some 10 years ago to bring together the major forest industry associations for the purpose of promoting industrial forest management and acting on forest policy matters affecting all the wood using industries. The Council is composed of representatives of the American Paper and Pulp Association, American Pulpwood Association and the National Lumber Manufacturers Association with its 16 affiliate groups across the country. Through the Forest Industries Council the industries represented by these three associations have expressed their forest policy as follows:

FOREST POLICY STATEMENT
of the
FOREST INDUSTRIES COUNCIL

We know that permanent industries capable of producing continuous supplies of forest products are essential to the national welfare. The necessity for wise use of our forest resources in maintaining such industries and the communities dependent upon them is recognized. Having faith that private enterprises and initiative can provide the most effective management, use, and renewal of our nation's forests, the Forest Industries Council pledges united leadership for betterment of America's forests, and the attainment of continuous forest production. In the fulfillment of this leadership, the Forest Industries Council and its members agree to:

1. Promote the extension of permanent and dependable protection against fire to all forest lands.
2. Cooperate with public and private agencies in the control of and abatement of destruction by major forest insects and diseases.
3. Urge all forest owners and forest operators to use, and assist others in using, forest practices which will bring about the continuous production of timber on all areas harvested.

4. Confirm the sound economic policy of encouraging private ownership of lands which are being or which can be profitably managed for continuous production of forest crops.

5. Advocate equalization of federal, state and local taxes on forest land that reasonably support their fair proportion of local responsibilities, and that encourage private ownership of forest lands.

6. Support in each forested state a competent, adequately staffed and financed state forestry organization qualified to manage state-owned forest lands; to administer and enforce state laws relative to privately owned forest lands, including forest practice laws deemed necessary and adopted by the people of each state; and to cooperate fully with all timberland owners in all forestry matters.

7. Encourage maximum utilization of forest products, including more integration of wood use between different forest products industries.

8. Promote industrial research and cooperate in effective and economic public research in all categories of the utilization of forest products and commercial forest management.

Briefly, the crux of this policy is that the forest industries believe in and are working toward the attainment of continuous production of forest crops under private management. That considerable progress is being made in this direction is evidenced in part by the following examples:

Today the forest industries of the United States employ more than 4400 college trained foresters. In 1947, 111 million acres of state and private forest lands were in the “unprotected class”. Four years later the unprotected area had been cut nearly in half and in 1951 less than 10% of the total forest acreage was unprotected.

A Sign of Progress

The tree farm movement, sponsored and organized by the forest industries, had its beginning in the northwest corner of the country in 1941 and has now spread to 33 states and more than 27.5 million acres of privately owned forest land have been enlisted in the program. The Keep Green programs, also organized by the forest industries, have likewise spread to 34 states and are exerting a strong constructive influence in forest fire prevention throughout America. During 1951 a half million acres were planted to trees and 79% of this acreage was private land.

Other signs of the progress being made in industrial forestry do not lend themselves as readily to statistical evaluation but are none the less significant. For example, industrial foresters are devoting more time each year to giving assistance to farmers and other small woodland owners in working out their forestry problems and improving the productivity of their forest land. The acquisition by industry of bare forest land and areas bearing young tree crops to round out sustained yield operating units has been going on at a rapid pace for well over a decade. The result has been that millions of acres that once constituted a serious problem to the counties and taxing authorities are now a highly sought after prize and the object of spirited competition. The natural corollary of this process is that today's prices for this type of forest land are assuming an important relationship to the cost of growing timber. There is no adequate yardstick by which to measure the improvements in industrial forestry practices but again, each year sees
an increasing number of forest land owners of all sizes improving their cutting methods and other silvicultural operations as well as extending improved forestry practices to more acres.

Integrated Utilization Important

Industrial forest products research has become increasingly important. The search for new and improved products derived from wood, new uses for present products and more efficient methods of processing has become a necessary phase of operation throughout the industry. Following the lead of those pioneer lumbermen who, for a number of years, have supported financially and otherwise encouraged research in field forestry, an increasing number of companies are undertaking research in forest management. As might be expected, a substantial portion of the forestry studies now being conducted by industry are in the field of applied research seeking practical answers to practical forestry problems. More recently, industry is taking increased interest in the broader fields of forestry research as well as in studies of more fundamental character. In addition to silviculturists and mensurationists, industrial forestry research staffs now include specialists in such fields as forest soils, ecology, entomology, recreation and wildlife, and pathology. For years forest genetics enthusiasts have been classed by most foresters with the “born thirty years too soon” group. In view of the general expansion in the broad field of artificial reforestation and more particularly in aerial seeding it is a safe prediction that the next few years will see the development of wide spread interest in the important fields of forest genetics and tree breeding.

The first stage after virgin timber was removed thirty years ago, this young stand is being thinned to improve growth rate on the residual stand.

The great increase in the utilization of timber both in the woods and at the mills is one of the outstanding developments of the past decade. The many technological factors which have aided in this accomplishment are too well known to recite here. Above all, of course, is the improved forest economics situation which has made it possible for the industry to convert into useful commodities the material that formerly would not pay its way.

Prelogging, relogging and salvage operations in the overmature forests of the Douglas fir region alone have added billions of feet to the nation’s timber supply. Specially designed chip cars and trucks are coming on the scene in increasing numbers and a substantial item in the diet of many a pulp or fibreboard mill consists of the residue obtained from squaring and peeling round logs.

There has been a great deal of activity on the industrial forestry scene during the past decade. The growth in industrial forestry has been healthy and progress has been rapid. Today the trend is still definitely on the upswing and there is no indication of a slackening pace. At a more rapid rate than is generally realized the industry is settling down to permanent residency in the communities of every forest region in the land.

The Balance Between Growth and Drain

The gap between total forest growth and drain has been almost closed and technological advances in both products and processes continue to diminish the advantage of tree size and quality inherent in virgin timber. To be sure there are weak spots here and there, some of them of serious proportions, but for the most part they will respond to the type of orderly progress now taking place.

The transition from an economy based in virgin timber to one that depends upon tree crops willfully
grown and tended to merchantability is not easy. It will take more than one generation of foresters and perhaps even several generations of trees to bring about the orderly array of age classes so desirable. Whether viewed from the standpoint of an individual company working out its own sustained yield program or from the broad standpoint of a nation looking to the maintenance of its natural resources the tempo of forestry progress is geared closely both to the long life cycle of trees and to the over all economic pattern. Recognition of this fact should not be cause for complacency or for a lackadaisical attitude toward current forestry problems. It does however call for the display of a reasonable degree of patience particularly when the line charting the progress of industrial forestry is curving sharply upward.

The Job of the Industrial Forester

Having presented industry's statement of forest policy and commented briefly on the progress being made in putting the policy into action, it seems appropriate to take a quick look at the subject from the standpoint of the working forester.

The primary job of the industrial forester literally is "to keep the wood bin filled." To a considerable extent the responsibility falls upon him to produce the "maximum net dollar value of stumpage per acre per year on a perpetual basis." Idle land or land that is not producing a full crop is as uneconomic as idle mills or obsolete machinery and industrial foresters must work toward developing the forest land into an "efficient wood growing plant."

While no apology need be made for the fact that industry looks upon its forest land primarily as a place to grow wood for its mills, it should be pointed out that multiple-use forestry plays an important role in private forest land improvement.

While often irked by scare headlines that attribute the latest flood or drouth, as the case may be, to improper logging in some far away place, industry along with public forestry agencies is interested in knowing more about the relationship between forests and water. In some regions private forest land owners are carrying on and promoting special forest soils studies to determine the effect of various harvesting practices on both soil and water conservation.

With respect to water regulation, maintenance of site quality and esthetic values, propagation of fish and game, provision for recreational opportunities, most industrial foresters believe that as a general principle the brand of silviculture and type of management that will grow the best forest crops will likewise best maintain secondary forest values.

The 4400 foresters employed by the industry are engaged in a wide variety of individual occupations. Some are constructing forest roads, digging fire trails, planting trees and combating insect infestations. Others may be cruising timber, establishing growth plots, marking trees, making soil analyses or experimenting with aerial seeding. Whether engaged in one of these jobs or supervising a logging operation, developing a management plan or conducting a tax study, each one is helping to replenish the timber supply. It all adds up to forest conservation on a big scale.

ABOUT THE AUTHOR . . .

Mr. Heacox was graduated from Iowa State College with a Bachelor of Science degree in Forestry in 1930, and since then has been employed continuously by Weyerhaeuser Timber Company. His early experience with the company was at Longview, Washington, in the sawmills and purchasing departments. He also worked in the woods supply department and served for a time as woods machine shop foreman.

He was stationed in Tacoma for six years working in the forestry, public relations, and industrial relations departments, after which he returned to Longview as the first resident forester to be attached to one of the company's operating branches.

In 1948, he returned to Tacoma as managing forester, supervising preparation of sustained yield management plans, forestry research, and the company's non-operating tree farms, as well as coordinating company-wide forestry activities.
Grazing of domesticated animals on native forage plants is probably one of the oldest activities of civilized man. Since long before the dawn of history domesticated animals have been grazed under more or less close herding on plants that grew naturally without man's care. The nomadic tribes as well as the settled peoples throughout history have kept livestock, most of which received their feed from native plants.

In the United States grazing of domestic livestock was an economic necessity with the early settlers. As those along the Atlantic seaboard obtained livestock, animals were grazed on the meadows and in the woods. There was a fringe of livestock grazing all along the frontier which bordered the settled communities. In our Colonial years, as in still earlier periods in Europe, livestock often found difficulty in obtaining food during the winter months. Livestock losses were heavy and production per animal relatively low. The native American Indians, who were as fond of beef as of venison, were additional hazards.

Throughout that period of American history when settlement was expanding, first through the great central part of the nation and later into the west, there was an extensive livestock grazing industry along the frontier. Animals were grazed upon native plants. They were slaughtered usually just for their hides and tallow. Poor transportation and lack of refrigeration made it often impossible to use the meat except for extremely limited local consumption. This type of grazing industry was transitory. With rapid conversion of grazing lands and forests to farms there was no thought given to conservation. This historical experience undoubtedly left its mark in terms of common attitudes toward proper use of grazing resources.

After the war between the States grazing as a major industry suddenly and rapidly expanded. Grazing was and remains the permanent land use in most of the west. Although a considerable part of the Great Plains has been plowed for crop production, by far the greater part of the western half of the United States is and probably will continue to be used principally for grazing. In at least two major respects grazing in this area differed from that in the earlier transitional grazing development farther east. In the first place, these permanent grazing lands are arid and semi-arid in character rather than humid as is the middle West and East. In the second place, roughly half of these grazing lands are in federal ownership with some additional amounts in state ownership. A strikingly different land tenure problem thus exists.

The Changing Picture

Use of the federally owned grazing lands has undergone marked changes over the decades as these lands have been brought under different forms of administration. At first the public lands were used for grazing without control or supervision. Use was essentially on a first-come, first-served basis. Beginning in 1891 national forests were established and by 1910 the area in national forests was approximately as large as it is today. By and large, the national forests included higher mountain areas, many of which were covered with commercial timber but large areas of which had few trees.

A substantial part of the national forests is usable for grazing, particularly for the summer season. The Forest Service regulates the grazing of privately owned domestic animals. The numbers of animals allowed upon a given area and the season of use are specified by the Forest Service. In order to qualify for grazing on national forests, a rancher must own some private land which can produce feed and forage to supplement the forage available seasonally from the national forests. The ability of privately owned land to do this is known generally in the west as commen-
surability. The degree to which privately owned land is dependent upon the federal land for a balanced year-round operation is known as dependency. The degree to which the public lands were used prior to the establishment of the federal land reserve is known as priority. Commensurability, dependability and priority are terms with which every range user grazing upon national forests is familiar.

The Forest Service has established limits on livestock numbers. There is a general maximum limit above which no operator will be allowed to graze except under special conditions. There is also generally a protective limit below which no commensurate dependent operator will be reduced as long as there are other operators still above this limit.

The Forest Service has found it necessary in its administration of the national forests greatly to reduce livestock numbers and total amounts of grazing. Numbers were allowed to increase from 1910 to 1918 under pressure of demand for increased food during the war period. Since 1918 numbers grazed have been reduced by one-half and in addition, the average grazing season has been shortened so that total months of grazing on national forests today is not over one-third as high as it was in 1918. The Forest Service was in a difficult position. When it made adjustments in grazing on the national forests, this threw a correspondingly heavier load on the already over-burdened public domain. But on the other hand, if it made no reductions the national forests would have been over-grazed and probably damaged.

Throughout its history and more particularly the last two decades the Forest Service has given particular emphasis to the multiple uses of the national forests. The same areas can often be used for timber production, for wildlife, for grazing, for recreation, and as watersheds. Some of the major problems of administration of the public lands arise out of reconciling potential conflicts between these various uses.

