



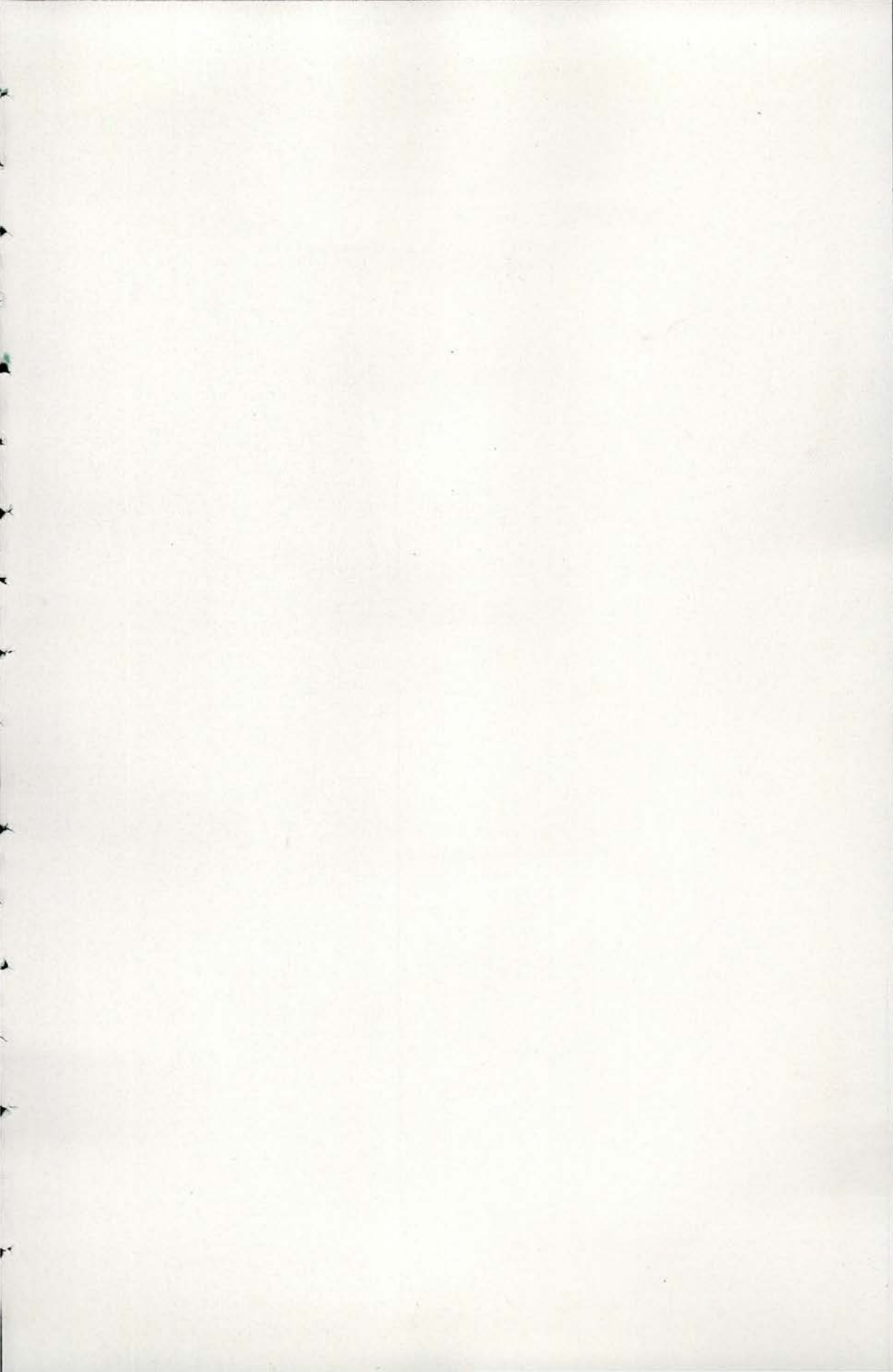
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students, and everyone else
who made this publication of the
Idaho Forester possible.

---Editor

THE IDAHO FORESTER



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TABLE OF CONTENTS

	Page
FEATURE ARTICLES	
The Forest Service and the Park Service Work Together, Rosalie Edge.....	4
RANGE AND GAME MANAGEMENT	
The Place of Range Management in Soil Erosion in the Western States, W. R. Chapline	7
The Role of Range Management in Erosion Control, Reed W. Bailey.....	9
The Place of Range Management in Erosion Control, H. H. Bennet.....	10
Grazing and Conservation, R. H. Rutledge	11
Opportunity for Cooperation Between Federal and State Governments in Wildlife Restoration, Ira N. Gabrielson	12
Opportunities for Cooperation Between the State and Federal Government in Wildlife Restoration, Newell B. Cook	13
WOOD UTILIZATION AND PRODUCTION	
Opportunities for Cooperation Between the Forest Service and Private Industry, W. B. Greeley	15
Opportunities for Cooperation Between the Forest Service and Private Industry, G. D. Cook	16
Chemical Utilization of Wood and Its Relation to Forestry	17
IN MEMORIAM	18
GRADUATING SENIORS	20
IDAHO FORESTER STAFF	26
SCHOOL NEWS	
The Associated Foresters, John Peterson	28
Forester's Ball, Jack Buffat	29
Forestry and Conservation Week, Nelson Jeffers	29
The 1939 Summer Camp, Chet Southam	32
The Foresters' Bonfire, William W. Read	32
Leader Duck, Otto Baltuth	33
Range Party, Arthur Peterson	34
Foresters' Banquet, Bob Harris	34
The Spring Barbecue, Joe Harle	35
Our Own Paul Bunyan, Leon R. Nadeau	35
Xi Sigma Pi	37
Faculty	39
GRADUATE STUDENTS	
The Graduate Students, Ben Spencer	42
ALUMNI DIRECTORY	48



Dean D. S. Jeffers

DEDICATION

To The Faculty
who for four years have guided the destiny
of the forestry students
and this year graduate their first group to
be completely under their direction.

The Forest Service and the Park Service Work Together

ROSALIE EDGE

Emergency Conservation Committee, New York,
N. Y.

When the U. S. Forest Service and the National Park Service work together for the protection of forest and wilderness, conservationists must indeed rejoice. "The dove of peace has spread its wings over both bureaus," said Secretary Ickes at the recent Hearings on the Gearhart Bill (H.R. 3794) to establish the John Muir-Kings Canyon National Park.

I was present at the Hearing, and heard Mr. Ickes, in answer to questions by Congressmen, state the forest protection policies of the National Park Service, a bureau of the Department of the Interior. Following the testimony of Mr. Ickes, the same questions were asked of Mr. F. H. Silcox, Chief Forester of the U. S. Forest Service of the Department of Agriculture and were answered by him with equal clarity. With great simplicity, the two officials explained to the Congressmen the independent but cooperating purposes of the two bureaus, and under what circumstances public lands could best be regulated under the guardianship of one bureau or the other.

There were clear-thinkers among the Congressmen at the Hearing, men determined to understand the matter before them, and not ashamed to ask the most elementary questions. Many of these members of the Public Lands Committee knew little of the functions of the two bureaus, the Park Service and the Forest Service. Ignorance of these simple matters of civics has in the past hampered the two bureaus, and created a situation favorable to envy, hatred and malice, and too often *all* uncharitableness. During many years, a state almost of war has existed between the Forest Service and the Park Service, and the subordinates of the two services have lined up with all the antagonism of Capulets and Montagus. But when the high officials met, and stated in simplest terms the functions of the two services, it was clear that there was no inherent jealousy or enmity, no conflict of purpose.

The function of the Park Service and that of the Forest Service is clearly stated by Secretary Ickes in a recent publication,* as follows:

"Part of the duty of our government is to save the finest forests that are still left in America, of this centuries-old primeval growth. The way to save them is to turn such forests into national Parks. Judging from the rate at which forests are being cut, it is probable that in a hundred years the only important remnants of the virgin forest to be found anywhere in the country will be in national parks.

"It is also a duty of the government, and one of its most important duties to preserve and manage forests for commercial use, to protect the headwaters of streams, and to reforest the lands that are more valuable for trees than for agriculture. The way to do this is by maintaining national forests. Trees in these forests, if not needed to prevent erosion, will be cut, and will grow again, but will never reach the magnificent size of the trees in the primeval forests.

"Both of these great policies need the support of the people."

offer recreational opportunities to the public. (A pest on the word *recreation*!—when used to designate highest spiritual values, values which are to many a true re-creation of mind and body.) Mr. Silcox makes it clear that the supervision of "recreation" is forced on the Forest Service. The National Forests are free to the public, for camping, for hunting and fishing, for hiking and climbing; camps, sanitary arrangements and other facilities must be provided. The Forest Service takes good care of its visitors, but "recreation" is a side issue, and not the chief purpose of the Service.

Re-creation is rightly a first objective of the Park Service, whose purpose is to protect in primeval beauty outstandingly magnificent examples of Nature's grandest handiwork, including forests. Including forests, for what is there in all the world that excels in beauty, or surpasses

**Our Nation's Forests*, by Rosalie Edge: Introduction by Harold L. Ickes, Secretary of the Interior. Published by the Emergency Conservation Committee, New York, N. Y.

Besides the protection of forests, both services

in grandeur the primeval forest, and the wild life that it cherishes?

So, as explained to the Congressmen, the Forest Service and the Park Service should and do divide between them the care of our nation's forests. The Forest Service holds a sacred trust. With the exception of a few tribes of the frozen north, *man cannot live without trees*. Silviculture is the province of the Forest Service, and its foresters are ably following their high calling.

But forests protecting steep watersheds must not be cut; one rain may wash away the topsoil that has taken ages to acquire. Nor should primeval forests be cut. Their value, living, is far more than can be computed in boardfeet and dollars. Our virgin forests are the glory of our country. It seems unworthy to emphasize the money they bring to us in tourist trade; this is a common fact that anyone can see. Alas! I am no poet to describe the value of these forests to the soul of the nation. Go yourselves to the forests, stand in the aisles of the forest temples, and learn that which no words can describe.

Only by protection in national parks are these forests (humanly speaking) safe. The national parks are established by Act of Congress, and only an Act of Congress can change their status or their boundaries. We can protect our national parks if we have the will, though eternal vigilance be the price. Our legislators will respond to our wishes, when we make our wishes emphatically clear.

The National Forests also protect wilderness areas, designated as Primitive Areas, where no cutting may take place during the time that the area is so designated. But the sole protection of these areas lies in an order signed by the Secretary of Agriculture, and an order signed today may be rescinded tomorrow. And no Secretary is immortal; another administration will bring another Secretary. Government officials, furthermore, share human frailties common to us all—but how many of us private citizens really understand the power of commercial interests which is brought to bear on public officials? Is it fair to submit a man to this pressure? Frankly, is it the best way to protect our primeval forests? Certainly not. Here it is evident that the Chief of the Forest Service is agreed. When it was proposed to protect the virgin forests of the Olympic Penin-

sula, by transfer from the Forest Service to the Park Service, the Olympic Forest was established with the cooperation of Chief Forester Silcox.

I should like to ask two questions which readers of the *Idaho Forester* are competent to answer. Does not the accent on the separate functions of the Forest Service and the Park Service bring a double interest to the study of forestry? Have not foresters specialized too long on commercial forestry to the neglect of forestry for the preservation of virgin forests?

It would seem that while some foresters would serve best in commercial forests, others would find themselves peculiarly fitted for the protection of primitive ecological conditions. I hope for further discussion on this point.

It is certain that harmony between the Forest Service and the Park Service will benefit the profession of forestry. When in the future, the Forest Service gradually transfers to the Park Service, as we believe it will, certain areas of magnificent virgin forests which best can be protected within national parks, it will find itself more free to reforest cut-over lands within the National Forests. Free from the pressure of the lumber interests which seek to destroy virgin forests, the Forest Service will have a greater incentive toward reforestation, through the necessity of growing lumber for the future needs of the nation—instead of destroying the never-to-be-replaced virgin forests. And with areas suitable primarily for "recreation," like Kings Canyon, transferred to the national parks, the Forest Service can concentrate on its function of forestry.

Meanwhile, protection of the primeval wilderness in the national parks is assured by the determination of the Park Service that roads and hotels shall be excluded from wilderness areas. No hotels are to be allowed in the Olympic Park, and the very minimum of roads. With the exception of one road on the Canyon floor, only trails will serve in Kings Canyon, if made a national park. Let us hope that the concessionaire system, fastened on the older parks by Acts of Congress, may soon be done away with by new Acts of Congress.

Conservationists may expect a new era of "real" conservation now that a spirit of harmony exists between the U. S. Forest Service and the National Park Service.

RANGE MANAGEMENT



Dr. V. A. Young

The Place of Range Management in Soil Erosion in the Western States

W. R. CHAPLINE

*Chief, Division of Range Research, U. S. Forest
Service, Washington, D.C.*

The terrific wastage from soil erosion on western range lands must be halted. With approximately 590 million of the 728 million acres of range land in the West eroding abnormally in some degree, the enormity of the erosion control problem is almost beyond comprehension. Urgency in the solution of this problem is added by the

important and will aid materially, especially large dams and channel control works in rivers, small dams, settling basins, and other works in the tributaries, and contour trenches on critically depleted watershed areas. Abnormal soil erosion is, however, the result of excessive surface run-off or exposure to high winds on exposed slopes. Engin-



fact that a vast livestock industry, supporting tens of thousands of farm and ranch homes, is dependent upon the use of western range lands, and that a large part of the wool, mohair, hides, and meat utilized annually by the nation comes from the range territory, where range lands furnish 65 per cent of the feed for all livestock.

Engineering works have been suggested and frequently tried in erosion control. These are

engineering measures will prove measurably ineffective and of but temporary value unless rapid run-off can be controlled at its source on the watersheds and resistance to high winds becomes effective. The problem is chiefly one of restoring a satisfactory plant cover on deteriorated ranges and of maintaining this cover in good condition.

The most valuable erosion control agent of all is the herbaceous, shrub, and forest vegetation

growing naturally over the entire area, to the degree that misuse has not destroyed its influence. All that is needed is a system of utilization and management that will restore the plant cover and permit it to function effectively.

Vegetation lessens the force of rainfall and intercepts part of it, thus obstructing run-off, reducing the velocity of flow, and lessening the carrying power of the water; it catches soil particles which tend to form miniature terraces on slopes and dams and to fill in small gullies. Vegetation and accumulating litter improve soil structure, increasing its mellowness and porousness, allowing greater moisture penetration; they increase the water-holding capacity of the soil by increasing organic matter; they bind the soil and help to keep it in place.

The more complete the plant cover, the more adequate is the protection against wind or water erosion. This is well illustrated in experimental tests by the Intermountain Forest and Range Experiment Station with artificial rainfall apparatus on the Boise National Forest in Idaho. The wheatgrass type, the optimum range cover on the granitic soils of that watershed, supports a plant cover occupying but 35 per cent of the soil surface. This is, however, an effective cover since the extensive fibrous root system of the bunchgrass spreads through a much greater proportion of the upper soil. This plant cover when not heavily grazed was sufficient to check run-off, and made possible practically complete absorption of rainfall in intensities of 1.8 inches per hour or twice that intensity for a 30-minute period. Under such intensities, which are considered cloud bursts in that area, erosion in the wheatgrass area was hardly measurable. Under the same storms range cover deteriorated by past abuse was unable to prevent erosion. The lupine-needlegrass stage of deterioration, having a plant cover density of about 30 per cent, permitted, on the average, approximately 50 per cent of the applied rainfall to run-off and nearly 5,000 pounds of eroded material per acre was removed. The annual weed type, an advanced stage of deterioration, produced 150 times more run-off and 2,500 times more erosion than the wheatgrass type. Nearly eight tons of soil per acre were removed on the average from this weed type by the applied rainfall.

If range management is applied on a depleted area, the vegetation present will gradually spread, slowly increasing the organic matter and plant foods in the soil. Short-lived species will be replaced by perennials and better soil-binding plants

and as the fertility of the soil is further improved the more permanent type of perennial forage plants will become established.

The value of this in controlling erosion is indicated by another experiment of the Intermountain Station on high mountain watersheds on the Wasatch plateau in Utah. Past overgrazing had depleted the vegetative cover on one experimental watershed until vegetation occupied only about 16 per cent of the surface. An average of eight to nine tons of soil was eroded annually from each acre between 1915 and 1920. From 1920 to 1923 plant cover was restored as rapidly as possible by artificial and natural reseeded until an average cover of 40 per cent was attained, which has since been maintained under light or moderate grazing restricted to the fall of the year. By comparing results from this watershed with those from a check watershed on which a cover of about 40 per cent was maintained by proper grazing management from 1915 to 1935, it was found that whereas 5.4 times as much erosion occurred on the depleted watershed during the period 1915 to 1920 only 2.5 times as much occurred during the period 1924 to 1935 after it had been fairly well restored. Since 1936 the check watershed has been overgrazed and the plant cover reduced to a density of about 28 per cent. The originally depleted watershed, however, has continued to have its plant cover maintained since 1936 at about 40 per cent. The erosion relationships of the two watersheds have been completely reversed. The recently overgrazed watershed is now losing almost twice as much soil as the restored one on which range management has been continued in order to maintain its plant cover.

These studies as well as others in other parts of the West show further that under extreme depletion of soil and plant cover it may require many years of careful management to restore watershed values. They show that total exclusion of livestock from range is not necessary except where the plant cover has been almost eliminated and the fertile part of the soil carried away. They emphasize, however, the essential need of effective range management.