Until 1934 federally owned lands outside of national forests, generally known as the public domain, were open for grazing on an uncontrolled and unregulated basis. In 1934 the Taylor Grazing Act was passed, providing for constructive administration of the remaining grazing lands on a conservation basis. In addition, it provided for the first time a comprehensive authority

for the classification of public lands, and for their disposal to private ownership only if suitable for the uses sought. The objective of the act was to stabilize the use of land, to put it on a sustained yield conservation basis and to stabilize the livestock industry which used this land. The Taylor Act definitely was not a law providing for the redistribution of the use of the federally owned grazing lands. The fact that the Homestead and other acts had been in operation for several decades and that under them citizens could obtain federal land on relatively generous terms, but that a great deal of this land still remained in federal ownership, was rightly taken as evidence that most of the remaining land was unsuited to private ownership. Practically all of the federal grazing land valuable for grazing use was in actual use in 1934. The Taylor grazing act wisely recognized these facts and attempted to provide only for the sound administration and management of these lands rather than for any influx of new users.

Taylor Grazing Act Meets Needs

In general, the same administrative problems were encountered and the same management measures taken on the grazing districts as on the national forests. Numbers of livestock allowed to graze and season of use were regulated and controlled to prevent over-use of the grazing resource and to provide for sustained yield production of grass and other forage. However, adjustments in livestock numbers and seasons of use on the grazing districts could not be made at the expense of any other federal lands since there was nowhere else for the displaced livestock to go. The adjustments had to be and were absorbed by the livestock operators in their year-round operations. The act, by putting emphasis upon land ownership and stable livestock operations, largely eliminated the so-called “tramp sheep operator.” The severe droughts of 1934 and 1936, coming on top of the series of relatively dry years in which the range had been fully or over-used, resulted in reductions in the livestock numbers without the necessity of administrative action.

On the public lands within grazing districts livestock water was developed in many areas previously lacking in it so as to make available for conservative use previously unused forage. In relatively recent

BEFORE . . .  WHY . . .  AFTER . . .
years substantial acreages of range have been reseeded and their productivity increased in this way. As a result of the combination of these various factors numbers of livestock grazed within grazing districts have not had to be reduced so drastically nor is it contemplated that on most ranges they will have to be reduced drastically in the future. It is expected that the extensive and long continued reductions in permitted grazing that have been experienced on the national forests will not have to be repeated on the grazing districts.

The range livestock industry in the United States today uses land which in general has no other economic use than grazing. Although production of forage per acre is relatively low, such lands have been organized into ranches in such a way that production per man is perhaps the highest of any major type of farm in the United States. Our expanding population and our increasing real income per capita has greatly increased our demand for meat, particularly beef, and this in turn has brought new values and new methods of production and utilization to the range lands.

**Range Land an Integral Part**

In the range livestock industry the federal lands play an important part. In the United States there are perhaps 68,000 ranches producing livestock which could be principally supplied by grazing. Of these perhaps 66% utilize the federal land to some extent. There are roughly 23,000 users in the national forests, 20,000 users in the grazing districts, and 18,000 users of other types of federal land. Some of these ranchers use more than one type of federal land but in total there are probably as many as 45,000 users of federal land. Roughly 65% of the total range livestock is grazed at some season of the year on public lands of one kind or another. These livestock obtain 27% of their total feed from such lands. The importance of the federal lands is far greater than these figures might indicate since in general the federal lands are used only at certain seasons and the numbers grazed at that season may set a limit to the number which the rancher can graze or feed on his own land during the other seasons. The federally owned and the privately owned lands of different physical types are synchronized into a year-round livestock operation.

The federal land within grazing districts has been materially improved in terms of reseeding, water development, fencing, and direct erosion control structures. However, a vastly larger program of this sort is needed and is physically and economically sound. It has been estimated that 22 million acres could be revegetated by reseeding or other measures, that waterspreading could be practiced on 2½ million acres, that 68,000 miles of fencing is desirable, and that 40,000 erosion control structures are needed. At the best a program of this magnitude would require perhaps 20 years for its completion. Such a program could mean an increase of 50% in the productivity of the federal land within grazing districts. Generally similar but somewhat smaller improvement possibilities exist on the national forests.

In the last decade or so ranchers have become very much interested in the improvement and development of their privately owned range lands. Water development, in order to make use of range, has been carried on for many years, particularly in the southwest. However, such programs have been accelerated in recent years and in addition reseeding, waterspreading, fencing and other range improvement and development programs have been carried out in a major way on privately owned range lands. A part of this program has been assisted financially by the federal government through the medium of the agricultural conservation program.

Most striking of all has been the changed attitude toward grazing land and the increased knowledge about it which has come to pervade the livestock industry and the federal agencies concerned with it. The average rancher today knows far more about the sound management of grazing lands than did the average rancher 20 years ago. The physical possibilities of increased forage production through good range management are more generally realized than ever before. Sound administration of grazing land and sustained yield production at the highest level is more common to private landowners and federal range land administrators than has ever previously been the case.

**ABOUT THE AUTHOR . . .**

Director Clawson graduated from the University of Nevada in 1926 with a degree of Bachelor of Science in agriculture. In 1929 he earned his Master’s degree from the same institution. In 1943 he was conferred the degree of Ph.D. in economics from Harvard University. Mr. Clawson entered public service in 1926 as a staff member at the State Agricultural Experiment Station at the University of Nevada. In 1929 he joined the U.S.D.A. as an economist in Washington, D.C. In 1940 he was designated to head that Department’s studies in the Columbia Basin irrigation project, and in 1942 was given a similar position for the Central Valleys studies in California. It was in 1948 that Mr. Clawson was appointed Director of the Bureau of Land Management, Department of the Interior. Mr. Clawson is the author of more than 50 scientific articles and reviews on economic subjects. He has also written several books, the best known are: “Western Range Livestock Industry” and “Uncle Sam’s Acres.”
FROM within our sheltering walls and fast-moving vehicles our American world seems far removed from the wilderness. The wilderness we have "conquered" and from its raw materials have built a civilization in which we have protected ourselves from hardships and freed ourselves to a great extent from many of our natural limitations.

Yet, wilderness preservation has certainly become one of our American purposes, an essential part of a distinctively modern movement for the conservation of natural resources—upon which, it is recognized, the survival of our civilized culture depends. The more highly developed our culture has become the greater our appreciation of wilderness has grown. The more we have enjoyed the ease and security of our civilization the more we have also valued the hardships and hazards—the adventure—of wilderness excursions. The farther we have come in our programs for managing our world the greater has become our appreciation of the significance of the observations to be made in areas where natural processes go on unmodified by man.

As we have thus achieved the opportunity of leisure to enjoy ourselves and reflect on our progress and our destiny, we have come to realize that the wilderness in all its wildness is important to us, and we have determined to preserve it as a resource of health and inspiration, of knowledge and understanding. We have come to realize that we ourselves are creatures of the wild. In the wilderness we are at home; in maintaining our access to wildness we are not, as some have thought, escaping from life but rather keeping ourselves in touch with true reality, the fundamental reality of the universe of which we are a part. We call it recreation and often, most fortunately, know its deep benefits through simple enjoyment of a good time. Yet so deliberate and calculated has all our living grown that we have come to realize that we must be aware of the true meaning of our wilderness. If we are truly to preserve its values, we must recognize that its essential importance to us is indeed in its wildness.

Henry David Thoreau, who in his essay on "Walking" declared that "in Wildness is the preservation of the World," was one of the first Americans to point out this significance of wilderness. Even in the middle of the Nineteenth Century, even before the frontier was gone—he argued for wilderness preservation. Why shouldn't we have "our national preserves," asked Thoreau as he concluded one of his essays, "Chesuncook," in The Maine Woods: "To hold and preserve" man himself as "the lord of creation—not for idle sport or food, but for inspiration and our own true recreation?" Thoreau perceived, as he wrote in Walden, that our life "would stagnate if it were not for the unexplored forests and meadows which surround it," and he emphasized—

"We need the tonic of wilderness,—to wade sometimes in marshes where the bittern and the meadow-hen lurk, and hear the booming of the snipe; to smell the whispering sedge where only some wilder and more solitary fowl builds her nest, and the mink crawls with its belly close to the ground. At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be infinitely wild, unsurveyed, and unfathomed by us because unfathomable. We can never have enough of nature. We must be refreshed by the sight of inexhaustible vigor, vast and titanic features, the sea-coast with its wrecks,
the wilderness with its living and its decaying trees, the thunder-cloud and the rain which lasts three weeks and produces freshets. We need to witness our own limits transgressed, and some life pasturing freely where we never wander."

**Our National Park System Was Started**

First published in the *Atlantic Monthly* in 1858, Thoreau's plea for national preserves was published (posthumously) in *The Maine Woods*, in 1864, the same year in which the United States government made its first provision for what we now recognize as wilderness preservation. The federal government then, by an Act of Congress approved by President Lincoln on June 30, 1864, granted the Yosemite Valley to the state of California upon the condition that it should be "held for public use, resort, and recreation." Two decades later, by an Act of Congress approved by President Grant on March 1, 1872, Yellowstone National Park was "dedicated and set apart as a public park or pleasure-ground for the benefit and enjoyment of the people." Provision was made for the "preservation, from injury or spoliation of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition."

The brilliant and significant surveys and studies begun by the young Verplanck Colvin in New York State's Adirondacks in the 1870's, were at this same time, leading to the laws and constitutional provisions that before the end of the century had firmly dedicated the Adirondack wilderness to protection by the State, "forever wild."

John Muir in his *Atlantic Monthly* sketches was doing his best "to show forth the beauty, grandeur, and all-embracing usefulness of our wild mountain forest reservations and parks, with a view to inciting the people to come and enjoy them, and get them into their hearts, that so at length their preservation and right use might be made sure."

When the National Park Service was established in 1916, under the leadership of Stephen Mather—some two years after John Muir's passing, on Christmas Eve in 1914—there were 14 national parks, besides 33 national monuments, in the national park system. There had also been established 153 forest reservations, within which were the great wildernesses destined to be preserved as the primitive, wild, wilderness and roadless areas of the national forests.

From the Southwest, where on August 25, 1924, the "type specimen" of these areas was established by regional administrative action in the Gila National Forest, Aldo Leopold had begun to point out to the nation both the importance—recreational and ecological—of the national forest wildernesses and the growing threats to their persistence. By the 1930's a national policy for wilderness preservation in the national forests had emerged. The great wilderness interpreter and champion, Robert Marshall—forester, thinker, writer, philanthropist, who had learned wilderness in the "forever wild" Adirondacks, (where with two companions he had been first to climb all 46 of the peaks 4,000 feet high or higher, and who had seen also the great western areas of still living wilderness "melting away like the last snowbank on some south-facing mountainside during a hot afternoon in June")—Robert Marshall—had not only written his now classic interpretation, *The Problem of the Wilderness*, in the February 1930 *Scientific Monthly*, but had also achieved his position on the staff of the U.S. Forest Service. He was able to contribute notably to the establishment of areas for preservation and to the formulation of regulations for their protection.

**Wilderness as the Key to Conservation**

Thus it was by our 1940's, through the influence of such men as Henry Thoreau, Verplanck Colvin, John Muir, Stephen Mather, Aldo Leopold, and Robert Marshall, and the growing sense among many men and women of the enduring importance of wilderness, that we had in our national forests, and in other federal and state areas, a great wilderness preservation system.

Through this system of preserved areas will, in time, exist, not only in fact but by virtue of Congressional legislation giving it a perpetuity, a national wilderness preservation system. We must propose to maintain our
access to wilderness, what John Muir called “fountains of life.” Our expansive civilization, we realize, will eventually modify for human exploitation every last area on the earth—except those that through human foresight and wisdom have been deliberately set aside for preservation. Through such a zoning program, nevertheless, we are persuaded, we can insure the existence of a system of wilderness forever. It is not too late. Half of a hundred areas in our national park system, six dozen and more areas within our national forests, a few of our national wildlife refuges, certain of our state parks, and other areas within the public domain and on Indian reservations are still wilderness—and in public ownership.

Elsewhere we know we can obtain the timber and mineral commodities we need and shall need. There we will find the needed sites for our great dams and reservoirs, build the roads and landing fields for our mechanical travel in the great outdoors, find also the places for our outdoor recreation with the conveniences and facilities we so well contrive, and in short realize all the benefits that we want from a developed country.

In our wilderness we shall see preserved the unmodified wildness of our primeval origins, our natural home—the areas of unspoiled nature. Here we not only can seek relief from the stress and strain of our civilized living but can seek also that true understanding of our past, ourselves, and our world, which will enable us to enjoy the conveniences and liberties of our urbanized, industrialized, mechanized civilization. And yet we will not sacrifice an awareness of our human existence as spiritual creatures nurtured and sustained by and from the great community of life on this earth.

In our continuing access to wilderness—where we can learn the humility to see ourselves truly as the dependent members of this great community of all life—is our continuing hope for the survival of our culture. As a species, a race, a form of life, we actually run a risk of annihilation if we forget conservation. We can see—and through our science fairly well understand—what happens to forests when conservation has nothing to do with tree cutting. We can see what happens to the soil—perhaps our greatest heritage from the Earth community’s long past—when we try to use it without regard for its natural place in the scheme of living of which we are a part. We know that when ever, or wherever too many game mammals or birds are shot, or too many fish caught, we can no longer enjoy this resource. Sometimes we have even seen ourselves destroy an entire species and sacrifice forever our own enjoyment and benefits that once came from it. Yet all these are in a sense merely warnings, and we know now that our conservation to be truly successful must arise, not from a too selfish concern for our own day, but rather from a sense of ourselves as a responsible part of a continuing community of life.

From the wilderness we truly gain this sense and thus in wilderness preservation we see a key to all our conservation problems. From our contact with it and its continuing influence, comes the understanding to deal wisely with all the resources of the Earth which we share now, but which will be the need of those who come after us.

ABOUT THE AUTHOR . . .

Mr. Zahnis er has been serving as executive secretary of the Wilderness Society since World War II. Previous to this time he worked for the U.S. Fish and Wildlife Service and the Bureau of Plant Industry.

One of his main interests is editing The Living Wilderness, which is a quarterly published by the Wilderness Society. He is also book editor of Nature Magazine and contributes there the monthly article called “Nature in Print.”
In Memoriam

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(KNOWN DECEASED ALUMNI)
PRESENTS...
A Message to the Senior Class

Realization that another college year is nearing an end and that another group of seniors will soon leave brings a mixed feeling of sadness and joy.

The men making up the senior class this year have been a great strength to the department. It has been a real joy to observe your growth since you entered college a few short years ago. The activities of the student body in forestry with leadership supplied largely by seniors have been carried on in a grand manner and through your efforts and industry, honors and awards have come both to the Forestry Club and the Department. Those of us on the staff wish to thank each of you for your part in carrying on the forestry traditions at Iowa State. We are proud of you.

A large number of you plan to spend some time in the military services, others will go immediately to jobs in all parts of the country. Whether you begin your life’s work now or defer it for a time we know that you will carry on in typical Iowa State fashion. The record made by our many graduates has brought our school an enviable reputation. We know that each of you will endeavor to further enhance this reputation. Best wishes and Godspeed to each of you.

SENIORS

PAUL ARRASMITH—Ames, Iowa—Summer Camp, Hiles, Wisconsin '51—Married
Paul’s hobbies are hunting, fishing and golfing. Forest management is his field of interest. He worked one summer at the forest nursery south of Ames and has had two summer’s experience at a retail lumber yard. Last summer he cruised timber in Washington and Oregon. After a two year hitch with the Army, he hopes to get a job in the Pacific Northwest. Paul is a member of Scabbard and Blade. He has one child, a girl.

John has had his experience with the Clear Water National Forest in Idaho, and at the Mount Hood Forest in Oregon; he has worked with the Southwest Lumber Co., in Arizona; and recently he has been working with the Botany department at ISC Oak wilt research. John is the outdoor type of individual and likes to spend his time in fishing, hunting and trapping. He also has been active in the Forestry Club. John says that after graduation he would like to go into Farm Forestry or Sales.

OLIVER CAMPBELL Jr.—Whiting, Ind.—Summer Camp, Hiles, Wis. '52
Ollie got his practical experience working in Oregon on the Ochocho National Forest and with the Warm Springs Lumber Mill. He is interested in utilization and selling. He is a member of Sigma Chi social fraternity, and is an intramural wrestling champion.

PAUL BURDETT—Lombard, Illinois—Summer Camp, Texas-Ariz. '50
During the summer of 1951, Paul worked as a fire prevention guard on the Siskiyou National Forest. He enjoys bowling, music, hunting and fishing. Upon graduation, Paul intends to work with his father. His extra-curricular activities include marching and concert bands, orchestra, baseball, the I-club, and national advertising manager of the '53 Ames Forester.

(NO PICTURE.)
RICHARD L. CHANCE—Boone, Iowa—Summer Camp, Texas-Ariz. '50
Dick's field of interest is utilization and marketing. He cruised timber on the Six Rivers National Forest. He is a member of Delta Upsilon social fraternity, Arnold Air Society and served as business manager of the '53 Ames Forester, as well as the '53 Veishea Paul Bunyan Day festivities. Dick enjoys all outside sports. He hopes for employment with industrial management or sales.

DUANE CHRIST—Lakota, Iowa—Summer Camp, Texas-Ariz. '50
Duane served on the Interfaith Council and was Alumni Editor of the '52 Ames Forester. He was a fire guard on the Malheur National Forest in Oregon. After a tour of duty with the Air Force, Duane hopes to work for the Forest Service. His field of interest is silvics.

GLENN COOPER—Glenview, Illinois—Summer Camp, Hiles Wisconsin '51
Coop has worked two summers with the Hines Lumber Co. in Chicago, and has spent one summer with the Bureau of Entomology and Plant Quarantine on the Rogue River National Forest in Oregon. His hobbies are hunting, fishing, photography, mountain climbing, and traveling. Glenn's main interests lie in utilization with private industry. He has served as photographer on the '53 Ames Forester, president of Forestry Club, Veishea float co-chairman, Veishea concession stand, Assistant Publicity Chairman of Paul Bunyan Day, '53, and is a student member of the Society of American Foresters. He has served as pledge trainer of Theta Chi social fraternity and has won the intramural extemporaneous speech contest.

CHARLES COYLE—Ackley, Iowa—Summer Camp, Priest River, Idaho '47
Chuck enjoys writing and sports. His interests in forestry lean toward management. He hopes someday to find work in private industry. He was assistant alumni editor of the Ames Forester and a member of the Newman Club. He worked on a trail crew in Washington at the Montana Lookout Station.

JOHN CRELLIN—Clarinda, Iowa—Summer Camp, Priest River, Idaho '49—Married
Jack's main interest is timber management, and he hopes for this type of work with the Forest Service or private industry. His hobbies are hunting and woodworking. He has worked at the Boise Basin Experiment Station in Idaho. Jack has been an active member of the Forestry Club, and has served as co-chairman of the Veishea Float committee. Jack has one daughter, Jan, that takes care of his "leisure" time.

MARTIN DALE—Osawatomie, Kansas—Summer Camp, Texas-Ariz. '50
Martin's field of interest is management and after serving in the army he hopes to work with an experiment station in Arizona or Oregon. He worked on a fire suppression crew on the Mt. Hood National Forest and was a research aid with the Pacific Northwest Experiment Station, Roseburg, Oregon. Among his hobbies are hunting, fishing and photography. He is a member of Alpha Zeta, Ward System, and the Forestry Club. He served as president of Delta Ward and was a representative on Ag Council. He was also an Ames Forester staff member in 1952, and is a Ward intramural wrestling champion.
GLENN A. EHRLICH—Salt Lake City, Utah—Summer Camp, Priest River, Idaho '49
Glenn is interested in forest and range management and hopes to find work of this sort in the Southwest. He worked as foreman and marker on the Coconino National Forest in Arizona. His hobbies include photography and leathercraft. His activities include Veishea Open House, Holst Tract committee, Alpha Phi Omega, Ward System, and Glenn is also a student member of The Society of American Foresters.

MAX DeWAYNE FULTON—Columbus Junction, Iowa—Summer Camp, Hiles, Wisconsin '51—Married
With the Forestry Club, Max has served as Secretary, and also as Veishea concession stand co-chairman. His hobbies include fishing, hunting, and golf. Max has worked with Blister Rust Control in the St. Joe National Forest, and as a Recreation Guard at St. Ignace, Michigan. His main field of interest is in forest management, and upon graduation, he hopes to get into this line of work.

DUANE GREEN—Fargo, North Dakota—Summer Camp—Foxpark, Wyoming '53—Married
Duane is majoring in the forest management option and hopes to find work along this line in Wyoming or Montana. His hobbies include firearms, hunting and fishing. He has spent the last two summers working in the Badlands area. Duane is a veteran of four years service in the Marine Corps and after the last war he served on expeditions to the Arctic and Antarctic. He is a member of Alpha Zeta and the American Society of Range Management. He has one child, a girl.

RICHARD HANISCH—Oshkosh, Wisconsin—Summer Camp, Hiles, Wisconsin '51—Married
Dick is majoring in the general forestry course, and is not definitely decided upon his future plans. His hobbies include hunting and fishing. Dick has been active in the Forestry Club, and has served as its treasurer. He has worked six months with the Wisconsin Conservation Department.

JAMES HARVEY—Ames, Iowa—Summer Camp, Priest River, Idaho '49—Married
Jim's hobbies are hunting, fishing, and woodworking. He is interested in range management, and after graduation hopes to work either for the S.C.S., the Forest Service, or Bureau of Land Management. Jim has worked in Colorado in Beetle Control and in Timber Management with the U.S.F.S. He also has worked on the Santa Rita Experiment Station in Arizona.

WILSON KALE—Truro, Iowa—Summer Camp, Texas-Ariz. '50
Wilson spent one summer working for the Forest Service on a lookout. After a two-year tour of duty with the Air Force, he hopes to find work in private industry. He is a member of the Forestry and Photography clubs and was co-chairman of Paul Bunyan Day. He also served on the selling and advertising staff of the Ames FORESTER.
ALLAN KUESTER—Clare, Iowa—Summer Camp, Texas-Ariz. ’50
Al was president of the Forestry Club and was an editor of the AMES FORESTER. He enjoys music and sports. He is most interested in timber management and would like to get into silvicultural research or consulting forestry. He worked for the U.S.F.S. in Vermont and the Department of Lands and Forests in Ontario, Canada. Al is a student member of the Society of American Foresters. He participated in the concert band, Iowa State Singers, Festival choir and is a member of Pi Kappa Phi social fraternity.

MERRILL G. LASH—Ames, Iowa—Summer Camp, Hiles, Wisconsin ’51—Married
Merrill’s interests lie toward Forest Management, and after graduation he has expectations of working with private industry in Oregon. Hunting and fishing are Merrill’s hobbies. He has spent a summer working with the U.S.F.S. Experiment Station in Portland, Oregon.

ALBERT H. LEUTHAUSER—Greenfield, Iowa—Summer Camp, Hiles, Wisconsin ’52—Married
Al is interested in general forestry and hopes to find employment in lumber manufacturing. He has a B.A. degree from Simpson College. Included among his hobbies are hunting, fishing and golfing. He has spent three summers working on the Clearwater National Forest in Idaho.

JIM MARTIN—Clermont, Iowa—Summer Camp, Hiles, Wisconsin ’51—Married
Jim has spent a summer as a smoke chaser in Idaho. Also, he spent time with Iowa logging and milling industries. Hunting, gun collecting, fishing, and automobiles are Jim’s hobbies. After graduation, Jim will spend his hitch with the services, then will go with the Forest Service. In school, he is most interested in Forest Management. He has been active in Forestry Club work in the Vesivnea program and is a member of Alpha Zeta.

TOM MARTIN—Des Moines, Iowa—Summer Camp, Texas-Ariz. ’50
Past Vice President and Hoe Down Chairman for the Forestry Club, Tom has been in the limelight constantly. His practical work to date has included slash disposal in Idaho and timber estimating in northern California. Tom likes to shoot a lot, both with the guns and the camera. This member of Phi Kappa Psi wants to get into the lumber manufacturing trade upon graduation.

PETER A. MAUREK—Clinton, Iowa—Summer Camp, Texas-Ariz. ’50
Pete’s spare time is spent in traveling, his favorite hobby. After graduation, personnel management in private industry should take care of most of his time. The past summers he has gained experience as straw boss of fire crew and ground fire suppression in the Umpqua National Forest, Oregon. Also, he has been a smoke jumper for the aerial fire suppression project in the Payette National Forest at McCall, Idaho. Pete was active in the Ward System and Forestry Club, besides serving on the local advertising and sales staffs of the AMES FORESTER. He was pledge class president and treasurer, chapter vice-president and social chairman of Theta Chi social fraternity.
LEO MITCHELL—Centerville, Iowa—Summer Camp, Texas-Ariz. ’50
Leo has been one of the cogs in Forestry Club activities by being
highly active in the Hoe Down, Game Banquet, the AMES FORESTER
being on the Green Gander stuff and always active in Veishea work.
Leo has worked on a recreation assignment in Salt Lake City and
spent one summer on the logging engineering crew for the Myrtle
Creek Plywood Co. This advocate of outdoor sports plans on a career
in the utilization field.

L. CARTER MCKEE—Joplin, Missouri—Summer Camp, Hiles, Wis­
consin ’51
Carter, one of the class’s best bowlers, has sales in mind for his
business after he gets through with his Army hitch. His experience
with Long-Bell Wood Pres. Plant in Joplin serves to advantage in
his choice. This member of Phi Kappa Psi social fraternity likes to
spend his free time hunting or fishing as the opportunity presents
itself.

DICK POPP—Davenport, Iowa—Summer Camp, Priest River, Idaho
’49
This past vice-president of the Forestry Club has spent his sum­
mers in fire suppression and detection work. The rest of the year
he has spent as Club librarian for most of the time. Dick seems to
have an affinity for collecting things, everything from coins to old
guns and arrow-heads. After his tour of duty with the Army he plans
to go into management.