One may ask what is range management. In its broadest sense it implies management of the grazing by livestock and wildlife on the range to assure sustained production of forage, livestock, and game, and recuperation of deteriorated ranges. Range management also implies grazing a class of livestock to which a range is adapted, in such numbers, and for such season or seasons as will

(Continued on Page 60)

The Role of Range Management in Erosion Control

REED W. BAILEY, *Director,*
Intermountain Forest and Range Experiment
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The problems of the range lands of the west that now vitally concern all of us involve the utilization of the forage resource in such a manner as to arrest or to prevent accelerated erosion of the soil. Had these western ranges been so utilized during the past half century, most of the range management problems currently plaguing us would never have developed, and we would now be concerned primarily with the production and harvesting of forage by livestock. Such is not the case, however. Range management today finds

Unfortunately, range utilization without accelerated erosion calls for knowledge which we know did not exist in pioneer days and which even now, after years of experience and research, is still so incomplete as to yield only partial solution to many of our range problems.

One solution for watershed protection and soil erosion prevention would be to eliminate grazing, and this action, to the sentimental conservationist, has a strong appeal. Such a solution though simple and sure smacks of defeatism and would have dis-

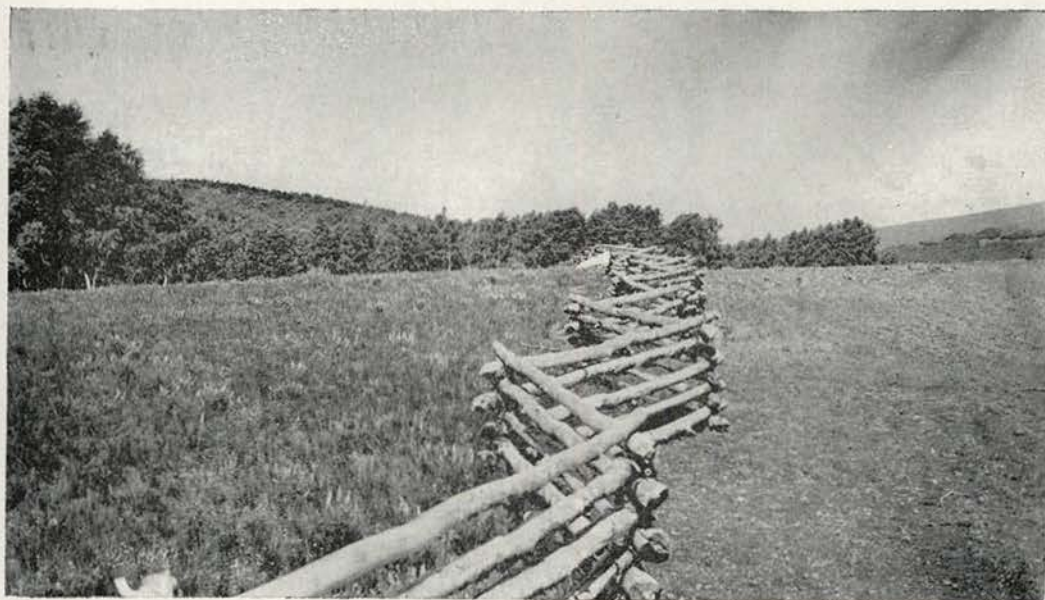


Photo By U. S. Forest Service

itself in grips with not a single problem but many problems which have grown out of improper management and use; it has to deal with something much broader and more vital than mere forage production for livestock; it must understand and function on the basis of the complex relationships of utilization to soil stability, stream flow, siltation, and floods. Failure to function on this basis will simply result in further aggravation of accelerated erosion and the concomitant phenomena of floods, siltation of reservoirs and canals, reduction in forage resource, and the destruction of soil fertility.

astrous consequences, for the range livestock industry of the west is vital to the economic and social welfare of the country, and cries loudly for the continued use of that vast area of non-agricultural lands. Of necessity, a solution must proceed along the major premise that forage can be harvested from most of the so-called range lands with full protection of the regimen of streams, with prevention of abnormal floods and siltation and without impairment of the soil resource.

In any solution full cognizance must be taken of

(Continued on Page 38)

The Place of Range Management in Erosion Control

H. H. BENNET

Chief Soil Conservation Service

Very often certain expressions become so commonplace with us that we use them without realizing their full significance. The phrase "proper land use" is one of these.

Proper land use involves first, the *kind* of use to which the land should be put, whether for cultivated crops, forest, range, wildlife, recreation, or even, in some cases, no use at all. In a few instances we have, over a long period of time, consciously planned the kind of use necessary to conserve the resources involved. Outstanding examples of this have been the creation, protection and gradual development of our system of national forests and national parks. In other cases we have, until recently, utterly neglected our responsibilities for wise husbandry and as a result have vast areas of depleted public and private range lands, accelerated erosion, floods, silted reservoirs, and a distressed agricultural industry. In the disposal of public lands and the opening of new areas to settlement and farming, many of the policies advocated, and the practices permitted during the past half century, appear to have been planned to prevent sound land use, so opposed are they to the policies and practices now considered necessary to conservation.

Once nature, economic forces, the individual, or public welfare have determined the kind of use to which the land shall be dedicated, then begins the problem of selecting and applying those practices which will insure conservation of the resources and bring the greatest benefits to the general public.

On arid lands supporting native vegetation, use is limited principally to the grazing of livestock. The key to the conservation of these areas, and to the welfare of the communities and industries dependent upon them, is found in the care with which they are managed.

In the control of accelerated erosion, proper management practices are generally not only more effective, but far less costly than elaborate structural works. Of fundamental importance in the management of range lands is the adjustment of the number of animals to the kind and amount of available forage. Until this fact is recognized and made the guiding principle behind the plan

of management, the range operator is constantly waging an uphill and losing battle. Structural works alone may not safely be substituted for adjustments to grazing capacity, but accompanied with proper stocking, such mechanical devices as contour furrowing and water spreading works may give considerable impetus to the recovery of depleted ranges. Sound range practice further requires grazing use during the proper season as determined by the growth requirements of the important forage species; the distribution of water and fencing to obtain uniform use of all the forage; the use of minerals to balance the diet of the animals, provision for feed supplies to supplement the range forage; and all of these features brought together into a practical and workable plan based upon sound ranch economics. Proper care in these matters is essential to maintain and improve the quality of the forage, provide a stable livestock industry, and safeguard the basic resource of the range country—the soil itself.

Just how nature operates to bring about these far-reaching effects is often little understood. On conservatively grazed ranges, a portion of the forage growth is allowed to remain on the ground after the grazing season. Leaving this unused forage means allowing fewer head of livestock on the range, or a slightly shorter grazing season, but this cost is far outweighed by the benefits which result. The reserve growth usually includes a considerable amount of seed stalks, a vital necessity to any improvement of the range through natural reseeding. It has further functions in (1) catching and holding snow, (2) retarding melting and run-off, (3) facilitating the penetration of water into the soil, (4) protecting the new growth the following spring, (5) storing reserve food supplies which improve and maintain the vigor of the plants which, in turn, (6) allows the plant to start growth earlier in the spring under less favorable conditions of temperature and light, and (7) adds humus to the soil. These benefits in turn make it possible for the plants to make the maximum utilization of available moisture during years of decreased rain or snowfall and prevent wide fluctuations in forage production which often

(Continued on Page 36)

Grazing and Conservation

R. H. RUTLEDGE
Director Division of Grazing
U. S. Department of Interior

The 150-year history of acquisition and disposal of the public lands of the United States is a story of growth and development of the greatest nation on earth. For generations, following the Revolution, the public domain served as the mortgage lifter of an impatient and zealous America whose natural resources seemed unlimited. At its greatest extent, the public land area of the United States, exclusive of Alaska, totaled about 1.4 billion acres. During this early period, when Uncle Sam needed money, he could post a "For Sale" sign on a parcel of land in the Ohio Valley and soon have his cash register filled. In fact, that was his principal means of raising revenue up to 1862 when the original homestead law was enacted. By that time, title to most of the territory east of the Mississippi River had passed into private ownership.

When the frontier moved West, during the pioneering era, the public land was diminished in area through railroad grants and homestead settlement, and, as this frontier was developed, public ownership became further diminished through the enlarged and stock raising homestead laws and grants to States for educational and other purposes.

The "open public domain" continued to dwindle by means of withdrawals and reservation for parks, forests, reclamation, and other public purposes until in 1934, when the Taylor Grazing Act was passed, there remained about 165 million acres of so-called "left-over" land commonly known as the public domain. Located mainly in the States of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Wyoming, this land is generally arid and unfit for private development under present trends and circumstances; yet it is indispensable to the welfare of our western civilization. Through the influences of competition, which resulted in abuse and overuse due to the lack of proper control, the soil, forage, wildlife, and other natural resources of this land were deteriorating at an alarming rate.

The Taylor Grazing Act has as its main purposes the protection, improvement, and development of these lands and the stabilization of the

livestock industry dependent upon the public range. The Secretary of the Interior is authorized by this conservation measure to establish grazing districts not to exceed 142 million acres of vacant, unappropriated, unreserved public land; to make such rules and regulations as may be necessary to carry out all provisions of the act; and to issue or cause to be issued permits to graze livestock on grazing districts to those who are entitled to participate in the use of the range under his rules and regulations. To date, there have been established 50 grazing districts embodying 120 million acres of public land. Within the boundaries of such districts are approximately 130 million acres of private and State land. The land pattern, therefore, is one which demands a type of administration that is based on the fundamentals of co-operation. Twenty thousand applicants have been licensed to participate in the use of the range. They have been granted grazing privileges for 1,605,566 cattle, 103,925 horses, 9,221,696 sheep, and 96,455 goats. These 11 million odd head of livestock graze on the public lands within grazing districts during various parts of each year. On the basis of present estimates, about one-third of the annual feed requirement for these livestock is contributed by the Federal range. Cooperative administration is developed around the principle that all of the people share an interest in the public domain and that the viewpoints of all interests may have the benefit of expression. The management of land is a problem as complex as the lands are varied. To be successful, it must be based on complete factual information for each tract, the use to which it is best adapted, the place of such use in a national economy, and the competence of the human beings who will make that use.

In addition to the requirements of domestic livestock, the needs of wild animals and game birds for protection, food, and water are taken into consideration in the administration of the Federal grazing districts. This problem has been handled in some instances by the establishment of special game refuges and in others by the establishment of game ranges where the preference is given to a specified number of game animals. Also,

(Continued on Page 45)

Opportunity for Cooperation Between Federal and State Governments in Wildlife Restoration

IRA N. GABRIELSON
Chief, Bureau of Biological Survey
Department of Agriculture

The opportunities for cooperation between the Federal and State governments in projects for protecting and restoring wildlife on forest lands appear to be almost unlimited. Such opportunities have existed for many years but facilities for undertaking definite work were frequently lacking. The recent expansion of both Federal and State governmental activities in wildlife restoration, however, has now materially enhanced the possibility of carrying out important cooperative programs. There are opportunities for State agencies to cooperate with the Forest Service, the Soil Conservation Service, the Agricultural Adjustment Administration, the Farm Security Administration, the National Park Service, the Bureau of Fisheries, the War Department, the Bureau of Biological Survey, and other agencies within the Federal government for today, almost every department of the Federal Government is interested directly or indirectly in some kind of wildlife-restoration activity.

The activities of the Bureau of Biological Survey for more than 50 years have been directed toward aiding the individual States in the solution of their wildlife problems. The effectiveness of the Bureau's work depends on the degree of cooperation it gives and receives from the States.

For example, the law enforcement activities of the Bureau are greatly facilitated by the State game departments, which aid Federal agents in the apprehension and prosecution of violators of Federal game and fur laws and regulations. Bureau law-enforcement agents, in turn, regularly inspect raw-fur receiving centers, cold-storage plants, interstate transportation depots, and other places, with one result that, in 1938, they furnished information to State game officials regarding 4,190 possible illegal fur transactions. The Biological Survey makes every effort to keep the States advised as to the status of wildlife and to protect each State's interest in the various species when they are beyond its own borders. This form of Federal assistance to the States is augmented by the fact that many employees of the National Park Service and of the Forest Service act as

deputy wardens for State game departments.

The Federal Government also cooperates with the States in providing protection for wildlife by means other than enforcement of laws and regulations. Several Federal agencies provide refuges and sanctuaries widely distributed throughout the country. Within the United States the Biological Survey administers more than 230 such refuges, which embrace more than 7,500,000 acres. These refuges are essential to any program of wildlife restoration. For the State to acquire and maintain all these refuges within their boundaries in addition to those they now administer would be beyond the facilities of their game departments. In addition to the refuges under the jurisdiction of the Biological Survey, the National Park Service and the Forest Service provide and maintain many needed sanctuaries, and since its organization the Farm Security Administration has greatly assisted in the acquisition of many areas that are adaptable to forest and wildlife restoration.

The Bureau of Biological Survey has for many years conducted its work in predator and rodent control entirely on a cooperative basis. This feature of its work is particularly important to wildlife-restoration in the Western States. In 1938, Bureau trappers reported taking 84,844 coyotes, 1,360 wolves, 7,189 bobcats and lynxes, 392 bears, and 255 mountain lions. Most of these marauding animals were taken in Western States and many of them on forest areas where they menaced not only domestic stock but also wild game.

All these opportunities to cooperate in connection with the regular activities of the respective bureaus of the Federal Government have been availed of by the States for some years. On July 1, 1938, however, Congress made available \$1,000,000, the first of a series of annual appropriations, to be allocated by the Federal Government to aid the States in their wild-life-restoration work. The legislation making provision for these annual grants-in-aid to the States is frequently known as the Pittman-Robertson Act. It provides that the Federal Government shall aid the States on ap-

(Continued on Page 46)

Opportunities for Cooperation Between the State and Federal Government in Wildlife Restoration

NEWELL B. COOK
Fish and Game Commissioner
State of Utah

At a recent meeting of the Association of Western Fish and Game Commissioners, a certain Commissioner from one of the Western States made the statement that in his State they could "run their own show," making reference to assistance from branches of the Federal Government.

In speaking to the above assigned subject I will only attempt to cite Utah's objectives and problems as I do not profess to be acquainted with either the programs or problems confronting other states. Therefore, let us analyze our position, were we to assume the attitude of the above mentioned Commissioner.

To begin with, game must be associated with the lands upon which they depend for existence. They cannot be managed or propagated without this consideration. They are a product of the soil. While the game belongs to the people of the state, and under the jurisdiction, to a large extent of the Department of Fish and Game, the lands upon which they live are found to be in other ownerships; namely, the Federal Government, private land owners and the State, with control vested in the State's Land Board or Land Department, which operates apart and independent of the Department of Fish and Game and which is created for an entirely different purpose.

In Utah approximately 80% of the States area is in public ownership, with about 47% administered by the Division of Grazing in the Department of the Interior, and about 15% under control of the Forest Service in the Department of Agriculture. State ownership at one time amounted to about 13%, but the greater part of this is now or has been in private ownership. Many other withdrawals have been made for various purposes; Indian Reservations, National Parks, etc. About 10½ million acres are now privately owned. Viewing the above breakdown of land ownership, it will readily be seen that consideration must be given to the various land lords as to the uses such property is put to.

In Utah we have no public land definitely set aside for game and game alone, except migratory bird areas that have been purchased for such pur-

poses by either the Federal Government or the State Fish and Game Department. All other game must occupy lands set aside or used for other purposes. However, the State Fish and Game Department has just recently begun a program of land acquisition for big game which will furnish better wintering ranges, which in the past, have been limiting factors in the production of game herds. This is now receiving support from the Federal Government under the Pittman-Robertson Act.

With much of the summer ranges controlled by the Forest Service and most of the winter ranges under supervision of the Division of Grazing, and assistance in the purchase and development of lands for game and game birds by the Bureau of Biological Survey, it seems that for a state to obtain its own objective, there must be cooperation between the State and Federal Government, and why not, for surely, as servants of the people, they should be working primarily for the same cause.

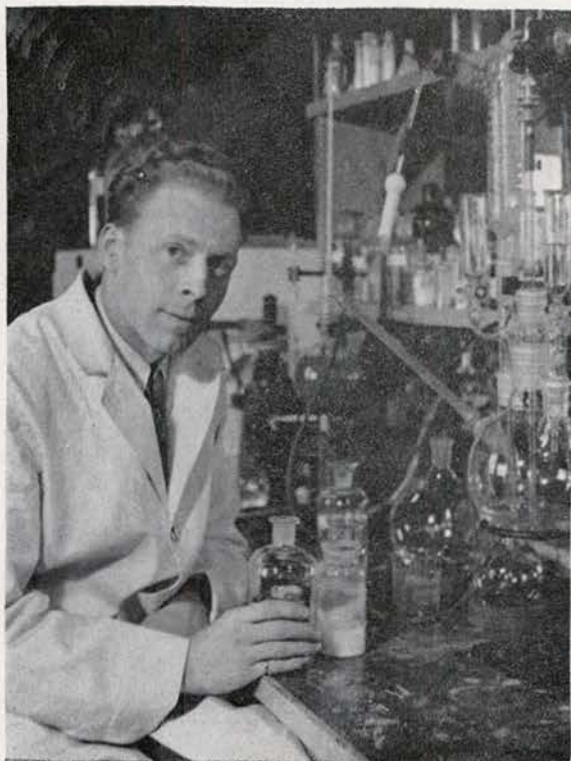
We have in Utah enjoyed this cooperation to the fullest extent. Because of this we have forged ahead at least 20 years of our possibilities with our limited revenues. We have received assistance from all such agencies as FERA, PWA, WPA, CCC, and etc. In addition to what the National Park Service, Bureau of Fisheries, Bureau of Biological Survey, Forest Service, Division of Grazing, Soil Conservation Service, Reclamation Service, etc., have contributed. All of the above mentioned cooperative efforts have had for their purpose rehabilitation of the natural habitats of game, knowing full well that once this condition is bettered, game will come back accordingly.

Through such aid we have greatly increased and improved our Fish Hatchery facilities, bird refuges, shooting areas, fish ponds and lakes, game ranges, etc. We are now under a cooperative agreement with the Biological Survey on predatory animal control.

We also have a three-way "hook-up" with the land grant college, the Utah Agricultural College,

(Continued on Page 45)

WOOD UTILIZATION



Dr. E. V. White

Opportunities for Cooperation Between the Forest Service and Private Industry

W. B. GREELEY
Secretary-Manager
West Coast Lumbermen's Association

Cooperation has been an outstanding phase of the forestry movement in the United States. The early leaders had the vision that forestry must constantly spread outward and downward—from Federal laws and the administration of Federal lands to the states, to the universities, to the commercial timberlands and to the farms. Forestry has thus been implanted in the practices and thinking of a democratic people.

The Federal Government has given the forestry movement strong leadership. But the democratic conception of the whole undertaking has created a strong *followership*—far flung throughout the country. The kingpin combining these two parts of the movement is cooperation—carried out in many different ways. This should continue to be the case. We should keep the forestry movement in the United States democratic. We should protect it from the totalitarian conception of relations between a government and its people. But to do that, we must show our continued capacity to meet the problems of American forestry on a common ground of cooperation. This is all the more important as we begin to get by the "minimum requirement" stage of commercial forestry; as we progress toward the sustained yield type of forest management by private land owners.

There still is much to do on the basic problem of forest fire prevention, one of the best expressions of the cooperative principle in American forestry. As we intensify forest practices and work into long-time forest undertakings, so must we intensify our fire protection on the key areas which are leading the way toward sustained yield. In Oregon and Washington, for example, a considerable acreage of cutover or regrowing land has been placed under the reforestation classification for taxation purposes. That means that the owners of this land have undertaken to carry it for a second crop. The outstanding hazard is fire. On the State and private lands in Western Washington last year there were 1,745 fires, 78 per cent caused by public use of the forest and public failure to observe police laws. Here, on these key areas where sustained yield forest management is in the making, is the laboratory where we should work out *sustained fire prevention* and protection

against public causes of fire—equal in intensity to the land management projected. A wonderful field for cooperation.

Another large opportunity for cooperation between public agencies and private forest owners runs to the planning of sustained yield layouts in areas where Federal and private lands are intermingled. In the Western States especially, the availability of public forest lands for cooperative sustained yield working circles should be of great value in evolving a more permanent type of forest industry. This has begun on the Oregon and California Land Grant, whose administrative act anticipates the segregation of individual sustained yield units and their cooperative management in conjunction with adjoining private holdings. The last legislature of Washington passed a similar statute, applicable to all forest areas in the ownership of the State. The McNary-Doxey Bill, now in Congress, would extend the same principle of management to the National Forests; and much work has already been done in analyzing the possibilities of individual situations. There could be no finer expression of the cooperative principle in American forestry than the pooling of private and public lands for sustained yield management, under single direction, and with contract stipulations protecting the mutual interests.

Sustained yield management of private lands will be the next major development, the next great adventure in American forestry. It is going to tax our ingenuity and skill; and our capacity for sound planning. In the Douglas fir forests of the Pacific Northwest, for example, we are realizing that sustained yield planning requires a different and more accurate stock-taking of timber and young growth—ages, sizes, qualities, maturities, accessibilities—than has ever been thought of before. Only on such an inventory can the order and rate of cutting and the scheme of utilization be soundly projected. Here is a marvelous field for pooling the efforts of public and private foresters. We should develop a form of "Forestry Clinic" on the property that is up for consideration of sustained yield. We must master the craftsmanship in charts and graphs and tables that will

(Continued on Page 61)

Opportunities for Cooperation Between the Forest Service and Private Industry

G. D. COOK

Chief

Division of Private Forestry Forest Service

While there are many opportunities for cooperation between the U. S. Forest Service and private industries, it is to be admitted that all of them have not been fully effective nor fully grasped. It is also true that there are many undeveloped opportunities for cooperation, many of which are vitally needed. It seems apparent that the answers to many vexing problems confronting both private and public owners of forest lands can best be secured through this type of approach.

In the early days of the Bureau of Forestry, practically all of its activities were along cooperative lines—cooperation with private timberland owners. Then came the transfer of the "Forest Reserves" to the newly named Forest Service, and while there was cooperation in the formulation of policies and regulations of the administration of the National Forests, it is probably true that close contacts with the private owners were for some time neglected.

In 1911 the Weeks law was enacted which gave some degree of recognition to the private forest lands and forest industries, and in 1924 the enactment of the Clarke-McNary law definitely gave the public foresters a clear cut cooperative approach to industry and private owners, particularly on fire protection, tree planting, and the tax and insurance problem.

A little later, the enactment of the McSweeney-McNary law gave the Forest Service broad authorization for investigative and research work along a wide forest front, including authority for a Nation-wide forest survey. Still later, the Norris-Doxey law was enacted, providing for further cooperation, particularly with farm timberland owners. Everyone, of course, is familiar with the CCC project, initiated in 1933, and while this is not particularly a Forest Service activity, still through its functioning there has been a large measure of cooperation with industry on the part of the Forest Service and other Governmental agencies having to do with forest lands.

Thus we find several legislative bases for Forest Service cooperation with private owners—all of which present many opportunities to all concerned.

Early in his administration, Chief Forester Silcox found it advisable to reorganize the Forest Service so as to place more emphasis upon the problems confronting the private timberland owners and operators. Among other things accomplished at that time was the reorganization of the Branch of State and Private Forestry which is set up entirely as a cooperating agency and which to the extent its resources permit, works with and for the private owners and the State forestry agencies.

Under this reorganization there was established a distinct Division of Private Forestry, which Division was given the responsibility of bringing together all available factors looking toward better forest management, and so far as possible toward the betterment of the forest products industries.

The present opportunities, therefore, are quite numerous. Under the Clarke-McNary law, the Forest Service provides cooperation for forest fire protection, as well as for the low-cost distribution of forest tree planting stock to farmers. In addition, under the provisions of this law, an intensive study of the forest-tax situation in the country was made, and a small force of tax experts is still available to assist in the revamping of antiquated tax structures as they apply to forest land owners. Insofar as the benefits of research are available to forest products industries, the work being done under the authorizations of the McSweeney-McNary Act may well be termed "cooperation." The Forest Products Laboratory at Madison, Wisconsin, is dedicated to research, looking toward the development of new uses for forest products as well as to the development of better methods of handling them. Twelve regional Forest Experiment Stations are continually investigating and experimenting for the benefit of all forest land owners, the various problems of silvics, forest range influences and economics, fact finding projects, and other items of interest inherent in the growing, managing, and marketing—from naval stores to peeler logs. Additionally, it would seem that the work of the Forest Survey is definitely cooperative, for it makes available—

(Continued on Page 46)

Chemical Utilization of Wood and Its Relation to Forestry

EDWIN C. JAHN

Professor of Forest Chemistry

New York State College of Forestry, Syracuse,
N. Y.

Has Idaho a future in wood by-products? What will be the effect of chemical utilization on forestry? Will chemical conversion solve our forest waste problem? These and similar questions are often asked the wood chemist. The answers are subject to many variable factors—both economic and technical. However, by analysis of the raw materials available, of the present status of wood in chemical industry, and of the fundamental research bearing on industrial development, it is possible to extrapolate to some probability. Examination of forest areas on which integrated industrial utilization is practiced offers a good guide to what might be expected on a larger or nationwide basis.

Non-Utilized Raw Material Available

All who are familiar with the problems of forestry and forest industries know that there are great amounts of wood not utilized. In the chemical pulp industry about a ton of wood substance is lost in the waste liquors for every ton of pulp produced. In lumber manufacture there is an irreducible minimum of waste in the form of stumps, tops, log breakage, slabs, sawdust, edgings, trims and shavings. Even with logs without defects it is, of course, impossible to manufacture square timbers and rectangular boards without producing waste. It is estimated by the United States Forest Service that in northern Idaho and western Montana forty per cent of the volume of the timber cut is wasted.

Besides the above raw materials available there is another source in the form of timber species for which the lumber demand is insignificant, or for which production costs are too high, due to transportation and competition with more cheaply produced lumber in other regions. Idaho is a particularly good example of this situation. The lumber industry accounts for more than half of the wage earners and more than a quarter of the value of all products produced in the State. Yet, in spite of such an extensive industry, most of Idaho's lumber is cut from two species, Idaho white pine

and ponderosa pine, whereas, the other species account for about 65 per cent of the total timber stand. The Inland Douglas fir, larch, hemlock, and other species cannot compete with similar species on the Coast, due to transportation, higher logging costs, smaller size of log, and other factors whereas Idaho white pine and ponderosa pine have peculiarly valuable properties which make them marketable. Nearly every forest region has varying amounts of timber of low lumber demand because of location, quality of wood, and other economic and technical reasons.

There are, then, great quantities of wood raw material, much of which is readily available at low cost, which might be used in chemical industry. Since chemical processes deal with the minute units of wood, the fibers, colloidal particles, and molecules, wood wastes should be ideally suited for utilization by chemical means.

Wood has for some time been a very important raw material for chemical industry. It is the basis of the great pulp and paper industry, and it is also chemically converted into fiber boards, textiles, cellulose wrappers, plastics, solvents and acids used in chemical industry, tannin, preservatives, charcoal, and many other useful commodities. The influence of this chemical industry, particularly pulp manufacture, is important on forest practice. A number of industrial plants are using wood waste entirely or in part to produce paper, fiber boards, and distillation products. Nevertheless, the wood waste going into chemical processes is insignificant in relation to the total amount available. In the localities in which waste is used it naturally affects the industrial economy and, to a varying degree, forest practice.

Chemical Utilization of Waste Wood

The chipping of sawmill wastes for pulp has become an established business in Oregon, Washington, and British Columbia. Pulpwood is the major use of western hemlock and Sitka spruce slabs, edgings, and trims. Some white fir and

(Continued on Page 40)

In Memory of
James Brendan Barrett
Forester, Scholar, and Athlete
who will forever be remembered
for his devotion to his chosen profession,
scholarship achieved through
sacrifice, and never failing sportsmanship.
Idaho Foresters.

SENIORS



Dr. E. R. Martell

CARLTON SPINNEY, *Wood Utilization*
 Medford High School, Medford, Mass.; Scoutmaster
 BSA, Xylem Colloquium (3,4).
 Summer Experience: 3 seasons, Norfolk and West-
 ern Railroad.

HAROLD A. OLDSON, *Range Management*
 Randolph Macon Military Academy, Fort Royal, Va.,
 Pasadena Junior College, Pasadena, Cal.; Associated
 Foresters (1,2,3,4); Idaho Forester (2); Circulation
 Manager (3,4); Forester's Ball (4); BMOG (1,2,3,4).
 Summer Experience: 3 seasons Councillor—Campfire
 Girls Summer Camp, Coeur d'Alene.

RICHARD L. CAMPBELL, *Forest Production*
 Fairfax High School, Hollywood, California; Los
 Angeles Junior College.
 Summer Experience: Potlatch Forests, Inc.; Nez-
 perce National Forest.

DALE H. KINNAMAN, *Range Management*
 Sheridan High School, Sheridan, Wyoming; Mid-
 west High School, Midwest, Wyoming; Associated
 Foresters (3,4); Barbeque (3).
 Summer Experience: 1 season, administrative guard
 Custer National Forest; 1 season, Range Survey,
 Humboldt National Forest.

WILBUR V. GARTEN, *Production*
 Winchester High School, Winchester, Idaho; Delta
 Chi, Associated Foresters, Alpha Phi Chi.
 Summer Experience: 6 seasons with industry, Win-
 chester, Idaho; 2 seasons, Nezperce National Forest

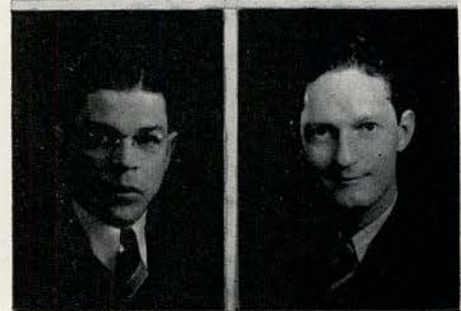
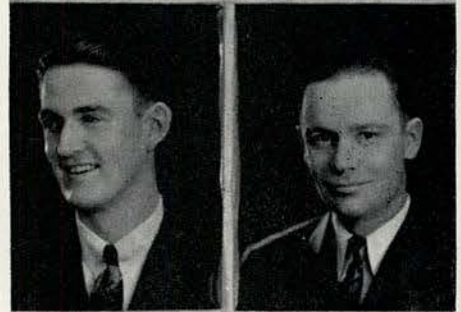
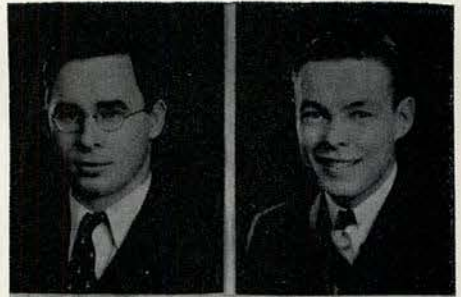
WARREN S. MCGREGOR, *Wood Utilization*
 Spirit Lake High School, Spirit Lake, Idaho; Lambda
 Chi Alpha.

CHARLES S. POULTON, *Range Management*
 Burley High School; Xi Sigma Pi (3,4); Barbeque
 (3); Bonfire (4); J.R.E. Manuscript (4); Phi
 Eta Sigma; Highest Honors (3,4); Fencing Team
 (2,3,4); Minor I Club; Camera Club; Foil and
 Mask; Tau Mem Aleph, President (4).
 Summer Experience: 1 season, travel in 23 states;
 1 season, range reconnaissance, Snoqualmie National
 Forest; 1 season range reconnaissance, Dixie National
 Forest.

CHARLES C. STRAWN, *Forest Production*
 Pocatello High School; U. of I. Southern Branch;
 Associated Foresters (1,2,3,4); Boxing (1,2); Wrest-
 ling (2).
 Summer Experience: 1 season, insect control, In-
 dian Service, Fort Hall Indian Reservation; 1 sea-
 son, smokechaser, Kaniksu National Forest; 2 seasons,
 lookout, Kaniksu National Forest.

HERMAN KOPPEL, *Range Management*
 Boise High School; Associated Foresters (1,2,3,4);
 Wrestling (3,4).
 Summer Experience: 3 seasons, Field Assistant, In-
 termountain Forest and Range Experiment Station;
 1 season, Agricultural Conservation Association, Boise,
 Idaho.

ARTHUR J. PETERSEN, *Range Management*
 Barringer High School, Newark, N.J.; Fencing Coach
 (3,4); Foil and Mask (1,2,3,4); Associated Foresters.
 Summer Experience: 1 season Range Survey, Sno-
 qualmie National Forest; Pine Disease Survey,
 Clearwater National Forest, 1 season.



JAMES W. CAPLES, Range Management
 Salmon High School; Associated Foresters (1,2,3,4);
 Secretary-Treasurer (4).
 Summer Experience: 1 season, smokechaser, assist-
 ant packer, Salmon National Forest; 1 season look-
 out, trail maintenance, Salmon National Forest; 1
 season, Western Range Survey, Dubois National For-
 est; 1 season AAA range examiner.

WILLIS A. BOHMAN, Forest Production
 Troy High School, Troy, Idaho; Basketball (2,3);
 I Club.

WILLIAM D. SHELLEY, Range Management
 St. Alphonsus High School, Langdon, North Dakota;
 Associated Foresters (3,4).
 Summer Experience: 1 season, Forest Nursery Col-
 umbia, South Dakota; 1 season, AAA Range Ex-
 aminer.

GERALD H. MARTIN, Range Management
 Belen High School, Belen, New Mexico; Associated
 Foresters.
 Summer Experience: 3 seasons, Clearwater National
 Forest; 1 season, SCS, New Mexico.

FOSTER, ROBERTSON, Range Management
 Roswell High School; Associated Foresters (1,2,3,4);
 Foresters' Chorus (3); Foresters' Ball (4); Barbeque
 (3); Idaho Forester (2,3).
 Summer experience: 1 season AAA Farm Survey
 Caldwell and Moscow; 1 season, U.S.B.S. game sur-
 vey, Salmon National Forest.

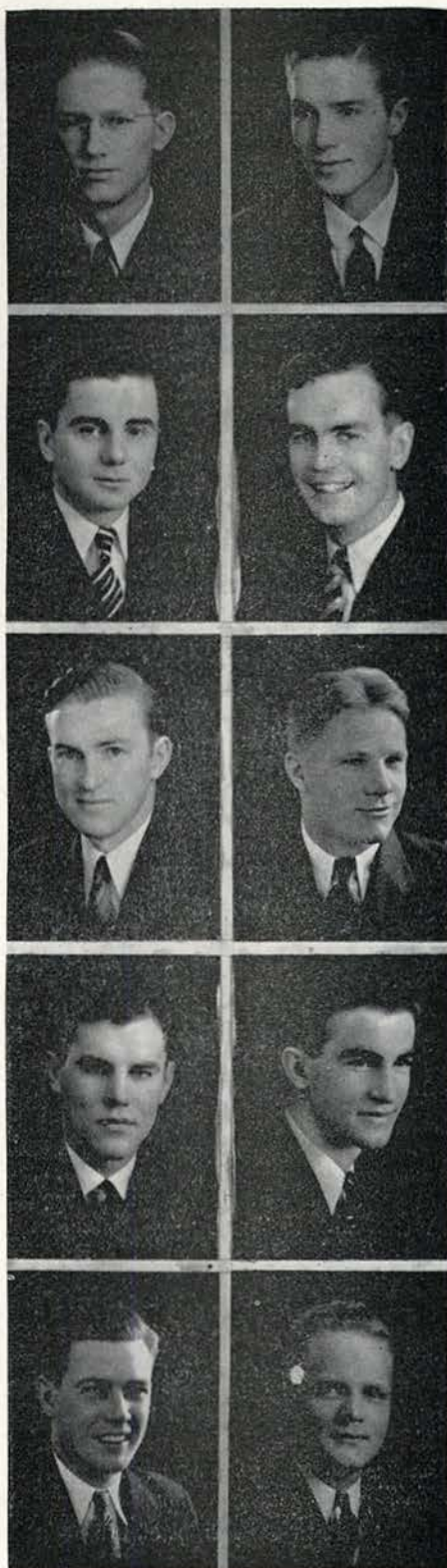
OTTO BALTUTH, Wood Utilization
 Niagara Falls High School, Niagara Falls, N.Y.;
 Idaho Forester (1,2,3,4), Business Manager (4);
 President Xylem Colloquium (4); Vice-President
 Associated Foresters (4); Executive Committee
 (2,3,4); Varsity swimming (3); Hell Divers
 (1,2,3,4). Summer experience: 2 seasons, Power
 Section, R. H. Chem. Department, E. I. du Pont de
 Nemours Co., Inc., Niagara Falls, N.Y., 1 season,
 Crossett Western Company, Wauna, Oregon.