DONALD J. MORGAN—Des Moines, Iowa—Summer Camp, Texas­
Ariz. ’50
Don is interested in general forestry and upon graduation plans
to go into professional Scouting work. Besides Scouting, he enjoys
photography. During the summer of 1951, he worked on the Mal­
heur National Forest as a fire control aid.

TED S. SETZER—South Amana, Iowa—Summer Camp, Texas-Ariz.
’50
Though Ted has spent his summers in fire suppression work on
the Umpqua National Forest his real interest lies in range manage­
ment. Proof of his active nature are found in his work in the Fes­
tival Choir, Veishea, Paul Bunyan Day, his hobbies of hunting, boat­
ing, collecting arrow heads and photography. Ted will also wear a
pair of gold bars for the Air Force for several years. Ted is a mem­
er of Adelante social fraternity.

DAVID F. SCOTT—Auburn, Kentucky—Summer Camp, Priest River,
Iowa ’49—Married
Scatty comes complete with a slow Southern drawl and a knack
for gunsmithing and the allied fields. He has worked in Wildlife
Management and TSI work on the Chattocche National Forest in
Georgia, and at the Ames Nursery. After being a 2nd Lieutenant
for awhile, he plans to put to good use his five year Wildlife Man­
agement major.

KEN KNUTSEN—Ossian, Iowa—Summer Camp, Hiles, Wisconsin, ’51.
Ken derives his extra-curricular pleasures in hunting, fishing, and
photography. Activities seem to be his main dish. He has been a
member of Army Rifle team. A member of Alpha Zeta, Holst Tract
committee. Paul Bunyan Day chairman, and a student member of
the Society of the American Foresters. After graduation Ken plans
to spend a hitch with Uncle Sam, and after that, to get into man­
agement work with a Federal Agency. Ken has had experience in
the Medicine Bow National Forest in Wyoming.
ADELBERT F. SHAW—Des Moines, Iowa—Summer Camp, Texas-Ariz. ’50

Ad, alumni editor of the AMES FORESTER, spent the summer of ’51 on a lookout on the Wenatchee in Washington where he captured a wealth of exciting color slides. A student of natural history, literature, photography, and an advocate of the “outdoor life”, will go into wild life work after the Air Force is through with him. Ad has been indispensable in the Veishea open house and float department for the Forestry Club.

BROCK SHORT—Plainview, Texas—Summer Camp, Texas-Ariz. ’50

Though “Tex” received most of his experience working for the Forest Service as a surveyor on the Ochoco National Forest, and as a timber marker on the Wasatch National Forest, he plans to make his way in private industry after graduation. Not being one of the lazy variety of Southerner, he goes in for Jazz music, fishing and hiking. Brock is a member of Delta Chi social fraternity.

JERRY B. SMITH—Park Ridge, Illinois—Summer Camp, Texas-Ariz. ’50

Jerry has had four years of experience in tree surgery work and another three months with R. S. Bacon Veneer Company in Chicago as a trainee. Collecting veneer samples, traveling and photography are his hobbies. With a double major in forestry and journalism, he hopes to find a position in industrial forestry public relations. Jerry was on the advertising staff and acted as associate editor of the AMES FORESTER. He served as publicity agent of the ’52 Paul Bunyan Day and was general chairman in ’53. Other activities included—managing editor of the Newman News, editorial assistant on the Iowa Agriculturist, publications officer of the Arnold Air Society, press agent of the I.S.C. Alumni Achievement Fund, Newman Club, Winter Sports Club, and Forestry Club. In his fraternity, Theta Chi, Jerry served as social chairman, treasurer and publications editor. He is a student member of the Society of American Foresters.

ROGER SUTTON—Chicago, Illinois—Summer Camp, Texas-Ariz. ’50

Rog has surveyed for Weyerhaeuser Timber Company near Klamath Falls, Oregon, and has acted as assistant on the research forest of Consolidated Water, Power and Paper Company, Rhinelander, Wisconsin. During his spare moments, Roger enjoys photography, fishing, swimming and wood finishing. In school he has majored in utilization and plans to go into private industry in connection with wood products, particularly sales and production.

FRANK SZYMECZEK—Mason City, Iowa—Summer Camp, Hiles, Wisconsin ’51

Frank spent three months cruising timber on the Wenatchee National Forest and has had experience in the wooden building construction field. His hobbies include hunting, fishing and sports. After graduation he plans to secure a job somewhere in the Midwest or Lake States in forest products sales. Frank is a member of the Newman Club and Phi Kappa Psi social fraternity where he was treasurer.

MARION TRUE—Eddyville, Iowa—Summer Camp, Texas-Ariz. ’50

Marion spent one summer in Idaho on blister rust control and another in Arizona with the South-West Lumber Company. Either sales or management work in private industry after graduation is Marion’s goal. His hobbies include hunting and traveling. During school he was active in the Modern Dance club and Arnold Air Society, and was a member of Alpha Tau Omega social fraternity. He served as general chairman of the Foresters’ Game Banquet and on the advertising staff of the AMES FORESTER.

ROGER TWITO—Lake Mills, Iowa—Summer Camp, Hiles, Wisconsin ’51

Roger has had practical forestry experience on both the Nicolet and Superior National Forests. His hopes for the future lie in the field of forest management. Fishing, hunting and most sports, he hopes, will fill his extra minutes.
from neophites to professionals . . .

Foresters are made at Iowa State College

Juniors

Front row (left to right): Onnie Paakonen, Fred Allman, Malcolm MacPeak, Bill Lamansky, Bill Boyd, Melvin Hammer, Dean Buchanan.

Sophomores

Front row (left to right): Bruce Cramer, George Harrison, John Evenson, Wayne Geyer.
Fourth row: Tom Quick, Mike Quaintance, Larry Wilhite, John Tnsley, Del Ploen, John Barrington, Sid Herzberg, Jack Krieger, Ken Cosgriff, Charles Arends, Roger Watts, Gene Meyer, Jim Gore.

Freshmen

Front row (left to right): Manfred Kiess, Larry Axelton, Jim Rettenmaier, Anton Ensminger, Graeme Berlyn, Ron Gill.
Third row: Gene Ecker, Marsh Leffler, Charles Levine, Ron Ketchum, Jerry Jordan, Ken Cosgriff, Tom Hanson.
THEY MAKE THE WHEELS GO ROUND

All of the equipment, texts and facilities of the Forestry Department would be useless if it were not for the leadership and guidance of the faculty.

Under the direction of Department Head, George Hartman, the forestry professors have made Iowa State one of the outstanding forestry schools in the country. With their counsel the Forestry Club has one of the most active groups on the Iowa State campus.

FORESTRY FACULTY . . .

A pleasant smile and a helping hand can always be counted on from the girls in the office.

Dr. Scholtes takes time off from teaching forest soils to show "dem young whipper-snappers" how to cut a rug.

Front row (left to right): Norm Hansen, Professor McDonald, Professor Hartman, Professor McComb, Dean Parker.
Second row: Dick Campbell, Professor Bensend, George Thomson, Professor Kellogg.
Not in picture: Raymond Brendemuehl, K. A. Brinkman, Garth Champagne, Jim Dale, Dean Einspahr, Art Eschner, Grover Hertzberg, Dr. J. A. Larsen.
THE LEADERS

President .......... Hank Haskell .... Al Kuester
Vice President ........ Tom Martin .... Bob Russell
Secretary ............ Bill Ritter .... Max Fulton
Treasurer ........... Dick Hanisch
Faculty Advisor .......... Prof. George Thomson
Sr. Ag Council Representative .... Martin Dale
Jr. Ag Council Representative .... Charles Miller

Meetings this year were well-attended and the turnout of freshmen was excellent. In fact, our doughnuts ran kind of scarce several times.

The big guy with the big cigar, Dick Hanisch, kept us out of the red, and most of the time we were well into the black, mainly because of our record-busting Veishea Concession stand under Gerald Mayberry and Max Fulton.

Our Ag Council Representatives announced that this year Ag Council is awarding a trophy to the most active departmental club, so we are all gunning for that trophy. Why, we even had members of the club at the All-Ag Banquet this year to hear Louis Bromfield talk.

Veishea—the time of year when the Forestry Club is on exhibit to the public.

Second place trophy—Veishea Parade Float and second place plaque—Veishea All-Ag Open House award.
FORESTRY CLUB MEMBERS  Front row (left to right): Jim Rettenmaier, Larry Houtchens, Gene Ecker, Harold Cross, Paul Kreger, Glenn Ehrlich, Ron Gill, Don Haaga, Jerry Caslavka, Frank Szymeczek, Chuck Goff, Clarence Lutz, Paul Frederickson, Darrell Parker.
Top row: Don Morgan, Dick Leth, Ken Cosgriff, Claire Uhr, Addie Shaw, Ken Knutsen, Jerry Jordan, Ron Ketchum, Merrill Lash, Larry Lassen, Carl Haaland, Bob Peterson, Marion True, Prof. George Thomson (faculty advisor), Jack Grellin, Al Kuester, Con Schallau.

Our lady-forester of 1965 shows her catch to Pop Bensend.

FORESTERS YOUNG & OLD

It doesn't take a 470 formula for Prof. Kellogg to show his skill at skinning a "bar" with a cleaver, yet!
Sure the Foresters are artistes — they won a trophy on this beauty!

The reason we didn’t have a rifle-shoot last year.

These Foresters sure got tired of waiting for their coffee and donuts at the last Forestry Club meeting.
UNDER the able leadership of affable Charley “Chuck” Spain, the Forestry Open House of 1952 was a “howling” success.

Although the foresters only took second place in the Agricultural Division, it was felt by all those concerned that the foresters should have earned first place, had the judges seen “the troubles we’ve known.” Well do the woodsmen remember their plight early Friday morning after an all night siege of putting up displays, hauling dirt, and planting trees, in their miniature forest. Rain struck our none too impervious tent, and soon the foresters were fighting against nature’s elements as well as the elements of time.

A sight etched on my memory at the dawn’s early light, 6 a.m., opening day, were the canvas blister bags sagging around precariously over each carefully worked out display. The water, instead of running off the tent, just accumulated in large sags in the canopy and dripped rhythmically down, plink, plink, plink... on the strategic targets the boys had worked so hard on.

Never under-estimate a forester though. The boys emptied the “hanging lakes,” stopped the “gully erosion” in their miniature forest, repaired wet signs, and straightened things up as best they could. By opening time the rain had abetted, and as our visitors began to flock into the tent, the foresters were ready for them, apparently none the worse for wear.
By and large (to paraphrase one of our beloved staff members) the Forestry Open House display consisted of what we call the "miniature forest." A scale model was set up in a huge half circle to represent the forest, and each of the integral phases which go into managing it were illustrated. Representative compartments were: Summer homes and recreation—a display including a lake with boating and fishing complete to the cabins and fireplaces; Protection—a unit which included a beautiful scale model lookout, made by Don Morgan (later used by the Isaac Walton League in Ankeny) with fire, smoke jumper in descent, and model Forest Service plane aloft, winging away from the scene; Logging operation with high lead system and all; A scale model of a flume, made in what must have taken many "spare time" hours by "Hank" Haskell; and last but not least, to tie in with the logging, a miniature mill complete to mill pond and jackladder was included.

Also reserving much attention in the tent, were the several products displays. This segment seemed to draw many technical queries and so the foresters only ventured over in groups of two or more for lack of an adequate reply. One man even asked how to do away with termites—but, if you think that's funny, even funnier is the fact that he was told how to get rid of the varmint.

Another very minor attraction was the miniature slide show engineered and run by Wilson Kale and Addie Shaw. We had fair results flashing the "Greatest Show on Earth" on a translucent screen and many people milled around our "little theatre," during the course of a day, to see "An Actual Forest Fire," "Red Woods of California," "Typical Forest Wildlife" and many other scenes represented from our woods and waters.

Any forestry display would be incomplete were it not for the appearance of Smokey Bear. The old bruin was with the foresters during Open House to bid hello to our many visitors. The "bear facts" are he made a big hit with all the kids from six to sixty. All thanks should go to Lyle Jack and Gene Chelstad, who once again gave sample "Jack Pine" seedlings away. These two "youngsters" worked wrapping the seedlings and giving them to visitors, for a day and a half, until our small drawing cards were exhausted. The boys used 2,000 gratis trees and two or more times that many visitors were entertained within the confines of the "Big Top."

According to reports, more people visited the Foresters Open House than any other agricultural display. Well, all of that goes to prove that people do enjoy the unusual, and we foresters, after all, are quite unique.
PAUL BUNYAN DAY

LEGEND COMES TO LIFE ON THE IOWA STATE CAMPUS

To the foresters huddled together inside their Veishea Open House display tent, the rather gloomy morning of May 16 will long be remembered. All night it rained and it was still raining the next morning. Paul Bunyan Day was scheduled for that afternoon but how could it be held if it kept on raining? One forester voiced his disgust, "My gosh if this keeps on we're going to have to forget about Paul Bunyan Day."

Fortunately, by early afternoon the sun had driven the last traces of rain from the sky enabling the foresters to present one of the most "rootin-tootin" Paul Bunyan Days ever to grace our "fair campus."