WILLIAM J. MORROW, Production
 Central High School, Grand Forks, North Dakota;
 University of North Dakota; R.O.T.C. (3,4); Sigma
 Chi, Boxing (3,4) Minor I Club.
 Summer Experience: 4 seasons, Potlatch Forests, Inc.

JOE T. FALLINI, Range Management
 Mackay High School; U. of I. Southern Branch;
 Associated Foresters (1,2,3,4); Track, U.I.S.B.; I
 Club (1); Boxing; Minor I Club.
 Summer Experience: 1 season NSGS; 1 season
 smokechaser, Challis National Forest; 1 season, look-
 out, Challis National Forest; 1 season, station guard,
 Challis National Forest.

GEORGE R. CALLAWAY, Production
 Olathe Memorial High School, Lenaxa, Kansas; As-
 sociated Forester (1,2,3,4); Bonfire (4); Banquet
 (3,4).
 Summer Experience: 3 seasons Kaniksu National
 Forest.

VERNON C. BALL, Range Management
 Soda Springs High School; Utah State Agricultural
 College; Brigham Young University.
 Summer Experience: 1 season, Potlatch Forests, Inc.;
 1 season, AAA county range examiner, Caribou
 county.



ROLF G. SKAR, Range Management

Upham High School, Upham, North Dakota School of Forestry, Bottineau, North Dakota; Associated Foresters (4).
Summer experience: 1 season, State Forest Nursery, Bottineau, North Dakota; 1 season, lookout-fireman, Lolo National Forest.

RONALD G. MARTIN, Production

St. Maries High School, St. Maries, Idaho.
Summer Experience: 4 seasons, Blister Rust Control, St. Joe National Forest.

MORTON ROY BRIGHAM, Wood Utilization

Genesee High School, Genesee, Idaho.
Summer Experience: 1 season, lookout, St. Joe National Forest; 1 season, Potlatch Forests, Inc.

GOLDEN STEPHENSON, Range Management

Lava Hot Springs High School; U. of I. Southern Branch (1,2,3); Associated Foresters (1,2,3,4); Boxing (2,3); Track (3).
Summer Experience: 2 seasons, guard.

RODNEY BOYD LEONARD, Range Management

Elk River High School, Elk River, Idaho.
Summer Experience: 2 seasons, Range Survey, Humboldt National Forest; 1 season, Chief of Party.

RICHARD J. MASTIN, Range Management

Buhl High School, Buhl, Idaho.
Summer Experience: 3 seasons Clearwater National Forest.

HOWARD JOHNSON, Forest Production

Moscow High School; Associated Foresters (1,2,3,4) vice-president (3,4); Banquet (2,3,4); Foresters' Ball (3); Bonfire (2,4); Idaho Forester (1,2,4); Barbeque (3); Executive Committee (2).
Summer Experience: 1 season, CCC, Priest River Experiment Station; 1 season, Blister Rust Control, St. Joe National Forest; 2 seasons gyppo logging, Headquarters, Idaho; 3 seasons, Potlatch Forests, Inc., Headquarters, Idaho.

DON E. SPRINGER, Production

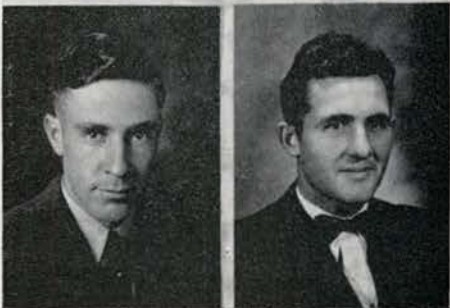
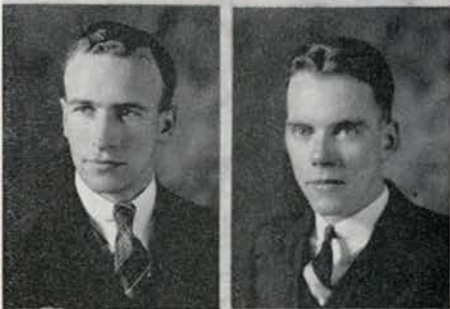
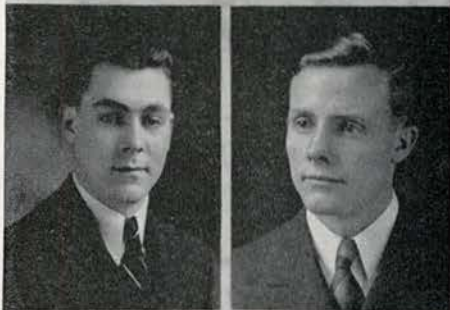
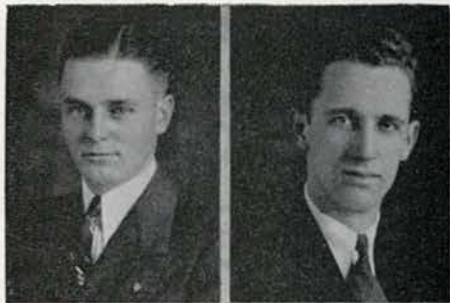
Genesee High School, Genesee, Idaho; Chi Alpha Pi.
Summer Experience: 3 seasons St. Joe National Forest.

JAMES A. SINGLEY, Production

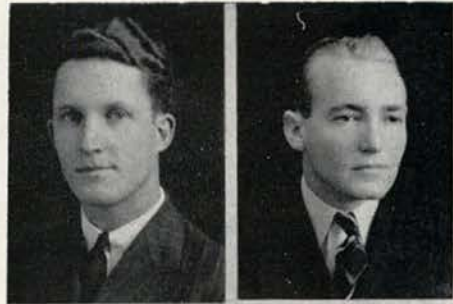
Lodgepole High School, Lodgepole, Nebraska, University of Idaho Southern Branch; Associated Foresters, (3,4); Xi Sigma Pi (3,4).
Summer Experience: 3 seasons, Challis National Forest.

ROBERT E. CLEMENTS, Production

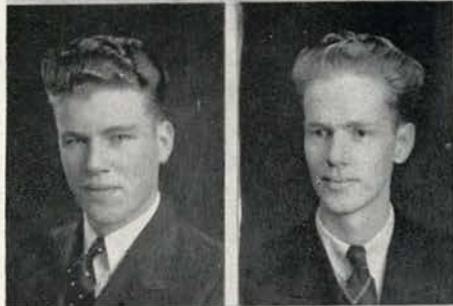
Conway High School, Conway, Arkansas; R.O.T.C. (3,4).
Summer Experience: 1 season Potlatch Forests, Inc., Blister Rust Control, 1 season; USFS, 1 season.



WILSON CHARLES GUTZMAN, Range Management
 Salmon High School; U. of I. Southern Branch (1,2);
 Track (1,2) I club (1,2).
 Summer Experience: 1 season, look-out-fireman Sal-
 mon National Forest; 1 season, smokechaser and
 warehouseman, Salmon National Forest; 1 season
 Visible Area Mapper, Absaroka National Forest.



CARL C. WILSON, Forest Production
 Nampit High School; College of Idaho (1); Associated
 Foresters' (2,3,4); Foresters' Ball (4); Xi Sigma Pi
 (3,4).
 Summer experience: 1 season, lookout, Shasta Na-
 tional Forest; 1 season, Timber Survey, Sequoia Na-
 tional Forest and Eldorado National Forest; 1 sea-
 son, visible area mapper, Helena National Forest.



ARNASON, ALLAN F., Range Management
 Upham High School, Upham, N. Dakota; North
 Dakota School of Forestry, Bottineau North Dakota;
 Associated Foresters (4).
 Summer Experience: 1 season, Denbigh Dunes Ex-
 periment Station; 1 season, lookout-fireman, Coeur
 d'Alene National Forest.

KENNETH C. BALDWIN, Forest Production
 Flushing High School, Flushing, New York.
 Summer Experience: 1 season, student enrollee,
 Chequamegon National Forest; 2 season, Blister
 Rust Control, Clearwater National Forest; 2 seasons
 fire guard, Lewis and Clark National Forest.



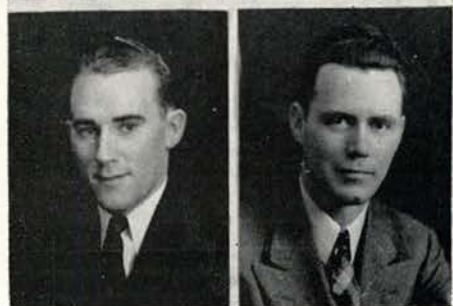
EDGAR W. STANTON, Production
 Live Oak High School, Live Oak, Cal.; Associated
 Foresters (1,2,3,4).
 Summer Experience: 1 season, Lewis and Clark Na-
 tional Forest.

JACK M. MARTIN, Range Management
 Huntington Park High School, Huntington Park, Cal.;
 Associated Foresters, Bonfire (4); Xi Sigma Pi.
 Summer Experience: 1 season, range survey.



WILLIAM J. LUCAS, Range Management
 Notre Dame Academy, Mitchell, South Dakota; Delta
 Chi.
 Summer Experience: 2 seasons, Range Survey AAA.

D. NELSON JEFFERS, Forest Production
 Roosevelt High School, Seattle, Washington; Associ-
 ated Foresters (1,2,3,4); Executive Committee (3,4);
 Foil and Mask (3,4); Concert Band (1,2); Idaho
 Forester (1,2,3,4); Editor-in-chief (4); President,
 Wesley Foundation (3).
 Summer Experience: 1 season, laborer, Pack Dem-
 onstration Forest, La Grande, Washington; 1 sea-
 son, C.C.C., timber survey, Malheur National Forest;
 1 season, lookout-fireman, St. Joe National Forest; 1
 season, headquarters fireman, St. Joe National Forest;
 1 season, headquarters fireman, St. Joe National For-
 est; 1 season, timber survey, Cache National Forest.



NEIL J. DAY, Range Management
 Ammon High School, Idaho Falls; Brigham Young
 University; Foresters' Ball (4); Barbeque (4).
 Summer Experience: 2 seasons, Soil Conservation
 Service, Bonneville County.

J. CLIFTON WINDL, Range Management
 Sheridan High School, Sheridan, Wyoming; Associ-
 ated Foresters (1,2,3,4); Ranger (3), President (4);
 Outstanding senior award, (4); Xi Sigma Pi (3,4),
 A.S.U.I. Executive Board (4).
 Summer Experience: 1 season, lookout, Big Horn
 National Forest; 1 season, Western Range Survey,
 Naches, Washington; 1 season, administrative guard,
 Malheur National Forest.



DUNCAN CAMPBELL, *Forest Production*

Bottineau High School, Bottineau, North Dakota; North Dakota School of Forestry, Bottineau, North Dakota; Associated Foresters (3,4).
Summer Experience: 2 seasons, Forest Nursery, Bottineau, N.D.; 3 seasons, Plains Shelterbelt Project, Jamestown, N.D.; 2 seasons, AAA range inspector, Jamestown, N.D.; 1 season, lookout, Kootenai National Forest; 1 season, Soil Conservation Service, Bottineau, N.D.

CHARLES JOHN KILJANCZYK, *Forest Production*

Classical High School, Worcester, Massachusetts.
Summer Experience: 1 season, Potlatch Forests, Inc.; 2 seasons, look-out fireman, St. Jo National Forest. Coeur d'Alene High School,

JOHN MOLBERG, *Forest Production*

Souris High School, Souris, North Dakota; North Dakota School of Forestry, Bottineau, North Dakota; Xi Sigma Pi (3,4); Associated Foresters (3,4).
Summer experience: 1 season, lookout, trail maintenance, Nez Perce National Forest; 1 season, AAA Range Inspector, Jamestown, North Dakota.

FRANK C. PIPER, *Forest Production*

Lansford, North Dakota; North Dakota School of Forestry, Bottineau, North Dakota; Associated Foresters (4).
Summer Experience: North Dakota State Nursery; 1 season, Lake States Forest Experiment Station; 1 season, AAA range survey, North Dakota; 1 season, fire guard, Kootenai National Forest.

LOUIS R. WILSON, *Range Management*

Charles Francis Adams High School, Clarkston, Washington.
Summer Experience: 1 season, telephone line construction, Nez Perce National Forest; 1 season, visible area mapper, Deerlodge National Forest.

GOLDBLUM, RUDOLPH *Forest Production*

East Technical High School, Cleveland, Ohio; Ohio Northern University. Associated Foresters (4), Fencing (1,2,4), Swimming 5, President of Foil and Mask (5), Minor I Club.
Summer Experience: 2 seasons, lookout, Deerlodge National Forest.

MILLER, LOREN E.

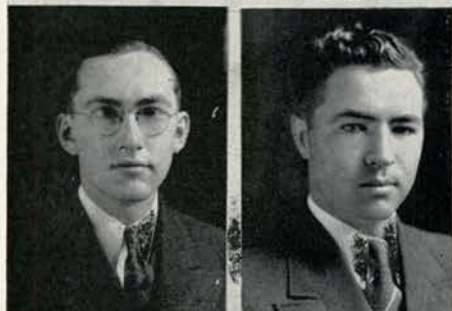
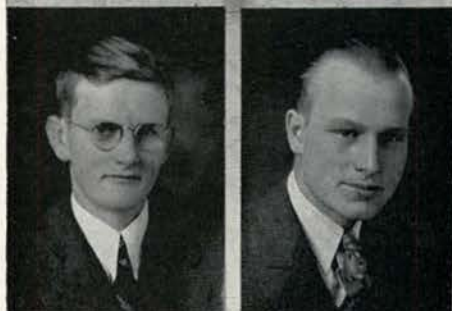
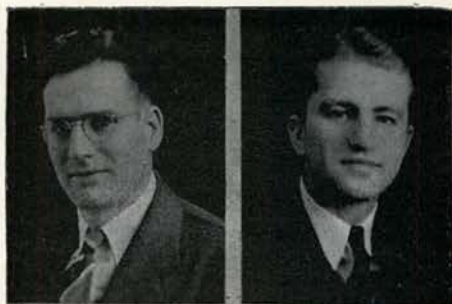
Saranac Lake High School, Saranac Lake, New York; New York State College of Forestry.
Summer Experience: 2 seasons, Blister Rust Control, St. Joe National Forest.

FRANKLIN H. PITKIN, *Production*

Los Molinos High School, Los Molinos, Cal.
Summer Experience: 2 seasons, Southern Pacific Water System, 2 seasons Forest School Nursery as Nurseryman.

KENNETH J. CROSS, *Range Management*

Graduate of Nebraska School of Agriculture, Curtis Nebraska, Associated Foresters (4).
Summer Experience: 1 season, Blister Rust Control, Clearwater National Forest; 2 seasons, range survey, Pueblo National Forest.



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Euclid High School, Euclid, Ohio; Associated Foresters (1,2,3,4); Conservation Week (4).
Summer Experience: 1 season, lookout, St. Joe National Forest; 2 seasons, fire guard, Yellowstone National Park.

GILBERT B. DOLL, *Range Management*

Chaffey Union High School, Ontario, California; Xi Sigma Pi (3,4), Associated Foresters (2,3,4), "I" Club, Baseball (2).
Summer Experience: Blister rust control, pine disease survey; Range survey, Gooding County.

JOHN E. BROCK, *Forest Production*

Johnson County High School, Buffalo, Wyoming; University of Wyoming; Associated Foresters (3,4).
Summer Experience: 1 season, G. L. O. Survey, Barnum, Wyoming; 1 season, Soil Survey, Farm and Ranch Studies, Resettlement Administration, Gillette, Wyoming; 1 season, Forest Service Range Survey.

IRWIN D. ELLIS

Watertown High School, Watertown, South Dakota; North Dakota School of Forestry, Bottineau, North Dakota.
Summer Experience: 3 seasons, State Forest Nursery, Bottineau, North Dakota; 2 seasons, Denhigh Dunes Field Station of the Lake States Forest Experiment Station; 3 seasons, Bureau of Entomology and Plant Quarantine.

JOHN H. HOYE, *Forest Production*

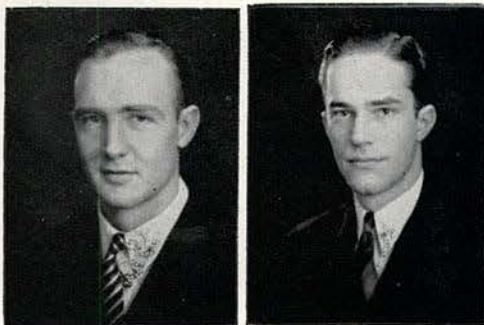
Hollywood High School, Hollywood, California.

EDWIN FARCO, *Forest Production*

Pendleton High School, Pendleton, Oregon; Oregon State College; Xi Sigma Pi (4).
Summer Experience: 4 seasons, U. S. Indian Service, Colville Indian Reservation.

JOHN H. PINNOCK, *Forest Production*

Rigby High School; U. of I. Southern Branch, Associated Foresters (1,2).
Summer Experience: 1 season, CCC Targhee National Forest; 1 season, lookout, Salmon National Forest; 7 season, Blister Rust Control, Kaniuku National Forest.



MORRIS GREER, *Production*

Potlatch High School, Potlatch, Idaho; Tau Mem Alpha, Associated Foresters.

JOHN L. FRITZ, *Production*

Kellogg High School, Kellogg, Idaho.
Summer Experience: 1 season, Flathead National Forest; 3 seasons, St. Joe National Forest.

EARL RITZHEIMER, *Production*

Coeur d'Alene High School, Coeur d'Alene, Idaho; Football (2,3); 1 Club, R.O.T.C. (3,4), Troop K, Idaho National Guard.
Summer Experience: 4 seasons BEPQ; 1 season, Potlatch Forests, Inc.

ROBERT M. PORTER, *Range Management*

Ashton High School; U. of I. Southern Branch; Associated Foresters (3,4).
Summer Experience: 1 season, National Park Service; 1 season, Targhee National Forest; 2 seasons, Pacific Northwest Forest Experiment Station.

ORVILLE B. CARY, *Range Management*

Heurtano County High School, Walsenburg, Colorado; Associated Foresters (3,4); President of Campus Club (4).
Summer Experience: 1 season, Yellowstone National Park; 1 season, Shoshone National Forest; 1 season, Range Survey; 1 season, Pacific Northwest Forest Experiment Station.

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SCHOOL NEWS



Dr. John Ehrlich

THE ASSOCIATED FORESTERS

JOHN PETERSON

The freshman forester has at least four years of the stiffest kind of schooling ahead of him. At the end of that training, the student leaves the laboratory and lecture room to begin a job that requires much more than a mastery of facts and figures. In forestry, especially public forestry, a man has to meet hundreds of people in every level of society—talk with them—live with them. To do this successfully, the forester must be essentially a social being. How else could he fit into a typical forest town community made up of rough hewn country-folk who look to the forester for friendly advice, and who constantly require instruction about details involved in the successful administration of a forest district? Four years of hitting the books does not develop the needed traits of social well being and leadership. Mere scholarliness is more likely to stunt than nurture these qualities. As a preventative to such narrowness, the Associated Foresters was organized a few years after the establishment of the School of Forestry.

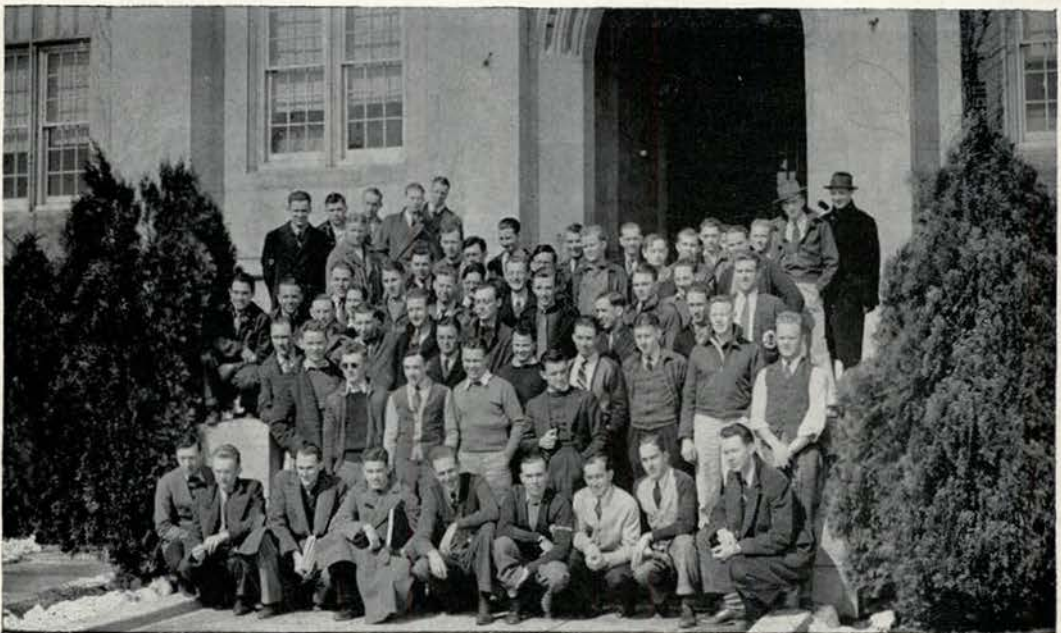
This organization welcomes embryo foresters each fall with a sing and talk fest around a huge bonfire. This year an experienced forester, Supervisor Simpson of the Coeur d'Alene National Forest, enlightened us on some phases of his work.

When introduced, the faculty members and graduate students produced jokes (rustic and otherwise) entirely equal and fitting to the occasion. Singing and a general spirit of joviality contributed to an atmosphere favorable to getting acquainted.

Besides the regular meetings, the men get together at smokers where programs, cooked up by members of the club, contributed to enjoyable evenings. Other features along this line are the annual banquet and that event of events, the spring Barbecue. At the barbecue, which is held out at Randall Flat, the fellows have a whooping good time outdoing one another at typical forest contests, such as log rolling, tree climbing, and tobacco spitting.

Always a success is the annual Foresters' Ball. This year's ball found the dance floor beautifully decorated with evergreens galore, thanks to the noble efforts of Harold Oldson and his committee. Ranger's Paradise was an attractive nook wherein the more advanced stages of infatuation were to be seen developing.

The administration of the club provides ample opportunity for the development of leadership. Officers in charge through the winter were Clifton Windl, president; Ray Gardner, vice-president;



Associated Foresters

James Caples, secretary and treasurer; and Joe Couch, ranger. The class representatives to the executive council included: Otto Baltuth and Nelson Jeffers, seniors; Robert Frazier and Richard Van Camp, juniors; Ward Smith and William Reed, sophomores; and David Wilson and William Musgrove, freshmen.

Clifton Windl, Bob Frazier, and Chester Southam attended the conclave of forestry clubs at Missoula this winter. The boys brought back accounts of the types of organization used by other clubs along with new ideas for having individual and collective good times. Conclaves of this nature result in a stronger bond between forestry students in the United States, and acquaint students, through speeches by forestry leaders, with the high standards and professional pride characteristic of the forestry profession.

FORESTERS BALL

JACK BUFFAT

The Associated Foresters displayed their wares to the Idaho campus on December 2 by filling the Student Union Building with the biggest crowd of the year until that time.

Romance was in the air. Fashion writers waxed lyrical about the ball while the sweet strains of Dick Gardner's orchestra floated mystically through the pines bordering the floor. The highlight of the evening for many a jack was a visit to a romantic spot called "The Ranger's Dream."

The Paul Bunyan theme dominated the programs and ball room decorated in his honor.

Patrons and patronesses were: Dean and Mrs. D. S. Jeffers, Dr. and Mrs. E. R. Martell, Dr. and Mrs. V. A. Young, Dr. and Mrs. E. V. White, Dr. and Mrs. John Ehrlich, Dr. and Mrs. A. B. Hatch, Prof. and Mrs. E. W. Stark, Prof. and Mrs. Ernest Wohletz.

Otto Baltuth won the Paul Bunyan contest in which the winner spun the best yarn about the feats of mighty Paul. The prize was a ticket to the Ball or an equivalent theatrical ticket.

FORESTRY AND CONSERVATION WEEK

NELSON JEFFERS

Cliff Windl started a landslide when he turned over to Ray Gardner the responsibility for the annual banquet. Ray is a man of no small imagination and had he been given a little more time would have had a program deserving of a national holiday. Ray decided, and quite rightly so, that the banquet was an important occasion, an occasion which was deserving of a more elaborate build-up than had been given it in previous years.

Moving in swift succession from executive board meeting to executive board meeting, committee meeting to committee meeting, dean's office to president's to dean's office, our short but lively president-elect of the Associated Foresters began to build the necessary framework for a colossal production. Then fell the blow — Civil Service Exams. "Okeh," said Ray, "the Seniors can take their exam and the rest of us will just take over." Ahead they went, planning newspaper stories, radio broadcasts, dances, banquets, meetings. Consultation with the directors of the Inland Empire sub-section of the Society of American Foresters resulted in the scheduling of a meeting in Moscow during the proposed celebration. Forest Service men, Soil Conservation men, Indian Service men, loggers, alumni, and students all received a printed letter embellished with green letterhead and picture, inviting all to be present. Displays were arranged for the campus. Trees were labeled, Paul Bunyan was given a shoe polish and fresh shave, and the foresters moved into and took over the week of April 24-28.

The meeting of the sub-section of the Society was conducted by the students of the school. Reports on fire, pathology, silviculture were given with true professional expression. At the banquet Assistant Regional Forester Favre of Region 4 presented an exceptional talk. The final touch was the promotion of the "Little Abner" dance in the Student Union building.

Well, my lads, all is over but the praise and that goes to Ray. Threats of moving the Regional office to Moscow, making the sub-section the regular section, all from the high-ups.

Next year sees Ray at the head of the Associated Foresters, which will insure the completion and embellishment of a worthwhile dream, one which must become a reality to be carried forward in years to come.



1. Why we are foresters.

2. Foresters' Pent-house.

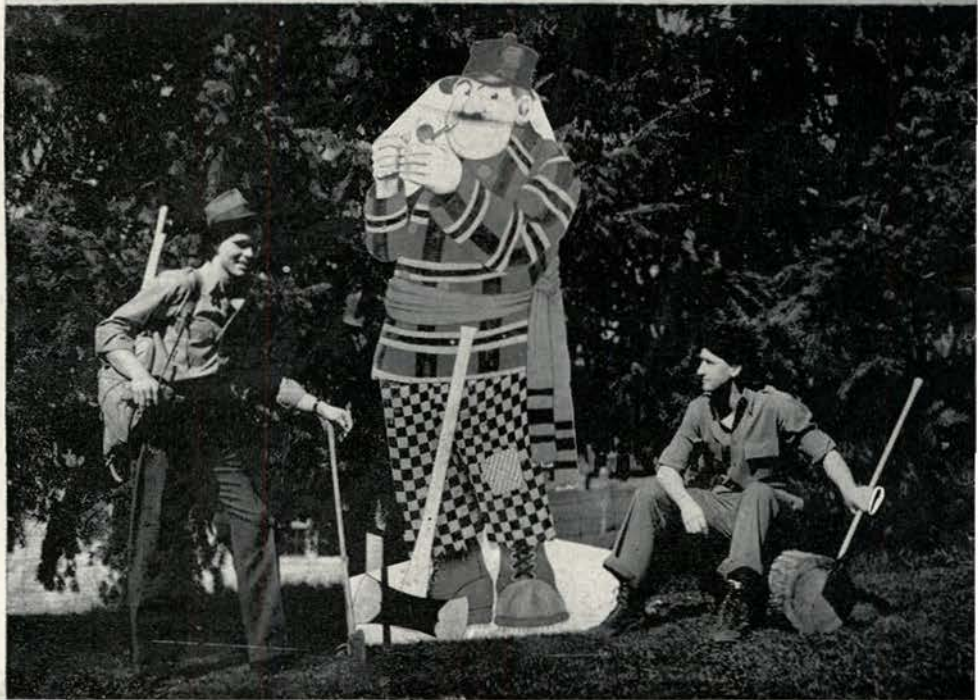
3. Dr. Young has more like this.

4. Goodnight.

5. Must see something

6. Rippling Rhythm

7. There are two students in this picture.





1. Smith makes a fine model in this work of art.
2. Rookies in the Forest Service.
3. So I said to him, says I . . .
4. You guess — a grade of 40 will qualify you for Junior Grubber.
5. Butchering at the Barbeque
6. W.P.A.?
7. Idaho men at Society meeting:
 Standing — R. E. McArdle, Henry Schmitz, Dean Jeffers Galen Pike, Charles Geneaux
 Kneeling — Floyd Landson, A. M. Sowder, J. P. Brown

THE 1939 SUMMER CAMP

CHET SOUTHAM

Due to reduced appropriations from the state legislature, plans for summer camp have been drastically modified. The program laid before the sophomore foresters calls for a ten-week summer session on the university campus instead of the forest camp which had been planned. However, it is the opinion of the faculty that the benefits to be derived from the summer session will outweigh the advantages of a summer's employment in the woods.

An attempt will be made to simulate forest camp conditions as nearly as possible. The class will live together on a cooperative basis in Lindley Hall, thus reducing expenses to a minimum. Total cost for the summer session should not exceed \$75 per student.

Athletics and campfires will make up a part of the program which should be particularly welcome to the "campers" during the last four weeks of their stay in town when the regular summer session has adjourned—and with it have gone all the commensurate attractions of a Moscow summer. The department of athletics has offered its cooperation in the furnishing of athletic equipment.

The summer session will start on June 13 and will continue for ten weeks. A system of concentrated study will be followed, the first five weeks being devoted to a five credit course in surveying, and the last five to forest mensuration. Two all day field trips will be held on each of the last five weeks in order that the foresters shall have actual field work. A short introductory course in forest ecology will be interspersed during the weeks of mensuration. Dr. Young will teach this course, most of which will be given in the field. As at present, mensuration will be taught by Professor Wohletz, and surveying will be taught by the civil engineering department. Dr. Martell will be director of the camp.

Idaho is one of the last forest schools in the United States to put a summer camp in its curriculum. The success of the camp will insure a continuation of the high national rating which our school now has. The student resistance which is being met due to the establishment of our camp has been encountered and overcome in every other school, so it is thought that after the first year of camp students will see the advantages of the summer session and will look forward eagerly to the summer between their sophomore and junior years. It must be admitted, however, that the

present resistance is causing drastic results in the class of 1941. This largest class ever to enter the Idaho School of Forestry is already reduced to approximately fifty members, and of this number less than twenty-five have signified their intention of attending summer camp. Since attendance at the summer session is a prerequisite for junior standing in the School of Forestry, it seems that the number of graduates in 1941 may hit an all-time low.

A special arrangement has been made whereby a student may remain out of school for the year immediately before or after summer camp without disrupting his curriculum requirements. This will permit those students who are forced to stay out of school because of financial circumstances to return, after an absence of one year, to their original curriculum.

THE FORESTERS' BONFIRE

WILLIAM W. READ

A cool fall night; a big, roaring bonfire in the southwest corner of MacLean field; and a bunch of good fellows, all foresters, grouped around the fire. That was a real bonfire, as any Idaho Forester who was there will tell you.

It was started off with a bang (after each member of the Associated Foresters had a spruce cone pinned to his coat) by Chuck Poulton, master of ceremonies, who turned out to be one of the best. He introduced Chet Southam, whose golden voice was soon leading the bunch in some old forester songs. When the echos quit ringing, Chuck introduced Cliff Windl, president of the Associated Foresters; Ray Gardner, vice-president; James Caples, secretary-treasurer and Joe Couch, ranger.

James Caples seemed eager to say a word right then, so he was given the floor. He proceeded to introduce the faculty, with an appropriate word or two for each. The first to be introduced was Dean Jeffers, followed by Dr. Martell, Dr. Hatch, Dr. Ehrlich, Dr. Young, professor Wohletz, and the new faculty members, Dr. White and Professor Stark. Each had a word to say (mostly humorous) for the boys, and all were applauded lustily.

Dean Jeffers then arose and introduced the principal speaker of the evening, Supervisor Simpson, of the Coeur d'Alene National Forest, who gave an inspirational talk on "What the Forest Service Expects of Temporary Men." In his address he emphasized initiative, industry and leadership, concluding by saying that capable and

(Continued on Page 36)

Leader Duck

OTTO BALTUTH

Aix bunyanensis, Bunyan

Have you ever gone duck hunting? Have you ever gone duck hunting in Bangor, Maine? The Leader Duck, *Aix bunyanensis*, in the vicinity of Bangor is a special delicacy; and, because it lives nowhere else on the surface of the globe, many legends concerning it are dear to the hearts of the hunters and others in the area. Today, as they did in days gone by, hunters do not have to worry about bagging their limit as long as they are good shots and have the price of one shotgun shell. They can thank ol' Paul Bunyan for this.

Leaving the Leader Duck when he moved westward was one of the few regrettable incidents in Paul's (Bunyan's) life. During the timber harvests in Maine, Paul made periodic tours of his logging camps and it was on one of these tours that he first tasted roast leader duck. After a morning of tramping from camp to camp along the St. Lawrence (Paul always liked to make these trips on foot), Paul came to Camp B near Bangor. He had a healthy appetite worked up and wondered what his new cook would have to offer—he had just hired Roast Duck Pete who was new to the country. This was Pete's first experience in serving dinner for Paul and he intended to outdo all his predecessors. He pushed his crew of 200 cooks to the limit and prepared a duck dinner that is famous in logging camp annals. Paul was a gourmand, as is known, and after tasting that roast duck he swept aside everything else. When he realized that he had pleased his chief, Paul was only a few hundred ducks ahead of Paul; and working his crew furiously—fifty chore boys shooting them down, fifty packing them into camp, and the hundred second cooks preparing the savory fowl for Pete's final touches—he could not bring production into line and Paul was soon shouting for more. Fortunately, Paul liked the new cook from the start; and, rather than prod Pete for inefficiency, Paul looked into the situation to see what could be done. He stayed in camp that night.