John Nelson, our smooth and eloquent M.C., soon had the program rolling. Beginning the program was Professor Hartman, department head, who gave an excellent opening address.

Presentation of the "Son of Paul" was next on the program. Besides having the physical attributes of "old Paul," the forester honored as the "Son of Paul" is tops socially and scholastically as well. Bill Murphy filled the bill and was elected. Lovely Veishea Queen, Carol Fisher, presented Bill with his prize—a large double-bit axe.

As the program continued, contests among the foresters began. Chain throwing was first on the agenda. The winner was Gerald Mayberry.

Our husky football player, Bill Byrns, won the log throwing easily. He threw the ten foot log as though it were a toothpick. Bill's efforts were hardly even approached by any of his rivals.

When it comes to bucking a saw through a log, it would be hard to beat the team of Roger Sutton and Charles Spain. Some of the spectators said the saw cut through the log as though it were butter.
One of the more popular contests enjoyed by the spectators was log chopping. Our winner was Lynn Proeger. For awhile our very capable judges, Professors Thomson and Kellogg, found it difficult to find the winner because of the shower of wood chips.

What was left of the logs was used for the splitting contest. The best "fire-wood splitter" proved to be Linden Proeger, again.

Climaxing the schedule of events were the birling and canoe tilting events held on Lake LaVerne.

Many of the foresters participating in these contests probably wished they had stayed home. Some completely drenched and disreputable looking foresters were quite common around the lake during the competition.

For the canoe tilting event sponges were used on the ends of the tilting poles for protection. For meanness, or perhaps to liven up the contest, contestants proceeded to soak the sponges in the muddy lake water and then wash their opponent's faces.

With each plunge of a disrupted forester into the lake, a hail of laughter ensued from the spectators. From their viewpoint, it seemed, it was most entertaining to see these brave forestry lads swallow a mouthful of that "most refreshing lake water." The winner of the birling event was John Bradish. Our lucky canoe tilting winners, not getting wet once, were John Bradish and Henry Haskell.

Thus ended another Paul Bunyan Day celebration. Most spectators, we're sure, had a memorable afternoon of entertainment watching the foresters win fine prizes ranging from axes to hunting knives.

Visiting camera men, too, from Look and Buick magazines obtained a permanent record of one of Veishea's most popular events.
Can't beat my team, Buster.

Who needs a power saw with this brawn around!

Veishea Queen of Queens, Carol Fisher, presents Bill Murphy his Son of Paul award, but, hey Bill, you're married—remember?
Come on, Chuck, life's not that serious or is the strum'm'en that absorbing.

Muscle—Iowa State style.

Ballerinas? No, just foresters.
THE Holst State Forest, commonly known as the Holst Tract, is 316 acres of typical Iowa timber land located northwest of Boone near the small town of Fraser. This area which is under the management of a committee of eight students of the Forestry Club at Iowa State College is for the purpose of research and practical experience.

During the course of 1952 the Holst committee was under the leadership of Henry Haskell and Floyd Lodge.

The work at the Holst Tract from January to March consisted of cutting second-growth oak trees for car stakes. These stakes were sold to the Iowa Wood Preserving Company at Tama.

The spring work consisted of cleaning up of logging slash and the planting of 5000 red pine seedlings. The pines were planted in April with the help of a mechanical tree planter under the direction of Dick Campbell, Extension Forester. After planting, the logging slash was chipped and placed around several hundred of these seedlings for the purpose of a mulching study. This mulching was under the direction of Garth Champagne of the Central States Forest Experiment Station.

During the summer Dr. D. W. Bensend of the Department of Forestry made an extensive study of the area. As a result of this study and his recommendations a more definite goal is now being strived for on the area—that of getting more students to participate, and the carrying out of more research projects.
Once again fall came and the Holst Committee members found a new problem facing them, "What to do with the tall weeds in the newly planted pines?" It was decided, upon Dr. Bensend's recommendation, to cut these weeds. So on October 25, forty students and nine faculty members slaughtered the weeds. It was interesting to note that the mulched pines had no weed trouble.

After two months of drought and still no rain forecast, it became necessary to draw up a fire plan for the area. This consisted of warning posters on the area and in nearby Fraser, blocking the access roads to autos, and a cooperative plan with the Forestry Department for use of trucks, tools, and student labor. A nearby farmer was appointed as fire warden.

When the drought ended on November 16, activities returned to normal and the logging season began again. During this period (Sept.-Dec.) about seventy car stakes were taken to Tama. Shortly before Christmas the larger conifers (those planted in 1939 and '40) were pruned to discourage Christmas tree poachers.

The Holst committee, during the fall of '52, received more cooperation and active participation by both the faculty and students than could ever be recalled by any of the committee members. It is hoped that this spirit will be continued to an even greater extent.
SPRING CAMP-

Highlighting the 1952 Foresters' Spring Campfire was a talk by Warren Wilson, State Conservation Officer from Boone. With his reports of on-the-job experiences and several humorous tales, Mr. Wilson was able to provide keen entertainment for the audience.

The 13th Street addition of Brookside Park was the site for the annual affair. For chow, the traditional beans and wiener (Forester's Turkey) were served, along with potato salad, pop and coffee. From all reports, there was enough food to satisfy the voracious appetites of the foresters.

Dean Floyd Andre was guest of honor.

Chairman for the event was Bob Russell. He was ably assisted by Paul Arrasmith, Max Fulton, Dick Hanisch, Don Larsen and Chuck Miller. The Forestry Wives' Club helped with the serving.
Man, I'll say it was cold! But 130 foresters and guests had a darn good time, anyway. This was the evening of October 16, just two days before Homecoming, so everybody took a few hours off from working on their Homecoming decorations to come to the stag campfire at North Brookside Park on 13th Street.

We started off the evening with games of volleyball and softball. Then, when even using torches and flashlights didn't help us see the ball, we decided it was time to eat. So chairman Al Kuester and his crew sounded "Soup's On!" With wiener, coffee, pop, and featuring "Mother Kuester's Old-fashioned, Home-made Chili," everybody made a real meal for themselves, downing fifteen gallons of chili.

Then, with the department trucks acting as wind-breaks, we all huddled around the fire for the rest of the evening. The speaker, this time, consisted of fourteen of them! Yes sir, each member of the Staff, by way of introducing himself to the new students, gave a brief humorous incident from his work in the field. The masterful job of Onnie Paakkonen as M.C. was noteworthy and helped the program come off smoothly. Sometime, we would like to hear some of the jokes he would liked to have told but couldn't (new developments in the department have made a stag campfire not necessarily "stag"). The evening was finished off by a session of group singing led by Dick Popp. Then, on the way home to get warm again, we all decided this was an evening that was just simply fun.
An Evening of Variety

The speaker of the evening was Jay H. Price, Regional Forester of the Lake States area, who spoke of "Forest Land Use in the Future." He talked of the various services that forests and forest lands provide, and the many problems that arise in reconciling the conflicting uses of them.

Mans Ellerhof, '36, Iowa Superintendent of Forests, and William C. Finley, representative of the American Walnut Manufacturers Association were special out-of-town guests. Dean and Mrs. Floyd Andre of the Division of Agriculture, and other faculty members and their wives were also special guests.

Bill Ritter and Webb Brown were co-chairmen of Ticket sales, and Jerry Smith was the Publicity Chairman. These, along with Hank Haskell, helped make this '52 banquet a big success.

Bear steak constituted the pièce de résistance at the annual forester's game banquet served February 14th, in the Collegiate Presbyterian Church basement. The 188 people in attendance, faculty members and wives, guests and their wives, and club members with their dates and wives, had no trouble at all putting away their share of the bear and some even were able to put away second and third helpings.

General Chairman Hank Haskell did a miraculous job of pulling the fat out of the fire, for until a few days before the banquet he had been unable to get any game. And what, pray tell, is a game banquet without game?
All is not lost when one is looking for a brave, stout hearted woman these days, or at least there must be some hidden away in obscurity in this country, because the foresters seem to find the best consistently. Not only do these women have the courage to marry foresters in spite of the partial exile doing so promises, but they are imbued with the pioneer spirit which prompted them to form the only students' wives' club on the campus.

The Club's program consists of regularly scheduled meetings mainly for entertainment, but also to have a chance to exchange tidbits of household information, gossip, and experiences had "... when we were in fire suppression ...!" The girls are also developing friendships that may last a lifetime.

The latest major development within the club was the acquisition of a new baby girl by the club's president, Mrs. Paul Arrasmith.

Order of business: confab!
"Has your husband told you what silviculture is?"
Texas "town hats," vests, Levis, plaid shirts—all go to make the Hoedown colorful.

"Female" View of the Foresters' Hoedown

NO LACK OF OUTSTANDING MEN AT IOWA STATE

At the Convocation held May 28, at the State Gymnasium, many foresters gained new laurels.

Last year five undergrads were taken into Alpha Zeta, the agricultural honorary including juniors and seniors from the upper two-fifths of their classes selected on the basis of scholarship, leadership and character. These men were Jim Dale, Martin Dale, John Haygreen, Jim Martin and Jim Micklewright.

Gamma Sigma Delta took in Dale Arnold, Jim Dale, Ted Hartman Jr., John Haygreen, Al Hummel, Jim Micklewright, Bill Murphy and Rex Wiant. These were seniors in the upper one-fourth of the class who have shown research ability in agriculture and related departments.

Phi Kappa Phi, the technical-school equivalent of Phi Beta Kappa, initiated the outstanding grad students, Art Eschner and George Thomson. They also took in seniors from the highest one-sixteenth of the class—Jim Dale and Jim Micklewright.

Wayne Scholtes, '39, was honored as a grad student who has given evidence of originality in scientific investigation by admittance into Sigma Xi.

The Society of American Foresters' Award was given to Jim Micklewright. The award consisted of his initiation fee and annual dues for one year for a student membership in the Society, which was paid by the Iowa Chapter. It was awarded on the basis of being an outstanding senior with good qualities of scholarship, attitude and leadership.

The Charles Lathrop Pack prizes for the best essays on forestry subjects were won by:

- Al Barden, 1st .................... $50
- Merl Hemphill, 2nd .......... $25
- Bob Russell, 3rd ................. $15

As a climax to the day, President Friley presented a Certificate to James Micklewright as one of the Honor Students of the class of 1952.

COSTUMES + DANCES + ENTERTAINMENT = THE FORESTERS' HOEDOWN

'Twas the evening of May 2
And all through the club
All the creatures were stirring,
So help me, that's the truth, Bub!

Yes, out at the Ames Country Club, on May 2, 1952, the annual Forester's Hoedown was held. The music was furnished by Chuck Spain and his orchestra. And Chuck really came through for the Club this time with an orchestra that could play the popular tunes as well as the old-time music and square dances. Bob Jones did the calls for the square dances.

Tom Martin was general chairman for the event, and his committee included Leo Mitchell, Bob Russell, Jerry Smith, Bruce Strotman and Merrill Richards.

Entertainment was furnished by Tom Martin and Professor Hartman. They headlined a spontaneous un-rehearsed skit after Glenn Cooper, star of the originally-planned skit, broke his ankle and could not perform.
FORESTRY—
TO THE PUBLIC

By
AL BARDEN

Forestry and forestry work today have the record of being among the fastest expanding industries in the nation. There are many phases of the work which have become major industries in themselves. One of the important parts of forestry work is the education of the public. Education is a big job, no matter how it's approached. There are many age groups and many backgrounds to deal with in putting the information over to the people.

Education is very important to the forestry program that is being carried out by many states and by the federal government. Mistakes in management and utilization can and will be made in the future as they have been in the past. However, by teaching the public the importance of proper management and utilization, many of those mistakes can be done away with at a great saving of money.

Certainly educating the older people, those in business for themselves for many years, is one of bringing actual facts and figures of improvements to them. Then a lot of sales talk is necessary to show why any change from present procedure would be advantageous. There will be changes in equipment and management to face and those changes will probably be an out-of-pocket expense right at the present time. The problem is to show how over a long period of time the change will increase profits.

This problem is solved to a certain extent with younger businessmen. They have the opportunity to attend a forestry school which will give them practical experience in the newer aspects of the profession. This is vitally important to advancement of new developments in the several branches of forestry. As the younger men go into business, they too are good carriers of the better methods of management and new developments in utilization.

The education of men interested in forestry directly enough to take a college instruction course doesn't reach enough of the people of this country. Only a few thousand men have graduated from accredited colleges with Forestry Degrees since the first Forestry Degree was granted. That makes a poor comparison to the total population of 150,000,000 people in the United States. There must be some way of reaching more persons.

A general understanding of forestry by the public will make the job of professional foresters and conservation men much easier. Any legislation that comes before a governing body would be sanely considered with a little more interest than is now shown in it in some places. Too many people think that conservation means no use. However, records show that conservation is wise use of the resources under consideration, be it wildlife, fish, or timber.