It was a bitter December day when Paul moved into the duck country around Bangor and established the present day method of duck hunting in the area. These ducks were rapid fliers and always flew in enormous droves, forming a solid-V with a leader at their head. Paul studied their habits, placed them as a species of wood duck, *Aix*. As

he loaded his gun he gave them the name Leader Duck; later they were scientifically identified as *Aix bunyanensis*, because they depended upon a leader whenever in the air. The first duck Paul brought down was one of the leaders of a flock and the result proved his analysis correct for the whole flock came to earth immediately. Soon they rose into the air again with a new duck at the apex of the formation. Again Paul's knowledge of wildlife came to his aid. He carefully selected an obvious hill in the densely forested area and with several swathes of his hunting knife removed all but one sturdy pine at the top of the hill. Paul was big and could not make use of a duck blind to advantage but he did have a hunter's blood—he could keep quiet. When a cloud of the birds came within range, Paul brought down the leader; and, as he surmised, the ducks picked out the obvious spot in the landscape on which to land, the tree on the hill. Staunch and big as the pines were in those days, a million ducks was a mean load for the limbs to hold up, consequently down came the branches and ducks, the latter crippled or killed on the spot. Paul sauntered up to the tree, selected about three hundred of the choicest ducks for his dinner on that day, and returned to camp. I must mention that Paul hated to waste things; therefore he insisted upon provision being made for the utilization of all ducks killed in this ready way. From that day on Roast Duck Pete solved many of his chow problems in Maine.

During the duck season, Pete's ingenuity showed itself. Pork was a big item on Pete's grocery list; and, although he did not have to satisfy such tremendous appetites as those of the eight axemen who later helped Paul log in North Dakota, he had a more polished group of eaters to satisfy—they liked their bacon and other pork cuts but informed Pete that he would be run out of the Maine woods if he once placed pig's feet on the table. That was funny, of course, and a problem too; for in this camp the bucking and felling crew alone put away three tons of bacon for breakfast and the rest of the porkers along with other meat at the noon and evening meals. Because the bull cooks had to buy their pork on the hoof in carload lots to save money, you can imagine the supply of pig's feet that accumulated. Here

(Continued on Page 51)

RANGE PARTY

ARTHUR PETERSON

A rapidly moving program presented by the seniors in range on the evening of May 16, kept even the most impatient of us steeped in anxiety. Particularly welcome guests were Professor Stephens of Washington State College and his graduating seniors in range management. Other guests included our faculty, Mr. Gaddis of the Soil Conservation Service, Messrs. Johnson and Schwendiman of the Pullman grass nursery, and, of course, our younger brethren of the junior and sophomore classes. Our scintillating master of ceremonies made every one familiar with his neighbors by having each one exchange introductions and make known allegiances. The boys from southern Idaho prudently stressed the corner of the state to which they were closest.

Pierce Nelson struck the key of the piano and took up his baton to conduct ninety-eight lusty voices in the rendition of several range and woods songs. When Betty Bollinger walked onto the stage, those who had heard her in the Pep Band Show welcomed another opportunity to hear her sing. Needless to say, she was called for an encore and graciously obliged. An eager and petite Eilene Patterson entertained our appreciative party next with a song and two exhibitions of tap dancing. By this time the urge for a smoke became manifest and pipes ranging from the lowly corn cob to the carefully polished meerschaum puffed forth the smoke as if in answer to their contented owners. Sans the nominal fee which is customarily paid the professional fortune teller; the seniors were given the rare opportunity to know just what their respective positions in society would be on this very evening ten years hence. With the aid of a desk and chairs, three cigars, and two brief cases, Jim Caples, Joe Montell, and yours at the quill rambled on for a half hour amid the groans, laughs, and ejaculations emanating from those seen in the crystal.

Dean Jeffers appropriately followed with the relation of two of his own experiences on the range in the earlier days of the Forest Service. The trials of a tenderfoot of whom he spoke amused us a great deal and caused some reflections on our part as to how we would react to the same experience. Coming as a complete surprise to Dr. Young, was the presentation to him of a gift of appreciation from the senior class. A few

moments after this occasion he gave a short illustrated talk on the Navajo and Ute Indians of the Southwest, narrating some of their habits and customs. Dr. Young then surprised us with an all too brief demonstration of an Indian dance accompanied with a song.

A bustle at the far end of the lab. signalled the preparation of eats. A potential rush was delayed by a call for a few more songs. There was no need later on to wish for more food. Delicious elk, seasoned with catsup, mustard, or relish, coffee, and ice cream were in such bulk to satisfy the most ravenous of appetites. When the visiting and bull-festing displaced the eating, the night was called with the singing of the alma mater. Bob Porter was general chairman and Jack Martin headed the program committee for this successful second annual senior range party.

FORESTERS' BANQUET

BOB HARRIS

Over 300 undergraduate foresters and alumni from the entire state dined at the Student Union, Thursday, April 27, and heard E. V. Favre, lone forestry graduate of Idaho in 1914, now assistant regional forester at Ogden, speak on "Wild Life and Range in Relation to Forest Management." Mr. Favre, a prominent footballer in 1914, reminisced and then traced typical duties of the forest rangers engaged in range management.

Asserting that range management foresters must be jacks-of-all-trades to handle details of their job, he defined their responsibility as to protection of range resources and attainment of greatest income from grazing land, consistent with preserving it for future use.

As one of the main events of the Forestry and Conservation week the banquet served as a means of getting all visitors and students acquainted by placing them in alternate chairs at the banquet table.

Jim (Tumor) Caples presided as toastmaster, and presented a varied program of entertainment. After the introductions of faculty and guests, Charles Kiljanczyk led the group in community singing which broke the rigid ice of formality. Musical entertainment was provided by way of marimba and vocal solos. A forester's skit entitled "Name It and You Can Have It" was presented by John Hoyer, Dick Campbell, and Willis Bohman.

One of the highlights of the evening was the pledging of six foresters by Xi Sigma Pi, forestry

(Continued on Page 43)

THE SPRING BARBECUE

JOE HARLE

Amid chatter, laughter, and cheers, the "Bunyan boys," a hundred and fifty strong, piled into trucks and cars and careened off to Randall's Flat for their fifteenth annual traditional barbecue, Saturday, May 28. Old "Sol," smiling his brightest approval, paved the way for a perfect day and never-to-be-forgotten thrills for all. Highlights of the day were feats of "Bunyan" strength, the partaking of food fit for kings, and tales of bees and asses by Profs. Young and Wohletz, respectively.

The high point man for all of the combined contests of the day was Ernest "Red" Ahler, who received as a prize a double bitted axe donated by the Kelly Axe and Tool Co. From the tobacco spitting South the Tennessee lad placed first in the expectorating contest with an all time record of 19 feet 11½ inches. He next demonstrated his pacing ability by guessing 27.1 chains for a distance of 27.019 chains. As his final achievement of the day he won the 100 yard dash in logging boots.

The faculty egg contest was won by Professor Ernest Wohletz, after many disgusted remarks on the part of the faculty and roaring laughter by the spectators. The object of the contest was to throw an egg into the air to try to catch it intact. As man who caught intact the highest thrown egg, Mr. Wohletz was proclaimed the winner.

During the day the freshmen foresters proved their mettle by winning the tug-o-war contest, first by defeating the sophomores and then the seniors, and by winning the log sawing contest. In this latter contest the winning team was composed of Ward Smith and Neil Tise; the time for sawing the two foot log was 37½ seconds.

Other contests and their winners were: tree climbing contest, won by long-legged Bill Sargent who shinnied up and down a pine tree to the height of 35 feet in 12½ seconds; log rolling contest, won by Austin Helmers who rolled and stayed with a log for fifty seconds; chopping contest, won by Ward Smith who chopped through a large log in one minute and eight seconds; three legged race, won by the sophomore team of Ralph Reid and Bob Bingham; sack race, won by Chuck Poulton; and Doctor Martell's smokechase, won by the sophomore team composed of Jesse Merideth, Allan Galbraith, and John Barnard.

The all-important "eats" committee lived up to the reputation previous committees in past years had set, as all Associated Foresters enthusiastical-

ly agreed after fifth and sixth servings. The meal consisted of roast beef and buns, apple cider, pickles, baked beans, and ice cream.

There were 150 boys and five faculty members present. Judges for the day were Ahler, Calloway, and Kapel.

Everybody was back on the campus by five o'clock and, though tired and worn-out, all agreed that it had been a perfect day.

OUR OWN PAUL BUNYAN

Excerpt from a letter written by

LEON R. NADEAU

In the fall of 1934 we all returned to Morrill after a more or less speculative summer to find a new dean in the School of Forestry office. Dean McArdle was one of those fellows who usually arranged to have a devil of a good time getting a lot of work done. Maybe his being more or less a new comer made it easier to size us up but nevertheless he decided we were a little "slack in the pants" and therefore proceeded to interest us all in being just a wee bit livelier. A foresters' chorus was organized and a special effort was made to interest all of us in extra-curricular activities. We arranged programs, moving pictures, etc., but the turnouts weren't always satisfactory. The predominant excuse usually was "I didn't know it was coming off." Well, to meet the situation, Dr. McArdle delegated himself and Liter Spence, then professor of range management, to constitute an advertising committee. Perhaps some of McArdle's "carnival" posters and works of art may still be among the things salvaged when the last big house cleaning took place. One of the principal objects was the development of a bulletin board that we foresters couldn't pass up unnoticed. If we saw the board and posters occurring thereon—well, there was no excuse. Spence found an advertisement in an issue of the *Timberman* in which a small picture of Paul Bunyan was shown. The Red River Lumber Co. of California had run this particular advertisement, Paul being a sort of "woodbutcher's god." Spence got the bright idea that he needed Paul on the advertising committee. His broad chest was an ideal place to hang our pertinent bulletins and even the most unobserving could not fail to "contact" if Paul were his natural size. That night, Liter Spence, Ralph Jensen, Paul Anderson, then president of the Associated Foresters, Russel Smith, and myself met in the wood technology-dendrology lab—now the forestry library. I believe

Bill Anderson was there, too. We spread a sheet of beaver board out on a lab. table, blocked it off in six inch squares; then with pencils, ruler, a few bottles of show-card paint, a pocket knife, saw, a few strips of board, we all huddled around the table until about 3 o'clock in the morning. Behold! Frankenstein? No, it was Paul Bunyan, just as you see him on the third floor in Morrill hall and among the trees at the Foresters' Ball.

EROSION CONTROL--Bennet

(Continued from Page 10)

mean considerable savings in that the operator may carry his livestock over and avoid forced sales during drought years.

While these improvements in the plant conditions are going on, fundamental changes are taking place in the soil. Increase in the top growth (1) brings about a greater root growth in order that sufficient water and minerals may be absorbed; (2) increase in roots loosens and aerates the soil; (3) the death and decay of old roots adds humus to the soil and increases the capacity of the soil to hold water; (4) the old root channels provide for increased penetration of moisture and pathways for new roots; (5) and the total effect of these changes acts to bind the soil together, improve the tilth, and prevent accelerated soil or water losses.

Students of land management are well aware of the importance of these benefits in erosion control, in the protection of water supplies, and in the reduction of flood hazards and similar matters that affect the people generally. Too little attention has been given to demonstrating that conservative management of range lands results in increased financial returns to the livestock operator as well. The following record taken directly from the books of a western stockman is but one example of many where conservative use has paid big dividends.

John Doe

State of Texas

This operator reduced his rate of stocking from 36 head per section (640 acres) to 24 head per section beginning with 1935. This was done by adding 10.5 sections of land to his ranch. The forage is chiefly blue grama, black grama and curly mesquite grass.

(Continued on Page 50)

MISS BUE LEAVES

Forsaking the haunts of the foresters for the realm of the politician, Miss Bue left the School of Forestry after three years of service as secretary to the dean. Dr. Hatch lured her away from us by offering her a position in his office, that of the Director of the State Game Commission. Not holding any grudge and at the same time very grateful for the assistance she has given to the various organizations of the school, the Associated Foresters, The Idaho Forester, and Xi Sigma Pi presented her with a traveling bag. Latest reports indicate that Boise climate did not agree with her so she is spending some time in the hospital. We wish you a swift recovery Helen.

BON FIRE

(Continued from Page 32)

efficient handling of a temporary job often throws the scales in one's favor when being considered for a permanent position.

The fire burned low for a minute, and when some more logs had been thrown on, everyone looked up to see Jack Martin, who broke into his famed (around the Forest School) Sheepherder's Lament. When the clapping died down, Cliff Windl, the Wyoming cowboy, stepped out and serenaded the stars with his accordion. The applause seemed to indicate a desire for more music, so Nelson Jeffers got up and swung out on a harmonica.

As the last lingering strains died away, some one yelled, "Grub!" and the whole mob high-tailed over to the food benches where Floyd Curtis and his crew had set up the chuck. Cider, hot dogs, doughnuts and ice-cream were dished out.

Everybody then stood around the fire, eating and talking and watching the logs break while the embers popped and died away.

THE NEW SECRETARY

Filling the chair behind the desk in the main office you will find a newcomer. Miss Jean Chandler graduated from the President's office at which place she was a stenographer. To be secretary in the School of Forestry is no mean position and we foresters feel that the office is one of which to be proud. Whether she is worthy of the trust we place in her time will tell. However her actions indicate that she will be quite an aid in solving all the problems of the student—school, heart, and otherwise.

XI SIGMA PI

FACULTY

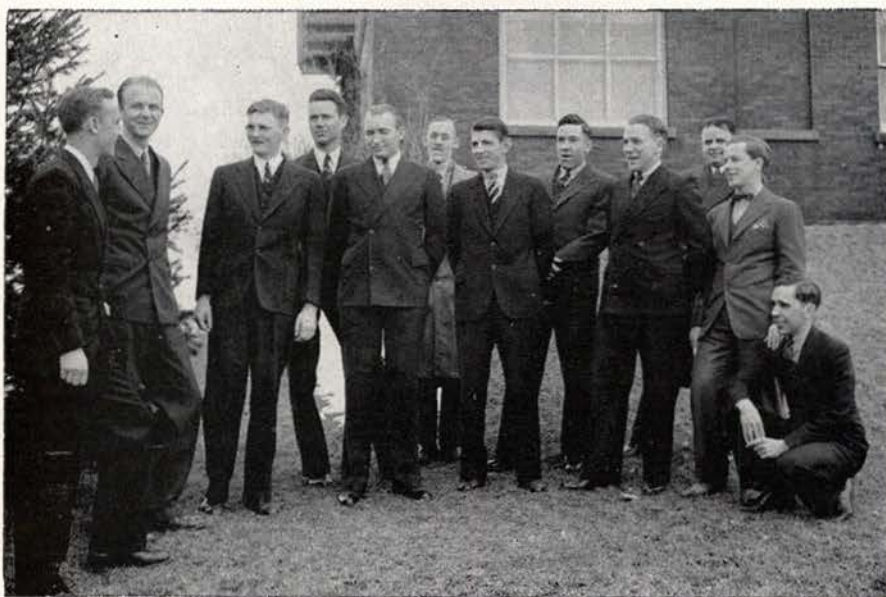
Dr. John Ehrlich
Dr. A. B. Hatch
Dean D. S. Jeffers
Dr. E. R. Martell
Royale K. Pierson
Ernest Wohletz
Dr. V. A. Young

GRADUATES

Gordon F. Ellis
Albert Petzold
Leslie Robinette
Albert W. Slipp

STUDENTS

J. Austin Beard
Gilbert B. Doll
Edwin Fargo
Robert A. Frazier
Jack M. Martin
John M. Molberg
Charles E. Poulton
Ben O. Spencer
Carl C. Wilson
J. Clifton Windl



Doll, Fargo, Molberg, Windl, Wilson, Slipp, Beard, Sing'ey, Spencer, Young, Pezold, Martin

Xi Sigma Pi is the national honorary upper-classmen's forestry fraternity. The chapter at Idaho, founded in 1920, was the fifth in the United States. Since that date the organization has enlarged its roster to include chapters in ten of our leading forestry schools.

The objects of the fraternity are: to promote high scholarship in forest education, to work for the upbuilding of the profession of forestry, and to

further fraternal relations among the workers in the field of forestry.

For the accomplishment of these objects, Xi Sigma Pi has a scholarship plaque, a senior scholarship award, a spring formal dance, and a number of luncheons.

Each year the names of the men having the highest grade point average in their respective classes in the school of forestry have their names

engraved on the bronze scholarship plaque. From 1922 to 1936 there was one plaque, which was in the main hall of the Administration building. However, in 1937, with the filling up all available space on this plaque, a new one was necessary. In the future these plaques will be on the third floor of Morrill hall, in a more appropriate setting. Those receiving this honor last year were: senior, J. Franklin Meneely; junior, Carl C. Wilson; sophomore, J. Austin Beard; and freshman, J. Wesley Barcus.

The 1933, Idaho Epsilon chapter instituted an award for seniors. The candidates are judged on the basis of scholarship, professional interest, personality, practical experience and leadership. The award consists of junior membership in the Society of American Foresters and a year's subscription to the Journal of Forestry. The winner in 1938 was Harold Heady. Cliff Windl received the senior award this year.

The spring formal dance was held at the L. D. S. Institute on January 14. The decorations for the dance consisted of plaques which each new member is required to construct and have signed by the members in attendance at school at that time.

New members initiated this year were Dr. E. V. White, Prof. E. W. Stark of the faculty, and Wilfred Stevens, Ralph Reid, Eamor Nord, and George Nietzold, upperclassmen.

The officers for the present year are: forester, Gilbert Doll; associate forester, Carl C. Wilson; secretary-fiscal agent, Charles E. Poulton; and ranger, Jack Martin.