If there is no use, the mature trees will die, fall, and decay, thus losing the volume produced. Also in considering recreation in such an area the fallen and rotting timber would present an unattractive place for hiking, hunting, or picnicking. On the contrary, if the timber is used as it shows signs of passing maturity and good health, the forest is kept attractive for sportsmen and picnickers. A return has been realized for the labor that has been put in the forest in harvesting operations and whatever improvements may have been put into the area.

For example, many thousands of acres have been set aside as state forests in the state of Wisconsin. The dead timber is sold to individuals for a low rate to be used by them as firewood. Resale is not permitted and the wood must be removed by the buyer. That wood is of no further value as far as the forest is concerned, but by selling it, the state realizes a return for the use of the land for forest production. The limbs and refuse go back on the land for humus. Another advantage of the sale of timber is the construction of temporary roads throughout the forest. The buyer puts roads through the forest at his own expense. Then in time of emergency, the state can use those roads at no expense to itself.

The mature green timber is cut out also. This keeps the condition of the remaining stand better and maintains its vigor until the next part of the stand reaches maturity. Again this brings money into the state treasuries for more proof that conservation, or wise use, is better management than no use.
These are just a few ways of illustrating that a general knowledge of forestry and conservation is essential to many people. This may not necessarily be only legislators who have the information. Instead the general public, too, should have it. They are the voters who choose the officials of the government and they should have a knowledge of what the candidates stand for in the line of conservation and forestry procedures. However, that is only a minor reason when one stops to think of how important are recommendations the public makes to the legislature concerning wildlife policies.

If the public is well informed, the recommendation is one that will benefit all—the resource and the users. However, a poorly informed public doesn't have enough facts to make an honest evaluation of the situation at hand.

The best way to present information to the public is by distribution of pamphlets and special editions of papers and magazines. Such emphasis brings the topic to the attention of the public and they are ready for the next stage of development to the education program. That would be public service programs on several local radio stations scattered throughout the area where that topic is vital.

These public service programs could be in the form of panel discussions, of debates, or of an interview with someone with a good backlog of information on the subject at hand. In order to be effective, the program should be carefully arranged to hold the most interest for the majority of the listening public. An attempt must be made to keep the programs from becoming boring or too technical for most listeners.

If the area in which the educational program is being carried out is relatively small, boxholders might be sent out. The intensity of the campaign would determine whether meetings would be held formally or whether that would be up to local leaders in conservation and forestry.

This discussion of how to present the facts to the public can be used for forestry work, for wildlife management, or for conservation in general. If it were for wildlife or conservation management some attention should be given to the season at which the information is presented.

Another measure that is occasionally used when the situation is particularly shocking is the "show me" trip. This constitutes taking important and influential businessmen, who have a knowledge of the wildlife or forestry, on trips through areas that typically illustrate the problems. This particular method was used to convince the public in the northwestern United States of the need of thinning the deer and elk herds a few years ago. The herds were growing faster than browse and the animals were literally eating themselves out of house and home.

"Show me" trips were organized from larger cities and important businessmen got a chance to see the starvation first hand. When they got back home, they could see the reasons for wanting open seasons on the animals to bring their numbers down to the rate of growth of the browse. A newspaper editor, a radio station manager, and a banker or real estate dealer are excellent businessmen for the trip. In an occasion such as occurred in the Northwest, where public sentiment must be swayed, those men mentioned above have about as much influence and ability to contact the people as anyone in the community. For reasons of publicity the men or women taken on such a trip should be chosen carefully. The intimidation of this discussion has been that only wildlife could be the object of such trips. That is not true, though less often is it opportune to show disaster in this manner in the forests. The main reason is that timber isn't as dependent on a quick decision to maintain life as is a herd of deer or elk. It can be publicized by the slower methods described earlier in this article and still have time to save the stand from forthcoming great loss.

Such is the job of bringing information to the general public. That covers many of the people in any business for themselves. However, a better program is being set up in some places. That is education on the high school level. Surely if the students have a fundamental education in forestry and conservation when they are graduated from high school, they will be more interested in the program that is set up for adults. That will make a little easier job for the campaigners in adult education. Of course the adult program will have to still be keyed to needs of people who never had the opportunity to get conservation in school.

The high school course may be set up as a general course in conservation and forestry. It may be a series of courses that would run over a period of three or four semesters. Those students who are more interested in the subject should have the opportunity to take more advanced course in their junior and senior years. This advanced work should still be as general as possible, not dwelling specifically on any phase of forestry or conservation work. That would give the students a chance to see what the various kinds of work amount to but the economic side of the picture is considered for the administration.

After the students who are going to become professional foresters or conservationists enter college, there is still time to specialize in the field of their particular choice. That is why the high school forestry and conservation should be kept to general information.

An important part of the class work should be field trips taken any time an observation will strengthen the text and lecture material. Often these trips can be to the school or community forest. A trip might be arranged with an individual land-owner if his property shows the condition under study. Several of these trips should be taken each year for the most effective instruction of the class.

Programs in high schools in which such field trips are taken, are very new where they exist at all. For
example, the first such program in the state of Wis­consin has been set up to begin in the 1952-1953 school year. Merrill High School one of the larger schools in northern Wisconsin, is the originator of the class­room-trip practice.

Conservation and forestry courses have been included in many of the school curriculums throughout the state of Wisconsin. Doubtless it will be but a matter of time before those schools with conservation courses have the trips with classroom study in their plan of instruction.

Most schools of the agricultural region of the midwestern United States don’t have even the general course of conservation and forestry. This includes both the large municipal high schools with thousands of dollars behind their operations, and the small school without funds for the extra instructor the course may require. Iowa is typical of this situation. The main reason is there aren’t many forests in those midwestern states to promote any interest in. Therefore the emphasis is much decreased in this section of the country as compared with emphasis placed on con­servation and forestry in eastern schools.

Many of the schools of the eastern seaboard states have conservation programs included in their educational systems. North and South Carolina, Florida, and New York have these courses in their high schools. An exception to this is New Jersey. New Jersey doesn’t have any conservation or forestry program in its public high school system.

The state of New York also has a ranger school to which high school graduates may go. After taking two years of instruction at the ranger school, the young men are qualified to work as state rangers on any New York state forest. However, a disadvantage is that only residents of New York are eligible for enrollment in the school. This is not an accredited forestry school by the Society of American Foresters.

Wisconsin high schools send groups of students to a spring camp for practical instruction in many phases of forestry work. The camp is operated by a corporation of paper mills and power companies in Wisconsin. Only a minimum is charged for the three day stay at the camp. The group goes on bus trips around the northern part of the state to view industries, watershed control, and wildlife and fish management.

Classes are held in class rooms at the camp in Eagle River during times when no trips are scheduled. A quiz is given at the close of the period at the camp. Those students that pass it, and most of them do, get certificates of attendance at the camp. Two groups of twenty students are at the camp at the same time. When those groups leave at the end of their three days, two groups from another two schools come in and the program starts over again.

The camp runs from about the 20th of March until June 1st for high school students. As the camp was used for high school students only the last four years, the program and capacity have been expanding each year. During the summer and fall, groups of adults come in for tours much like the high school students do in the spring. Those groups are often educators, women’s clubs, and civic groups. Also, a five week conservation course is offered during June and July for training prospective teachers who are attending state schools. Six credits are allowed as an added in­centive for getting people to take the course. Most of the groups of adults go through workshops right at the camp in addition to the trips they take on the buses.

Since its establishment seven years ago as an edu­cational institution, the camp has been a major method of bringing information to the public. The pop­ularity of the camp after each successive season is an indication that those who attended camp spread the knowledge they obtained during their stay. That means the camp is well worth the investment the guiding corporation is putting into it.

After the initial interest in conservation and forestry has been created, high school graduates will attend regular forestry schools for more complete instruction in the field in which they choose to work. The school they choose may depend on several personal control­ling factors. Money available is many times the most important consideration. Other items are the branch of work the student wants to go into, the subjects that are offered, and sometimes the distance from home.

Also a point which is a deciding factor in where the individual goes to school is whether he wants to go to junior college first to get minor subjects out of the way. If so, the decision on where to go is made on much the same basis as one to go directly to a school with four-year courses.

After the choice of schools has been made, the next decision to be made is what particular branch of forestry or conservation the student wants to get into if he hasn’t already decided. Those schools which have only a two-year forestry curriculum don’t have the definite division of the separate branches of forestry. One example of this is the University of Wisconsin.

Schools with four-year curriculums have some distinc­tion between Forest Management and Forest Utili­zation, etc. The schools which have been accredited by the Society of American Foresters have a more distinct division between branches of forestry than do pre-forestry schools.

Forestry is one of the most important industries in the nation and, in fact, the world. Education in con­servation and forestry can make the many branch in­dustries more important yet to the national economy. Management in wildlife would assure the country of plentiful game for the table, for the camera, and for posterity. Better management in forestry will equalize the board foot growth-cutting ratio. Again the public will benefit. But it will be many years before some of these things are accomplished without educational programs. That seems to be the key to a lot of America’s future—Education!
After coping with the Iowa State foresters for eight weeks in 1951, the people of Hiles, Wisconsin, were not too distressed with the new bunch which arrived in mid-June of 1952 and stayed ten weeks. However, the thin scattering of houses over a considerable area gave the appearance that some residents had moved to other lands after hearing of another crop of foresters coming.

As in 1951, the camp headquarters were in a red brick schoolhouse at the center of the metropolis, Hiles (Population about 108). Upon cleaning up the building, it was found to have ample space for student quarters, instructor's rooms, mess hall, kitchen, heads, and classrooms. A warped basketball court, indoor plumbing, showers, electricity and a large wood stove rounded out the facilities.

Course work began immediately. The staff of instructors was composed of Professor Kellogg, Camp Director and national forest operations instructor; and Art Eschner, silviculture instructor; Dr. Bensend, utilization instructor; and Professor Thomson, mensuration instructor.

Although only thirty students went to camp, they were divided into two groups for instruction in silviculture and mensuration. By limiting class size each student was able to get more individual help and participate to a greater extent in actual classwork. While one section took silviculture, the other had mensuration.

N. F. O. and utilization were not split up because there were longer trips taken (including two over night) and speakers and guides obtained. All utilization trips were taken the last three weeks of camp.
FORESTRY 244: MENSURATION

Dry land cruising was the main feature of the course. Professor Thomson spotted the 55 acre cruising area at the 1951 camp, instead of relying on aerial photographs which had produced a muskeg that previous year. Two and three men crews were used. Only two men got lost during the course (the second became lost trying to find the first). A check plot was taken to find out who was a cruiser and who was just another woods walker. “Night work” consisted of making several type and detail maps of the area and finally condensing everything learned in a cruiser’s report.

Biltmore sticks were made for obtaining tree measurements, but other uses for the sticks were whacking porcupines and sword fights. Most of the sticks had battle scars by the end of camp.

New crops of flies came out each week which made life tough for anyone not wearing a hat while cruising. Mosquitoes were of lesser importance, but plenty of 6-12 was being passed around.

Principles of land survey were studied and searches were made for quarter and section corners. Professor Thomson showed us an area which wasn’t surveyed accurately and explained how to correct for it.

For you freshmen that like the outdoor life, this course is your meat. Most of your class time is spent in the forest. Professor Thomson guarantees you plenty of exercise.

FORESTRY 214: SILVICULTURE

Few of us knew the meaning of silviculture before camp, but after an hour on the first session we not only knew its meaning but were putting it into practice.

The first few days were spent studying the trees found in Wisconsin and being able to distinguish between them. We studied many factors affecting their growth. Such factors consisted of soil classification, topography, type and stand classification, age differences, aspects, reproduction studies and other site qualities.

Next we did some silvicultural operations which were of general interest. These operations included selection cuttings of white pine, thinnings of white pine and red pine and pruning of jack pine. We were divided into five-man crews so that each of us could obtain more actual experience.

Our most enjoyable activities during the course were swimming and eating blueberries. Art Eschner was most sympathetic about letting us take a dip in a clear cool lake, provided the day’s work was done.

FORESTRY 234: UTILIZATION

Wisconsin was an ideal state for this type of instruction. Forest industry is well developed and has been for many years.

One of the highlights of camp was experienced the first day of utilization. A trip was made to Neopit, Wisconsin, home of the Menominee Indian Mill. All labor used is at least one-quarter Indian blood. This was the first glimpse of large lumber mill operations for most of us. On the way back to camp we visited a sugar bush—maple syrup production. The product was sampled with pancakes and sausage.

A day was spent at the Rhinelander Paper Company, largest producers of glassine paper in the world. Waste liquor was used to make yeast for animal feed. This operation we also viewed.
Plywood manufacturing was shown and explained to us in detail. Most of it was used for making containers for shipping refrigerators.

Use of kraft and semi-chemical processes for production of corrugated fiberboard boxes was studied. We obtained samples of the products in various stages of manufacture.

Other activities included trips to small wood using industries, an excelsior mill, the world's largest hardwood mill and a small circular mill. At this mill an under-run and over-run study was made.

One of our last trips was to a wood distilling plant at Iron Mountain, Michigan. Charcoal briquettes are one of the main products.