EROSION CONTROL -Bailey

(Continued from Page 9)

the two major problems—rehabilitation of depleted and eroding ranges, and maintenance through proper management measures on those areas which are considered to be still in a satisfactory state of productivity. The second may be easier than the first for reconstruction is always a difficult undertaking, and with our injured and broken ranges we face not only the physical and biological problems of the range itself but the social and economic problems that are associated with man's use of that range. Furthermore, because of social and economic reasons, utilization must go on simultaneously with rehabilitation. It is necessary for us "to live in the house" while we repair and reconstruct it. It can be done because it must be done.

Ranges on which plant and soil condition is

satisfactory must be maintained and most depleted and eroding range land be rehabilitated by the application and use of management principles and practices that in the past have proved to be good, augmented by those that will be formulated and tested in the future. There are areas, however, that support so few seed plants and on which soil erosion is progressing so rapidly that natural revegetation will fail entirely or be so delayed that artificial treatment in the form of reseeded or "upstream engineering" practices will be necessary to establish a protective plant cover and check the accelerated erosion.

Results to date demonstrate that under certain conditions the carrying capacity of a depleted range can be increased many fold by artificial reseeded and that terrace-trenching will check soil erosion and conserve moisture for growing forage plants. But these are new fields in management and research and many basic facts and much experience is needed to make feasible the application of these practices to the wide variety of conditions and areas which need them.

The ultimate solution of the range-erosion problems is dependent on how quickly and thoroughly the specific details of management and rehabilitation can be worked out and how completely they will be incorporated into the schemes of utilization of the forage resource. It is not difficult to understand why proper range utilization has not always been practiced and why a satisfactory program requires so much effort when we realize the complex physical and biological conditions that make up a western range. It is the complexity of these conditions which has made the consequences of past activities so easy to overlook, so difficult to foresee. Climate and topography are so diverse that most of the range region can be classed as "high hazard." Steep slopes, torrential storms, desert and semi-arid climates with wide fluctuation, shallow, easily eroded soil, and a natural sparsity of protective plant cover characterize much of the range. But irrespective of the nature or condition of the range, the pressure of economic demand for the full utilization of the forage resource is as great today as it ever was. Here then is the problem, that of grazing these lands and yet conserving their watershed values. It is one to challenge our best efforts. Surely it justifies an aggressive program of research and management that will repair the losses already incurred, secure the permanency of the grazing industry and protect the agricultural values dependent on the range watersheds.

Faculty

Dean D. S. Jeffers

Dean Jeffers spent many interesting days in the field during the last summer.

One of the most interesting trips that he made was to the "Seven Devils", a group of mountains along the Snake River Canyon. In company with Dean Jeffers was President Dale and his two sons, Doctor Nelson, a systematic botanist of Wyoming, Supervisor Phillips of the Nez Perce National Forest, and Ranger Clover, who acted as guide.

The trip was made on horseback over rough broken country in which Dean Jeffers made a survey as to the recreational possibilities. President Dale and his sons amused themselves by enjoying the natural beauty and the vastness of the country while Doctor Nelson, a true taxonomist, spent his time gathering specimens to take back to Wyoming. The group climbed the "He Devil", the highest of the seven peaks, situated in the vicinity of one of the deepest parts of the Snake River which at that point is 7,000 feet in depth.

Dean Jeffers, accompanied by thirteen others, and Floyd Godden, Supervisor of the Salmon National Forest, and a graduate of Idaho (class of '37), as guide made a trip to "the Craggs" to make a survey of the big game situation throughout the country traversed.

Mr. Ernest Wohletz

Professor Ernest Wohletz, assistant professor of forestry, regardless of a full schedule, has managed to spend some time doing research that deals with the transportation and distribution of lumber in the United States.

Mr. Wohletz attended the State Foresters meeting at Boise last summer and in December of the same year attended the Western Forestry conference at Portland, Oregon. He recently took in the conference of the Northwest Scientific association at Spokane.

Mr. Wohletz will be busy this summer preparing and teaching mensuration in summer camp. During his two weeks' vacation, which will come at the later part of the summer, he will attend the World's Fair at San Francisco.

A new course in forest measurements, that will prepare the students to analyze measurements made in all branches of forestry, will be taught by Mr. Wohletz next fall.

Doctor E. R. Martell

Doctor Martell, the assistant Dean and Professor of Forest Management, makes a few trips to the eastern or western United States even though his summers are taken up. During part of the summer, Dr. Martell covers the state of Idaho on an inspection tour checking on the possibilities of student summer work by contacting the employers and correlating their needs with respect to the undergraduates.

In 1937 Dr. Martell collected Dendrological material in the East. His specimens included eastern hardwoods and conifers. 1938 found his reviewing Redwood and Pine stands of California. Ten days of his much occupied summer was spent on a forest service big game trip with President Dale.

As yet Doctor Martell could not foresee any trips for this coming summer as the summer camp will keep him more than busy.

Doctor John Ehrlich

Doctor Ehrlich, assistant professor of forestry, finds his projects taking up most of his summer. Even so, he enjoys his work, which is proven by his enthusiasm on these projects.

One of his projects last summer consisted of setting up a field inoculation experiment in the St. Joe National Forest for the purpose of studying the time necessary for the development of white pine blister rust. He expresses his gratitude for the co-operation given him by the Forest Service regional office at Missoula and the blister rust officials of the Division of Plant Disease Control of the Bureau of Entomology and Plant Quarantine at Spokane.

Another project was the investigation of root diseases in western white pine in the Coeur d'Alene National Forest. In co-operation with Dr. Ehrlich were the Forest and Range Experiment Station at Missoula and the Forest Insect Laboratory of the Bureau of Entomology and Plant Quarantine at Coeur d'Alene.

Dr. Ehrlich also spent two weeks last summer on a reconnaissance trip in central and southern Idaho with the State Extension Forester. The purpose of this trip was to observe forest diseases, of which many specimens were collected and placed in the forest pathology herbarium.

Dr. E. V. White

Dr. White, associate professor of wood utilization, is new to the School of Forestry this year. He is a Canadian by birth, but American by parentage. His education was received at University of Toronto (B.S. in Chem. Eng., 1931), and at McGill University (M.S., 1934) (Ph.D., 1936). While working for his Doctor's degree, he received two research fellowships, donated by Howard Smith Paper Mills; and he studied for some time with Dr. Acree at the Bureau of Standards.

Dr. White has had several years of practical experience both in the manufacture of pulp paper and its related products, and in the cellulose derivative field. Prior to coming to Idaho, he was employed as research chemist with the Dow Chemical Co. in the new Ethyl Cellulose Division.

His work at Idaho will continue along with his extended research in wood utilization at the Wood Conversion laboratory. The problem he is working on at present deals with the chemistry of the products of woody tissues and their economic utilization.

Mr. E. W. Stark

Assistant professor of forestry E. W. Stark is a graduate of Purdue University (B.S., 1932), and he received his M.S. at New York State College of Forestry in 1934. Previous to his coming here, he spent two years as full-time assistant in wood technology at Syracuse University.

At the present time, Mr. Stark is working on a twig key for western hardwood species, in association with Dr. W. M. Harlow of Syracuse University. In addition to this research, he is working for his Doctor's degree.

UTILIZATION--Jahn

(Continued from Page 17)

Douglas fir are also converted into pulp chips, the latter species being used mainly for fiber boards. A number of the nationally known fiber building boards are made from sawmill wastes. The species mostly used are northern white pine, longleaf pine, southern gum, eastern spruce, balsam fir, and Douglas fir. There is practically no technical restriction as to species usable for fiber boards and this industry is one of the largest users of wood wastes.

In a number of locations the hardwood distillation industry is an outlet for hardwood logging and mill wastes. Most foresters are familiar with the integrated forest utilization plan of the East-

Doctor V. A. Young

One of the most outstanding foresters of Idaho is Dr. Young, professor of Range Management. Dr. Young and his brother own a cattle ranch in southeastern Utah where he spends two weeks of his vacation actually punching cattle and sleeping out under the stars, and states that "he enjoys doing the type of work that he did when he was a boy of 16."

He spends part of his summers among the Indians studying their habits, craftsmanship, and their ways of handling livestock. He has visited the Navajos, the Utes and plans on visiting the Apache and Pima tribes this June. On his frequent trips he studies the new range lands that he encounters.

Doctor Young has traveled to all parts of the United States and parts of Canada, but states that the "West is the best of all because of the ideal hospitality shown by its inhabitants and the wide diversity of country of the Rocky Mountains"

man Kodak Corporation in Tennessee. As a result of the shortage of methanol and acetone during the war, the company purchased timberland and built a wood distillation plant. To utilize the timber efficiently a sawmill was built. Thus lumber is made from the good quality logs, and the limbs, tops, scrub trees, defective logs, sawmill slabs, edgings, trims, and reject lumber are available for distillation. Sawdust supplies all the fuel for the sawmill and one-third of the fuel for the distillation plant. Another third of the retort fuel is supplied by the gases from the distillation process.

The generation of producer-gas from waste wood for power and heat is well developed in Europe where gasoline costs are high. It is used in automobiles, trucks and stationary power plants. Twenty-five pounds of wood are reported equivalent to one gallon of gasoline.

A new mill was recently built on the coast of Vancouver Island which is entirely powered by producer-gas generated from its own sawmill wastes. This is probably practical only in outlying districts where fuel costs are high.

Many interesting developments have been made in the production of various chemicals from wood waste. Vanillin, to make "vanilla extract", is now being made from waste sulphite pulp liquors in Wisconsin and in Canada. Yeast is also produced from waste pulp liquors in a number of places. In Germany there are two processes in

(Continued on Page 44)

GRADUATE STUDENTS



Mr. E. Wohletz

Graduate Students

BEN SPENCER

The increase in graduate students reflects the growing reputation of the Idaho School of Forestry. The number has nearly doubled since last year. Forest pathology, range management, and wood utilization lead, each drawing three men; silviculture studies are being made by two men, and one is working in administration.

Albert W. Slipp

Albert Slipp graduated in forestry at the University of New Brunswick in 1930. After completing one year of graduate work at Harvard, he came here to continue his study. He will have completed work for a Master's degree by June of this year. He intends to remain here and start work for a Doctor's thesis to be presented elsewhere. He has continued his research problem with white pine blister rust. It has been possible for him to maintain better temperature control this year, and he has used potted pines rather than cuttings for inoculation with blister rust.

Donald A. Foote

Donald Foote is doing graduate work in Forest Administration and silviculture for an M.S. degree in Forestry. He came here from the University of Arizona where he graduated with honors receiving a B.S. degree in botany in 1933. He is a member of Phi Kappa Phi, scholastic honorary, and Alpha Zeta, agricultural honorary. Foote has had experience with the Soil Conservation Service and spent last summer working on the Santa Rita Experimental Range securing data for research for the Southwestern Forest and Range Experiment Station.

Victor Sellers

Back with us doing graduate work under Dr. Ehrlich is Victor Sellers. An Idaho forestry graduate in 1938 with a major in forest production, he is now studying for a Master's degree with a major in forest pathology and a minor in botany. For a research problem, Sellers is studying heart rots of western red cedar in northern Idaho. He has had experience on a lookout and spent last summer as Laboratory Technician at the Dutch Elm Disease Laboratory, Morristown, N. J. He is interested in research and disease control and intends to work in some field along this line.

Charles I. Miller

Charles Miller, a Fellow in Forestry, is doing graduate work for an M.S. degree in Forestry

under Dr. Martell. He received his B.S. degree in Forestry at the University of Michigan in 1938. He is studying "Direct Seeding in the Northern Rocky Mountains" for a research problem. He is assisting Dr. Martell in silviculture and forest management classes this semester. He has had experience with the Michigan Department of Conservation Forestry Fire Experiment Station, Roscommon, Michigan. Miller is interested in private forestry and intends to work in that field.

U. Layton Upson

Layton Upson graduated with a B.S. degree in chemical engineering at Oregon State College in 1938. He is doing research under Dr. White in wood utilization for an M.S. degree. He is making studies of lignin from western white pine. He has spent one summer with the Weyerhaeuser Research Laboratory at Longview, Washington. He intends to continue his study for a Doctor's degree and make research his life work.

John Bower

John Bower is from Montana State College where he received his B.S. in chemical engineering. He graduated with the highest average of his class, and afterwards won a Potlatch Forests Fellowship. Research on "synthetic boards" from gelatinized wood is the project he is working on for his M.S. degree. Sawdust of western white pine is gelatinized and formed into a harder and tougher material than the original wood. Laboratory samples of this material have so far tested very favorably. Commercial production of "synthetic boards" from wood which would otherwise be wasted would mean much to the Idaho white pine industry.

Leslie Robinette

Leslie Robinette, a graduate of the New York State College of Forestry, has completed work for a M.S. degree in Forestry with a major in range management. He came here in February, 1938, to begin work on his Master's degree. He spent last summer in the Selway Game Preserve of the Clearwater National Forest where he worked out data on the natural history and grazing habits of elk. He finished his credits at the end of the first semester this year and immediately accepted a Junior Range Examiner appointment at Ephriam, Utah. Robinette is a member of Xi Sigma Pi and an associate member of Sigma Xi. He was married in April, 1939.

Albert O. Petzold

Albert Petzold received his B.S. degree in Forestry at Pennsylvania State College. He received a co-operative Fellowship, Soil Conservation Service and University of Idaho, to do graduate work under Dr. Martell. His research problem is "Effect of Various Treatments on Seeds Useful for Erosion and game". He is a member of Xi Sigma Pi. Since graduation in 1936, he has worked as Site Forester for Resettlement Administration, Engineer for the Farm Security Administration, and spent some time with a logging company. Petzold also did some research in silviculture at Pennsylvania State. He intends to get a Doctor's degree, to teach, and do research on the side.

F. Gordon Ellis

Gordon Ellis received his B.S. degree in forestry in 1928. He is a member of Xi Sigma Pi. Since graduation, Ellis has worked as Junior Range Examiner on the Fremont National Forest in Oregon, and has also worked on the Boise, Wasatch, and Ashley National Forests in Utah. He is working for an M.S. degree in Forestry with a major in range management. His research problem is on winter carrying capacity of deer ranges in Idaho. He is interested in game and intends to work in that field.

Ralph Hossfeld

Ralph Hossfeld started work for his Master's degree in February, 1938, and hopes to finish this June. He is an Idaho graduate in chemical engineering. His research problem is a study of the products of fungal fermentation and arabogalactan of western larch. Pure arabogalactan is a chalky white substance when isolated, whose properties and uses are as yet practically unknown. It is found in the western larch near the base of the tree in large quantities and often causes the butt logs to be left on the ground after logging due to excessive weight and the impossibility of their being floated. A strange and possibly valuable substance may be obtained easily as it is soluble in water.

Vincent Benton

Doing graduate work in forest pathology under Dr. Ehrlich is Vincent Benton. He graduated from Brown University with an A.B. degree in botany. He is doing work on *Armillaria mellea* in relation to damage in western white pine. Benton is especially interested in research and may continue his study for a Doctorate degree.

F. Woodrow Snyder

Woodrow Snyder, an Idaho graduate in Forestry in 1938, is doing graduate work in botany and forestry. He is also taking a few courses he could not take during his undergraduate work. He has not yet decided in what he wishes to do research. He intends to get an M.S. and Doctor's degree. He is interested in ecology and hopes to make research his life work. He has had experience on a lookout and as field assistant in a white pine blister rust research project under Dr. Ehrlich.

Gilbert B. Doll

Gilbert Doll is doing graduate work for an M.S. degree in Forestry with a major in range management and a minor in soils. He completed work for a B.S. degree in January and is continuing on a fellowship under Dr. Young. He will have completed required credits except for a thesis, by June. Doll will complete data for his research problem, "Grazing Relationships to Plant Succession on Cutover White Pine Regions of the Clearwater National Forest," this coming summer. He is a member of the "I" club and Forester of Xi Sigma Pi, forestry honorary. He worked as party chief on the Pine Disease Survey in 1937 and was Range Examiner for six counties in southern Idaho last year. He is interested in research, but hopes to work for the Forest Service.

BANQUET

(Continued from Page 34)

honorary. Gilbert Doll, president, announced the pledging of Dr. E. V. White and Prof. E. W. Stark of the faculty, and Wilfred Stevens, Ralph Reid, Eamor Nord, and George Neitzold, upper-classmen. Chosen best all-round forestry senior for the year 1938-39 was Cliff Windl, Associated Foresters' president and member of the student body executive board, who came to Idaho from Wyoming. Cliff was awarded a junior membership in the Society of American Foresters.

The banquet having ended with the singing of "And Here We Have Idaho," after dinner discussion consisted mainly of the swell time every one had. Much of the success of the banquet can be attributed to Orville Cary, general chairman; Jack Martin, entertainment; Lewis Folsom, and M. R. James, reception and invitation; William Boone and Wilber Garten, menu committee heads.

UTILIZATION--Jahn

(Continued from Page 40)

operation, converting waste wood into ethyl alcohol, glucose and a number of by-products. Those who have investigated the processes believe they are able to show progress in Germany due to the peculiar economic situation there, but that they would not at present be successful in the United States.

Research and Developments Bearing on Chemical Use of Wood and Forest Practice

Recent years have seen many research developments in the chemistry of wood, some of which are already affecting forest practice. The development which has received the most nation-wide attention in the past few years has been the discovery that southern pines can be made into groundwood and sulphite pulps suitable for newsprint and other white papers. This is based on the fact that young trees, containing nearly all sapwood, have low resin content. Since only young trees can be used it offers interesting possibilities for forest management practices. Second-growth stands can be used on a sustained yield basis in a number of ways. If pulpwood production is integrated with sawtimber, poles, ties, naval stores and other products, then suitable thinnings can be taken for pulpwood, E. L. Demmon of the Southern Forest Experiment Station points out that if only pulpwood is the product, silvicultural treatment can involve even-aged stands or the pines can be grown under a selection system where a growing stock is always present and cuttings are made at 5 or 10 year intervals. C. E. Behre believes that the soundest course is to work through a system of light cuttings in the second growth in which pulpwood production will be integrated with the growing of high quality sawtimber.