Even though utilization isn't an occupational interest to all foresters, the trips were of value to all of us and the guides that took us through the plants and mills were of high caliber.
FORESTRY 250: NATIONAL FOREST OPERATIONS

Occupations from federal to county level in forest management, as well as private industry, were discussed and explained. Many trips were featured. Being on the Argonne District of the Nicolet National Forest proved of considerable advantage in obtaining speakers and in making field trips.

Our first day we learned the rudiments of fire control from Dick Smith, Argonne District Ranger, and Al Anderson, assistant ranger. Later in the day we put out a “make-believe fire” for demonstration purposes. No actual experience was obtained on fires because of rather wet weather.

Experiments and research in forestry were shown and explained to us by Carl Arbogast of the Northern Lake States Research Center. He also pointed out future problems that must be solved.

Who made that coffee?

And these went swimming.
Other visits with Dick Smith gave us a brief glimpse of a district ranger's job including timber sales and plantations on his district. We asked many questions about Forest Service employment and obtained enough information to weigh the good and bad points of this field.

We learned of the many jobs a forest supervisor and his staff carry out. For this discussion we were fortunate in obtaining Ray Iverson, Assistant Supervisor of the Nicolet National Forest, and Luther Burkett of the timber management staff.

Nurseries have been set up throughout Wisconsin with the main idea of producing small trees to be planted in areas for reforestation or windbreaks. On one we visited, which has been set up by the U.S.F.S., complete functioning of the nursery was explained.

Besides going through the Menominee Indian Mill, we studied their forest management activities. The Indians control the use of their timber because their complete livelihood comes from it.

State and county forest operations were explained. One of the features was a visit to a fish hatchery run by the Wisconsin Conservation Department. Half of our time was spent feeding frogs to "muskies." Another feature was our visit to the Wisconsin Fire Fighting Headquarters. After a brief discussion of its operations we were shown the various types of equipment employed in fighting fires. Even a plane was used for fire detection.

Private industry has realized the need for sustained yield. Several private concerns showed us their methods of keeping sustained yields.

Much of what we learned at the 1952 Summer Camp through experience will stick with us much longer than anything we've learned from textbooks. Trying to understand something without seeing it in action is very difficult and that is where summer camp comes in handy. Although there was everyone from freshmen to graduating seniors at camp, we advise you freshmen to attend this years camp if possible. It will help you tremendously in your coming courses at Iowa State.

We hope you enjoy your camp as we did. Sure, there are lots of reports to write and an occasional bit of hard work, but looking back on camp after a year has passed, only pleasant memories come to our minds which can never be forgotten.
1953 Ames Forester Staff

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<td>Hy-Vee Food Store—112 S. Sheldon</td>
<td>4104</td>
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<table>
<thead>
<tr>
<th>FLORIST</th>
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<tr>
<td>Everts' Flower Shop—208 Main</td>
<td>490</td>
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<tr>
<th>GARAGE</th>
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<td>Earl Holdredge Garage—104 Kellogg</td>
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<tr>
<th>HOTEL</th>
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<tr>
<td>Sheldon Munn Hotel—Main and Kellogg</td>
<td>1900</td>
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<tr>
<th>LUMBER</th>
<th>Phone</th>
</tr>
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<tr>
<td>Ames Lumber Co.—501 Lincoln Way</td>
<td>888</td>
</tr>
<tr>
<td>Hanson Lumber Co.—212 Duff</td>
<td>581</td>
</tr>
<tr>
<td>Munn Lumber Co.—107 E. Main</td>
<td>2</td>
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<table>
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<tr>
<th>MOTEL</th>
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</tr>
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<tbody>
<tr>
<td>El Rancho Motel—Highway 69 South</td>
<td>3686</td>
</tr>
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<tr>
<th>MUSIC</th>
<th>Phone</th>
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<tr>
<td>Eschbach Music House—302 Main</td>
<td>474</td>
</tr>
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<tr>
<th>PHOTOGRAPHER</th>
<th>Phone</th>
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<tr>
<td>Collegetown Studio—109 Welch</td>
<td>49</td>
</tr>
<tr>
<td>Hills Studio—2530 Lincoln Way</td>
<td>347</td>
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<th>PRINTING</th>
<th>Phone</th>
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<tr>
<td>Graphic Publishing Co., Inc.—Lake Mills, Iowa</td>
<td>303</td>
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<table>
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<tr>
<th>RESTAURANTS</th>
<th>Phone</th>
</tr>
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<tbody>
<tr>
<td>L-Way Cafe—2418 Lincoln Way</td>
<td>1819</td>
</tr>
<tr>
<td>Neiswanger's Cafe—121 Welch</td>
<td>3041</td>
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<th>SERVICE STATION</th>
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<tr>
<td>Rex Service Station—Lincoln Way and Franklin</td>
<td>3225</td>
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<th>SHOES</th>
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<tr>
<td>Trueblood Shoe Store—2544 Lincoln Way</td>
<td>21</td>
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<th>SOFT DRINKS</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ames Bottling Works—105 Kellogg</td>
<td>1731</td>
</tr>
</tbody>
</table>
Alumni Directory

EDITOR'S NOTE: If you have information concerning the whereabouts of any of the alumni whose addresses are "Unknown," the editors of the AMES FORESTER would appreciate hearing from you.

MAST, W. H., Davenport, Iowa. 1900
H. Mast Nursery.
1904

1907

BALTHIS, R. F., Vicksburg, Miss. Retired.
1908

1909

HAEFFNER, H. E., 4242 N. E. Failing St., Portland 13, Ore. Chief Forester, St. Helen Pulp and Paper Co.
1910

ALLEN, SHIRLEY W., 820 Daniel St., Ann Arbor, Mich. Professor of Forestry, School of Forestry and Conservation, University of Michigan.
1911

BARRETT, R. L., 323 S. Ripley St., Neosho, Mo. District Agricultural Agent, University of Missouri.
1912

FREEMAN, FRANK G., 1928 Greenleaf St., Santa Ana, Calif. Insurance.
1913


KOEPKE, W. C., Address Unknown.

RAT, F. E. Address Unknown.

REYNOLDS, L. A., 8319 33rd St. N. W., Washington, D. C. Senior Agricultural Economist, USDA.

SMITH, P. T., 107 23rd St., Sioux City, Ia. Manager, Animal Feed Department, Cudahy Packing Co.


1914

LESSEL, L. R., 501 E. 19th St., Silver City, Ariz. Retired.

O'BANION, A. C. Fortille, Minn.


RICHMOND, H. H., Cass Lake, Minn. Timber Producer.

SMITH, WILLIAM A., Address Unknown.


CLARK, H. B., 5001 Nicholas, Omaha, Nebr. District Manager, A. E. Robinson Co., Irrigation Engineers.

HENSEL, R. L., Department of Range Management, Texas A. & M. College, College Station, Texas. Pasture Investigations, Texas Agricultural Experiment Station.

RINGHEIM, H. I., 2936 29th St. S. W., Calgary, Alberta, Canada. Retired.


WATTS, LYLE F., 5650 N. E. Sandy Crest Terrace, Portland 13, Oregon. Retired. Chief USFS.


HAYES, RALPH W., Louisiana State University, Baton Rouge, La. Director, School of Forestry.

NAGEL, WILLIAM M., 1728 Maurice Ave., Missoula, Mont. Retired.

STERRETT, JOHN C., 249 S. Villa Ave., Villa Park, Ill. Real Estate.


BODE, I. T., Jefferson City, Mo. Director Missouri Conservation Commission.

HANSEL, H. E., 1406 A. Ave. W., Oskaloosa, Ia. Mahaska County Engineer.

HARLEY, WM. P., 1506 Park Ave., S. W., Albuquerque, N. M. President, J. C. Baldridge Lumber Co.


SMITH, R. P., Address Unknown.

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1916

1917
CORNELL, HARVEY H., Old Santa Fe Trail, R. 3, Santa Fe, N. M., Regional Landscape Architect, National Park Service.

1918
GEISLER, MAX, 925 Wesley Ave., Evanston, Ill. Advertising Manager, Harry Ater Co.

1919
JONES, G. C. Address Unknown.

1920
McCArTHY, C. C., Webster City, Ia. City Manager.

1921
HARTMAN, GEORGE B., Ames, Iowa. Head of Forestry Dept., Iowa State College.

1922
HENRY, A. S. Address Unknown.

1923
QUINT, J. HARLEY, 611 Olmstead Drive, Glendale, Calif. Dentist.

1924

1925

1926
MOORHEAD, JOHN W. Address Unknown.

1927
MORRELL, FRED W., 3121 Oxford Road, Madison, Wis. Products Laboratory, Technologist, Division of Industrial Investigations.

1928
DONAHOO, JOHN F. Address Unknown.

1929
HADLOCK, FRANK D., B. J., Stauton, N. J., Engineer, Western Electric Co.

1930
REIDMAN, THEODOR W., 210 37th St., Des Moines, Iowa. Real Estate and Investment.

1931
BAKER, C. J., 5308 Clifton Ave., Minneapolis, Minn. Teaching.

1932

1933
FLETCHER, A. A. Address Unknown.

1934
HOYER, C. B., Box 325, Cottage Grove, Ore. Public Accountant.

1935
LOY, ELMER C., 816 Willowood Ave., Kelispell, Mont. Owner, Cleaning Establishment.

1936
MOORHEAD, JOHN W. Address Unknown.

1937
MORRELL, FRED W., 707 Beverly Drive, Alexandria, Va. Forester, American Pulp and Paper Co.

1938

1939

1940
CORMANT, C. P., 305 W. Washington St., Chicago, Ill. Lumber Man, Bloodel, Stierer, and Welch, Ltd.

1941
LING, WEN M., Chengtu, Szechuan, China. Vocational Agriculture, University of Nanjing.

1942

1943
EGGERS, W. C., 1057 35th St., Des Moines, Ia. District Sales Representative, Wood Preserving Division, Long-Bell Lumber Co.

1944
FENNELL, R. E., 5583 E. Michigan, Indianapolis 19, Ind. Agent Prudential Insurance Company of America.

1945

1946
MORRIS, R. D., Box 351, Tucson, Ariz. Assistant Supervisor, Coronado National Forest.

1947
POELE, EDWIN, 1402 S. First St., San Jose, Calif. Owner-Manager, Southern Lumber Co.

1948
BOGEN, A. J. Address Unknown.

1949
DUNN, P. H., Oregon State College, Corvallis, Ore. Dean, School of Forestry.

1950
PROUT, CLARENCE, 5552 24th Ave. S., Minneapolis 6, Minn. Director, Division of Forestry, Minnesota Department of Conservation.

1951
TREN, FRED B., 2606 Gregory St., Madison, Wis. State Extension Forester, University of Wisconsin.

1952
WATKINS, R. W., 4325 W. Lobelia St., Portland 1, Ore. Bureau of Construction, Public Works Department.

1953
MARTIN, CHESTER W., Old Lyme, Conn. Nurseryman.

1954
MILLER, ALLEN F., Box 411, Sonora, Calif. Supervisor, Stanislaus National Forest.

1955
RUTTER, FRANK J., 2310 N. Racine Ave., Chicago, Ill. Hus Lumber Co.

1956

1957
DURRELL, G. R., Oklahoma A&M College, Head, Department of Forestry, Stillwater, Okla.

1958
HOLLAND, JOSEPH H. Address Unknown.

1959
LOUGH, WM. M., 55101 Cerises Ave., Long Beach, Calif.

1960

1961

1962

1963
FARNSWORTH, C. E., 5559 S. Salina St., Syracuse 10, N. Y. Professor of Silviculture, College of Forestry, State University of New York.

1964
GREET, C. H., Box 749, Amarillo, Texas. Sales Manager, Oliver & Wiggins Lumber Co.

1965

1966

1967

1968

1969

1970
McKENNAN, R. B., Denver, Colo. Assistant Regional Forester, U. S. Forest Service.

1971
MEYER, R. E., 4419 N. Academy St., Galesburg, Ill. Packaging Engineer, Chicago Mill & Lumber Co.
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BRADFORD, MORSE V. Address Unknown.

COOK, H. C., FREDERICK, Drawer "D," Gatun, Canal Zone. All Weather Estate (Rubber Plantation).

CORNWELL, W. G., Pender, Nebraska. Clerk, U. S. Post Office.


DAVID, D. E., 224 E. Grand Ave., Des Moines, Iowa. Shipping Foreman, J. Herbert Bate Lumber Co.


EHRENHARD, CLARENCE. Address Unknown.

FOLLEN, W. F., Jackson, Miss. Warren Wood Lumber Co.


KINNAR, CLARENCE F. Address Unknown.

LEWIS, W. C., Hopedale, Mass. Manager, Bobbin Dic., Draper Corp.

OVERBY, J. F., Box 2, Marble Rock, Iowa. Teaching, Marble Rock High School.

PATTERSON, A. E., Athens, Georgia. Professor, School of Forestry, University of Georgia.

SADDORE, T. J., 1525 Liberty St., Franklin, Pa. Staff Engineer, Chicago Pneumatic Tool Co.


SMEJER, A. W., Parkdale, Oregon. Kimberly Clark Sales, Mount Hood, National Forest.

SMITH, H. M., Seneca, Oregon. General Sales Manager, Meeker National Forest.


TOW, EDWIN, 1649 Filer St., Dubuque, Iowa. Manager, Wage Incentive Standards Department, Farley & Loetscher Manufacturing Co.

WERNER, HUGO B., 603 S. Story, Boone, Iowa. Partner, Danner Corp.


1938

BAKER, R. C., 1738 Davison Road, Richland, Washington. Junior Engineer, General Electric Corp.


CUMMINGS, R. E., Box 51, Camden, South Carolina. Consulting Forester, Ernest Dykstra, Senior Engineer.


FERGUSON, L. W., 101 Hillside Drive, Fort Lee, Virginia. Manager, Fort Lee Lumber Co.


GUSTINE, C. S., 625 Harden Drive, Lebanon, Oregon. Production Engineer, Cascades Plywood Corporation.


HOPPENADEL, S. E., 1210 E. Locust St., Davenport, Iowa. Designer, American Machine & Metals, Inc.

HOTCHLICK, J. D., 217 Patterson Building, Denver, Colorado. Traveling Freight and Passenger Agent, C.M.S.F.T.C.P. By.

HUGHES, R. H., Box 354, Plymouth, North Carolina. Range Conservationist, Southeastern Forest Experiment Station.

HUNTINGTON, E. M., Address Unknown.

JONES, F. N., Beloit, Wisconsin. Department of Botany, Beloit College.


KIELLEDSTEDT, PAUL A. Address Unknown.


LARSON, M. D., 1410 West Scott, Independence, Missouri. Supt. Industrial Relations Co.

LISCHER, WARREN J., Rt. 2, Red Oak, Iowa. Farming.

McINTOSH, T. F., 641 Oak Building, Bangor, Maine. Forest Engineer, Northeastern Forest Experiment Station.


MILLER, ROGER E. Address Unknown.

MULLEN, F. H., Box 37, Donnellson, Iowa. Farm Planner, Soil Conservation Service.

PETERS, C. W. F. Address Unknown.


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RAUM, HANS, 225 Spring St., Lexington, Miss. Mississippi National Forest

1947

ALLEN, R. M., R. L. Box 154, Saucier, Miss. Research Forester, Southern Forest Experiment Station.
BRECKENRIDGE, GEORGE, Raith, Ontario, Canada. District Superintendent, Abiibi Pacer & Paper Co., Ltd.
BRIDEN, D. C., 3605 Claude Ave., Sioux City, Ia. Teaching.
CAMPBELL, J. G., Salem, Ore. Technical Assistant, State Board of Forestry.
DANIELSON, W. W., Box 410, Koscisnko, Miss. Park Ranger, Natchez Trace Parkway.
DIRKS, R. J., 500 N. Beckwith, Malden, Mo. Farming.
FISHER, R. H., JR. Address Unknown.
HAHN, O. M., 105½ E. Bremer, Waverly, Ia. Office of County Engineer.
HALBROOK, H. L., 9718 King Street, Independence, Mo. Allied Finance Sales Co.
JACK, R. C., Box 37, Wallowa, Oregon. Assistant Forester, J. Herbert Bate Co.
KUCERA, C. L., Columbia, Mo. Botany Department, University of Missouri.
KUHNS, P. S., 3101 Holder Road, Independence, Mo. Assistant Superintendent, Americans Cressing Co.
LANGE, J. R., 9718 King St., Franklin Park, Ill. Senior Forester, Cook County Forest Preserves.
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MAYER, C. E., 2305 N. E. 56th St., Portland 13, Ore. Forest Supervisor, Pacific Northwest Forest & Range Experiment Station.
THOMSON, GEORGE W., 224 Howard Ave., Ames, Ia. Instructor, Dept. of Forestry, Iowa State College.
HANSON, R. H., Tofte, Minn. Assistant Ranger, Superior National Forest.
SKVARIL, WARREN. Address Unknown.
GALEY, C. D. Address Unknown.
Conservation Comm.
1946
DOOLITTLE, W. T., 13D Coleman Apartment, Ashville, N. C. Research Forester, USFS, S. E. Experimental Station.

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MEIERSTEIN, GEORGE W., Flatte, So. Dak. Forester, U. S. Army Engineers.
MONTGOMERY, J. B., 7301 4th Ave., S., Minneapolis 19, Minn. Sales Representative, Long-Bell Lumber Co.
MOSS, R. A., Oakdell, Nebraska.
MOORHOUSE, E. J., Box 120, Anchorage, Alaska.
MCDONALD, R. A., Oakdell, Nebraska.
MENDELSON, HERBERT, 2824 W. Farragut St., Chicago, Ill.
MUNGER, R. J., 850 Tucu Ave., Dover, Ohio. Farm Forester, Ohio Department of Natural Resources.
PATTON, J. C., 2510 Wayne St., Bellvieu, Nebr. Forester, U. S. Army Engineers.
PAULSEN, HAROLD A., Las Cruces, New Mexico. Southwestern Forest & Range Experiment Station.
PAULSEN, HAROLD A., Las Cruces, New Mexico. Southwestern Forest & Range Experiment Station.
RUBEN, J. M., 901 W. 2nd St., North Platte, Nebr. Assistant City Engineer.
RAFTERS, W. W., Mancos, Colo. San Juan National Forest.
WHITE, R. A., Houston, Mo. Mark Twain National Forest.
WILLSON, C. L., Chelburn, Ia. Sale Representative, Long-Bell Lumber Co.
WISNER, R. E., 1949 First St. E., Mason City, Ia. U. S. Forestry Service.
CHURCH, H. E., Crosby, Miss. Coordinator, Pine Beetle Project, Msa. Forestry Service.
CLARK, E. P., 481 Finley, Dubuque, Ia. Western Auto Supply Co.
CRAVEN, W. H., 33 Richardson Road, Warren, Ark. Forest, Southern Lumber Co.
DEWEY, R. E., 3741 Kencrest Dr., N. E., Cedar Rapids, Ia. Soil Conservation Service.
DOWD, L. W., Box 3, Chewelah, Wash. Soil Conservation Service.
Ewers, K. F. Address Unknown.
HARTMAN, GEORGE B. JR., Hines, Ore. Assistant Forester, Edward Hines Lumber Co.
HILL, R. M., Perry, Ia. Farming.
Hootman, W. D., Coos Bay, Ore. Division of Forestry, Bureau of Land Management.
JOHNSON, A. W., Catalla, Texas. Soil Conservation Service.
LITWICKI, W. J., Kremmling, Colo. Assistant District Ranger, Arapaho National Forest.
LORENZ, K. A., Pierce, Nebr. County Extension Director.
McCaron, D. H., Durango, Colo. San Juan National Forest.
MENDELSON, HERBERT, 2824 W. Farragut St., Chicago, Ill.
MUNGER, R. J., 850 Tucu Ave., Dover, Ohio. Farm Forester, Ohio Department of Natural Resources.
POLLARD, G. W., Maxines, New Mexico. Section of Applied Botany & Plant Pathology, Illinois Natural History Survey.

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LITWICKI, W. J., Kremmling, Colo. Assistant District Ranger, Arapaho National Forest.
LORENZ, K. A., Pierce, Nebr. County Extension Director.
McCaron, D. H., Durango, Colo. San Juan National Forest.
MENDELSON, HERBERT, 2824 W. Farragut St., Chicago, Ill.
MUNGER, R. J., 850 Tucu Ave., Dover, Ohio. Farm Forester, Ohio Department of Natural Resources.
POLLARD, G. W., Minmres, New Mexico. Section of Applied Botany & Plant Pathology, Illinois Natural History Survey.

YOUNKERS
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LITWICKI, W. J., Kremmling, Colo. Assistant District Ranger, Arapaho National Forest.
LORENZ, K. A., Pierce, Nebr. County Extension Director.
McCaron, D. H., Durango, Colo. San Juan National Forest.
MENDELSON, HERBERT, 2824 W. Farragut St., Chicago, Ill.
MUNGER, R. J., 850 Tucu Ave., Dover, Ohio. Farm Forester, Ohio Department of Natural Resources.
POLLARD, G. W., Minmres, New Mexico. Section of Applied Botany & Plant Pathology, Illinois Natural History Survey.
ZAIDLICZ, EDWIN, 615 S. Jackson St., Roseburg, Ore. Assistant Chief, Forestry Division, Bureau of Land Management. 1950
ADAMS, E. B., 823½ E. Wausau St., Wausau, Wis. Underwood Veneer Co.
ANDERSON, A. E., Cook, Minn. Forester, North Star Timber Co.
ANDERSON, GORDON K., Pringlham, Ia. Northern Natural Gas Co.
BARKER, D. V., 702 Lynn Ave., Okla. A. C. Houston Lumber Co.
BARNES, C. C., Box 37, S. Forks, Colo. Assistant Ranger, Rio Grande National Forest.
 BLAISDELL, ALFRED, JR., 4608 N. Wilson Drive, Shorewood, Wis. Draftsman, Square "D" Co.
BRADBURY, E. C., 4608 N. Wilson Drive, Shorewood, Wis. Draftsman, Square "D" Co.
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FYE, D. J., Valley, Nebraska.
GABRIELSON, O. U., Jewell, Ia.
GLEYSON, L. S., Ames, Ia. Graduate Student, Department of Botany, Iowa State College.

Zaidlicz, Edwin, 615 S. Jackson St., Roseburg, Ore. Assistant Chief, Forestry Division, Bureau of Land Management. 1950
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Barnes, C. C., Box 37, S. Forks, Colo. Assistant Ranger, Rio Grande National Forest.
Blaisdell, Alfred, Jr., 4608 N. Wilson Drive, Shorewood, Wis. Draftsman, Square "D" Co.
Brabham, W. C., Wallingford, Ia. Unit Game Manager, Iowa Conservation Commission.
Braddy, D. L., P. O. Box 27, McNary, Ariz. Southwest Lumber Mills, Inc.
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Finch, C. D., 1526 Seneca St., Webster City, Ia.
Finley, J. A., Star Route, Box 393, Oakridge, Ore. Willamette National Forest.
Fixsen, W. G., Box 36, McGrath, Alaska. District Forester (District V) Division of Forestry, Bureau of Land Management.
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JIRSA, D. E., Box 681, Gallup, N. M. Assistant District Ranger, Cibola National Forest.
JONES, R. E., 1417 E. Washington St., Joliet, III. Forester, Public Service Company of Northern Illinois.
KATOVICH, ALEXANDER, 321 Wyatt Ave., Wisconsin Rapids, Wisc. Wisconsin Conservation Department.
KUEFNER, W. H., 8430 San Miguel Ave., South Gate, Calif. Finkkote Co. (Pioneer Division).
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FORNEY, HARRY J., 11, Carlisle, la. U. S. Army.
HAAS, RICHARD E., Manning, S. C. Forestry Aids, Inc. (Consultants).
HANSEN, NORMAN J., Ames, la. Graduate Student, Dept. of Forestry, Iowa State College.
HERTZBERG, G. R., Ames, ia. Graduate Student, Dept. of Forestry, Iowa State College.
HOEKSTRA, PIETER, Address Unknown.
HORAK, FRANCIS J., Silver Springs, Maryland.
IMFELD, D. A., 4063 N. Adams St., Indianapolis 5, Ind. Hoosier Veneer Co.
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LYNN, ARTHUR E., McNary, Ariz. Forester, Southwest Lumber Mills, Inc.
MCAINICH, C. D., Warrenton, North Carolina, Box 237. Lumber Inspector-Buyer Va-Carolina (Hardwood Producers).
MCCULLIN, FRED W., Robbs, Ill. Assistant in Forestry Research, Dixon Springs Agriculture Experiment Station.
MARSH, RICHARD C., Sioux Rapids, la. U. S. Army.
MERRITT, R. W., 5004 Parkway Terrace Drive, S. E., Apartment 9, Washington, D. C. National Hydrographic Service Office.
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CAMPEX, E. R., 203 N. Rolla, Eureka, Ill. U. S. A. F.
CARTWRIGHT, J. B., Waterloo, la. Iowa Highway Commission.
COCHRAN, T. E., Box 132, Ortung, Wash. Forester, St. Paul & Tacoma Lumber Co.
CONNOR, R. C., Opekisat, Inc., Hamilton, Ohio. Forester, Farm Management Co.
DALE, J. E., 143 Sheldon Ave., Ames, Ia. Graduate Assistant, Dept. of Forestry, Iowa State College.
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MICKLEWRIGHT, J. T., 157 Rodney Court, Madison, Wis. Wood Technology, Forest Products Laboratory.
NELSON, J. P., 2136½ King St., La Crosse, Wis. U. S. Army.
NEUBERG, G. G., 1450 S. Birch St., Denver, Colo. Factory Representative, West Coast Mills.
PROEGER, L. P., #2 Veterans Housing, Tama, Ia. Iowa Wood Preserving Co.
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TOBIASKI, R. A., 2301 Bowar St., Vicksburg, Miss. Southern Forest Experiment Station.
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