Actual development is now taking place in the South. A newsprint mill is nearing completion in Texas, another has been financed in Tennessee, and a large sulphite mill is nearly completed in Florida. The latter is to make pulp for rayon.

Improvements in the bleaching of kraft (sulphate) pulps may make it possible also to make white papers by this process from southern pines. The kraft industry is well established in the South.

Commercial production of good pulps from Douglas fir would greatly affect the forest situation in the Northwest. Since the principal lumber and logging waste on the north Pacific Coast is Douglas fir, use of Douglas fir for pulp could mean better utilization of this species. The U. S. Forest Products Laboratory has produced satis-

factory Douglas fir pulps by both the sulphate and sulphite processes.

In the Northeast and Lake States red pine grows rapidly and offers promise of short rotation silvicultural treatment for pulpwood. Research at the New York State College of Forestry shows that good quality sulphite pulp can be economically produced from this species.

A material peculiar to northern Idaho and western Montana is the galactan gum of larch. Butt logs of larch are heavy with 10-20 per cent galactan, and the trees are long-buttled when logged, resulting in very high waste. Galactan is readily leached from shavings or chips by cold water. During the war a plant in Montana extracted galactan for mucic and oxalic acids. Improvements have since been made in the process and many consider it to be commercially feasible. Galactan may be fermented by various organisms and it offers a possible source for a number of industrial chemicals.

The idea that wood might be brought into a homogeneous plastic mass, which can then be re-cast, is the basis for considerable research on the potential manufacture of plastics and synthetic sheet materials from wood. The Masonite Company has a semi-commercial plant for making a molding composition from steam exploded wood by a patented process. A black, hard, vitreous-like product is made by pressing the ground powder at 175 degrees centigrade and 1500 pounds per square inch. The U. S. Forest Products Laboratory has developed a promising lignin plastic from partially hydrolyzed wood.

The Idaho School of Forestry has carried out a number of studies on plastics, including lignin plastics. Simple calescence of sawdust by heat and pressure forms a material stronger than the original wood (modulus of rupture of 12,000 lbs. per sq. in., compared to 9,500 lb. per sq. in. for the original dry wood). Gelatinization of wood is a third line of study carried out at Idaho. In this case sawdust is comminuted in aqueous media to form a paste-like mass. When molded and dried under controlled conditions a very hard, strong material results (modulus of rupture up to 20,000 lbs. per sq. in.) This material may be dyed before molding, and may be sawed and drilled.

These molded products appear to have properties which may make them useful for many purposes. Their development should lead to better forest utilization, since sawmill wastes would be suitable raw material.

Conclusions

Greater chemical utilization of wood is not go-

ing to mean the growing of brush, or thumb-, or wrist-diameter trees followed by machine harvesting. It is going to mean, and already means in the case of pulp, that trees are not going to be grown solely for sawtimber. It will mean much better opportunity for efficient forest utilization—thinnings, inferior trees, poor-lumber species, and sawmill wastes for the chemical plants—the larger trees of suitable species for lumber. It will mean better opportunities for good forest practice—if we plan and execute well. Active work by research institutions and research and development work by present forest industries should go a long way toward increasing the usefulness of our forests and enabling better forest management.

WILDLIFE--N. B. Cook

(Continued from Page 13)

where research has been and is being conducted with reference to all forms of wildlife. This, again, is with the cooperation of the Biological Survey. This service, together with assistance from the Bureau of Fisheries, has taught us much and is enabling us to steer clear of some of the pitfalls of the past. Errors have been made due to lack of information in many things undertaken by the State Game Departments, although done with the best of intentions. The need for scientific research in this phase of American government is most evident. In view of this, through the above-mentioned cooperative agreements, we have and are now making detailed research work on the following subjects: Rocky Mountain Mule Deer, Sage Grouse, Sharp-tailed Grouse, Waterfowl Food, Plants, Beaver, Fish (Fish-foods, diseases, cause of losses, population, status of trash fish in game fish waters, suitability of streams and lakes to certain types of fish life, etc.) Information gained on these matters is very beneficial in our fish and game program.

As before stated, all of these cooperative efforts have been for rehabilitation of the natural habitat. This procedure is certain of a tendency in the production of game. Then comes the phase of wisely harvesting and utilizing surpluses, if and when one exists. An instance of what can be accomplished in this respect is demonstrated by achievements with one of our small elk herds. This herd had its beginning in 1913 with the introduction of 50 elk from Yellowstone Park, and planted in an area barren of this specie. No hunting was permitted until 1924 and since that time 994 elk have been legally killed and there is yet a herd of 800 head remaining. This has been accomplished through cooperation of various Federal, State and private agencies, and the special permit system

which allows only a limited number which has previously been determined to be a surplus, to be taken.

An unwritten agreement between the Fish and Game Department, Forest Service and Livestock men using this particular range was to keep numbers of elk to not exceed 600 head on this area. Occasional counts by airplane are made and used as a basis for determining numbers to be taken. These census have been made by the Forest Service and Fish and Game Department cooperating. Our last count, made just recently, was accomplished with the assistance in both labor and expense of the livestock men. Therefore, there is no disagreement on numbers. To have wisely harvested such a number of elk in this short time, and to yet have such a healthy and good sized herd from a small beginning, proves what might be accomplished through sincere cooperation and game management.

In summing up, then, on the subject assigned, it would seem impractical to refuse cooperation with Federal Bureaus, even though one might feel so disposed. Had there been apparent attempts on the part of such Bureaus to usurp State's rights, this writer would hold an entirely different opinion, but I have no suspicions of their ambitions as so far expressed in this State.

We will continue to ask help from any Agency that can and will do anything for the betterment of the fish and game resources of the State, or of the United States, as no one can dispute that this matter was left without Governmental attention much too long.

GRAZING--Rutledge

(Continued from Page 13)

provision is made for game to range in common with domestic livestock grazing in the districts.

It is estimated that approximately 2 million people live in the 50 grazing districts. These people are engaged in all pursuits that go to make up a civilization or a community. The welfare of all these communities depends on the perpetuation of the natural resources which surround them. The objective of the Taylor Grazing Act administration is to permit the wise use of the land and its resources so that they may be made to serve mankind while preserving all that is possible for future generations. The nature of the work of the Director of Grazing is such that any policy or act for which he is responsible must be approached from the standpoint of public benefit which means that primary consideration is given to the natural resources, the livestock industry, the home, and the community.

WILDLIFE--Gabrielson

(Continued from Page 12)

and improvement of land and water areas adapted projects that have as their purpose the selection, acquisition, restoration, rehabilitation, table as feeding, resting, or breeding places for wildlife.

On such projects, the Federal Government, through the Biological Survey, can furnish as much as 75 per cent of the funds required. Projects thus financed are selected and administered by the State game departments. The procedure for obtaining approval of projects and the manner of reimbursement to the States is similar to that followed under the plan of Federal aid to the States for highway-building purposes, and is somewhat comparable to the act providing Federal aid to the States for forest-fire protection purposes.

State game departments have, for years, experienced difficulties in obtaining trained personnel, schooled in the principles of game management and related fields. To aid these and other agencies in overcoming this obstacle, as well as to provide a means of adding to its own research and administrative staff, the Biological Survey, in cooperation with the American Wildlife Institute, State game departments, and State colleges and universities, has established 10 cooperative wildlife research units well situated for the purpose throughout the United States. These units serve the dual purpose of undertaking research on wildlife problems and, at the same time, training young men for wildlife management. Graduates from these units are available to any State, Federal, or private agency having need for men so trained.

The Biological Survey and other Federal agencies maintain a staff of trained men in Washington and throughout the United States who are always available and glad to cooperate with the States on any restoration problem. Many of these men are highly trained technicians in their respective fields, yet their services are available to the States and to individuals on problems of local as well as national importance.

It is the policy of the Biological Survey wherever possible to serve as a coordinating agency on matters pertaining to wildlife management and restoration. This service is, of course, always available to the States.

The foregoing outlines a few of the opportunities for cooperation between the Federal and State governments in conducting wildlife-restoration programs. Such opportunities depend upon local conditions, but cooperation in some degree between

Federal and State governments is almost always possible if someone will take the trouble to enlist that cooperation. The States have not always taken full advantage of their opportunities, but on the other hand, Federal agencies have not always enlisted the help and advice of State agencies when such assistance was available and could have been of inestimable value. State colleges, universities, State game departments, State agricultural departments, and State-wide organizations, including livestock associations and others, are fertile fields for developing cooperative programs designed to restore and benefit wildlife.

Advantage should be taken of every opportunity to cooperate when planning wildlife-restoration programs. Cooperation is not merely advisable; it is essential to the efficient conduct of programs and to success in accomplishing their purposes. Without mutual understanding of a problem, there can be no mutual support of efforts for its solution. Unity of action is imperative in any wildlife-restoration program.

FOREST SERVICE AND INDUSTRY

G. D. Cook

(Continued from Page 16)

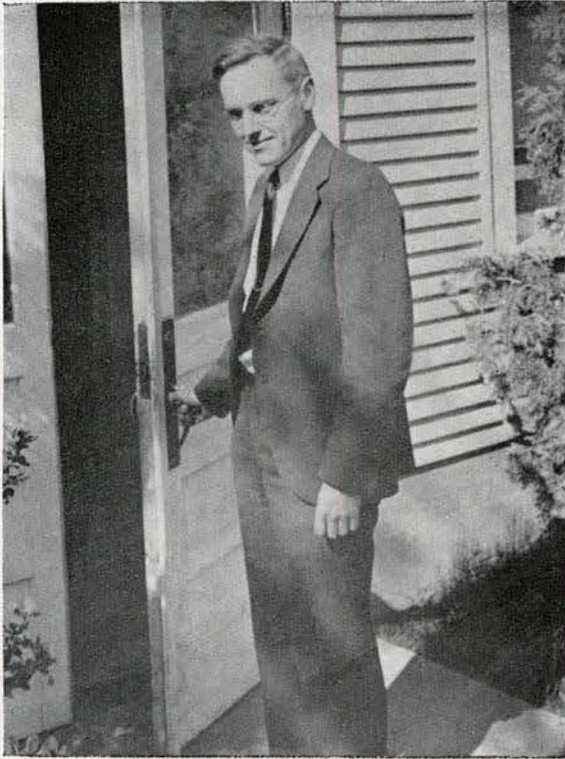
particularly to forest products industries—factual information as to the conditions including the volume, growth and drain of the National Forests.

The Norris-Doxey Act, which has not as yet been effectuated by an appropriation by Congress, nevertheless presents opportunities to farm timberland owners to cooperate with Federal and State Governments in the establishment and management of farm forests. Inasmuch as nearly one-third of our forest area is classified as being an integral part of the farm establishment, this Act is of vital importance and when made effective by adequate funds, it will present additional opportunities for cooperation.

Inherent in the very philosophy of the Forest Service and of its early enabling acts, is the need for cooperation with private timberland owners looking toward the continuous production of forest products. Within the past year or two, Congress has definitely recognized this Federal responsibility by making an appropriation for general private forest cooperation. Under this authority, the Division of Private Forestry has in part developed an organization within the more important forested regions, which is working closely with the industries and the private timberland owners, bringing to the field the results of research and of the experience gained in the admin-

(Continued on Page 50)

ALUMNI



Mr. E. W. Stark

ALUMNI

We have received replies from several alumni who have not communicated with us for several years, thanks. Your replies, each year, make this section possible and keep it up to date. If you should contact other alumni who have not written for several years please ask them to write next year. Even if they do not want the Idaho Forester, the presence of their correct address in this section may facilitate the locating of one of your former classmates by one of you.

From your replies it would seem that at least ten fellows helped make the Paul Bunyan portrait that stands on the third floor of Morrill Hall. It seems that the major part of the creating of the mightiest of woodsmen fell to Richard McArdle in the fall of 1934.

This year we are including a list of those men who are not on our record of replies from alumni. We should be very happy to place these names in the write-up if we were sure that the information which we might have was correct.

1910

WADSWORTH, H. A., Corvallis, Oregon. Herbert is Lt. Col., Infantry, R.O.T.C. He has two daughters who are both married to service men.

1911

FENN, LLOYD ALFRED, LL.B. '17, U. of Montana; Ph.D. '33, U. of Chicago. Kooskia, Idaho. Lloyd is Superintendent of schools at Kooskia and is Chief Clerk in the state House of Representatives. He has inaugurated a class in forestry at the Kooskia High School which presents the practical side. We hope other schools soon recognize the value of a forestry course and incorporate one in their curriculum.

LUNDSTROM, F. J.

1913

DECKER, ARLIE D.

HERMAN, CHARLES HENRY

TEED, RYLE

1914

FAVRE, C. E., M.S. '15. Promoted to Assistant Regional Forester, Ogden, Utah, this year. His daughter, Christine, came here to begin her college education this year.

1916

SCHOFIELD, WILLIAM R., 401 Santa Ynez Way, Sacramento, California. Bill is Senior Valuation Engineer of timber property for the State Board of Equalization.

1917

CUNNINGHAM, R. N.

MALMSTEM, HARRY E.

1919

RETTIG, EDWIN C., Potlatch Forests, Inc., Lewiston, Idaho. Ed is Land Agent and Chief Forester for Potlatch. He is president of the Alumni Association for this year.

JACKSON, TOM B.

STILLINGER, C. ROY

1920

BEWELL, JESSE L., M.S. '24 Oregon State; Ph.D. '32 Yale. 630 New Post Office Building, Portland, Oregon. Pathologist in the Division of Forest Pathology, U.S.D.A.

STAPLES, HOWARD W., Grangeville, Idaho. Howard is manager of the Grangeville office of the Idaho State Employment Service.

1921

DRISSEN, JOHN P., Cheyenne Agency, South Dakota. John is Range Supervisor on the Cheyenne Agency, working for the Indian Service.

MUNSON, OSCAR C.

PATRIE, CARTHEN RAY

1922

BROWN, DR. F. A.

FARRELL, J. W.

1923

DANIELS, A. S., 2633 Pemberton Drive, Houston, Texas. Supt. Wood Preserving Works, Texas and New Orleans R. R. Co. If any one gets down that way look him up, he would like to see some Idahoans.

NERO, E. T., Crouch, Idaho. Ed is superintendent of a band sawmill in Garden Valley, Idaho, for the Boise Payette Lumber Company. He is in charge of the construction of over 15 buildings, which are in Garden Valley and Crooked River (24 miles NW of Council). They will build a band sawmill at Garden Valley soon, will kiln dry the lumber there, and haul it to Council to be planed in the planing mill which will be constructed there soon. "I am as busy as at any time in my life doing the most interesting work anyone could imagine or wish for."

DANIELS, K. M.

GERRARD, PAUL H.

MELICK, HARVEY ALLEN

1924

WHEATON, RODGERS G., M.F. '25, Yale, 47 Englewood Road, Longmeadow, Mass. Rodgers is a salesman for the Line Material Company of South Milwaukee, Wisconsin. A thousand apologies to young Scott Rodgers Wheaton for listing him as a girl in last year's "Idaho Forester." We don't blame you for being thoroughly disgusted, Scott. Wheaton, Sr., reports that the

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hurricane of last fall "upped" sales in the equipment business.

BAUMAN, HERMAN

COSSIT, F. M.

PARSONS, RUSSEL M.

SCRIBNER, C. H.

SHANER, FRED K.

1925

HARLAN, PAUL M., 1329 Clay St., San Francisco, Cal. Paul is writing the "Weekly Go-Chart" for the San Francisco Chronicle, which tells the citizenry of that locality about the interesting events for the coming week. Says Paul, "Has the present generation gone soft? When I was in school we didn't need the inspiration of a Forest Munchausen. From a standing start, Snow, Sowder, Renshaw, and I, to mention only a few, could embellish anything from an excuse to an examination." The above statement is in reference to a request for the creator of our imposing painting of Paul Bunyan.

McLAUGHLIN, ROBERT P., M.F. '26, Yale; Ph.D. '32, Yale; 628 Canyon Road, Logan, Utah. Bob is Associate Professor of Forestry at Utah State College.

SNOW, E. A., Custer, South Dakota. He is Forest Supervisor of the Harney National Forest.

SOWDER, ARTHUR M., M.S. '27. 4917 First St. N. W. No. 1. Art is now working in the requirements phase of Forest Survey in Division of Forest Economics, as an Associate Forester. Art has done work towards a Ph.D. in forest economics at American University, Washington, D. C.

RENSHAW, EMERA W., U. S. Forest Service, Cleveland, Tennessee. Emera is Assistant Supervisor at Cleveland, but is now on the New England Forest Emergency Project with headquarters at Boston, Massachusetts

CUMMINGS, LEWIS A.

MALHOTRA, DES RAH

SPACE, RALPH S.

(Continued on Page 53)

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FOREST SERVICE AND INDUSTRY

G. D. Cook

(Continued from Page 46)

istration of National Forests, as well as a sympathetic attitude toward the various and complex problems confronting industry. The opportunities for cooperation here are tremendous, and the Forest Service stands ready, insofar as its resources permit, to assist in working out practical forest practices which will maintain and build up the growing stock in our forests. Along with this type of work, it is recognized that in order to maintain a balance, the development and expansion of markets for forest products, as well as the removal of conditions inimical to timber-growing enterprises, is vitally necessary. Wherever it can do so, therefore, the Forest Service stands ready and, in fact, eager to enter into cooperative efforts with forest products industries along the whole broad front of a balanced forest enterprise from the seedling to the final consumer.

There is need for further legislation to fully develop the opportunities for cooperation. For example, in some sections there is vital need for a system of long-term credits at low interest rates, which gives recognition to a well conducted timber growing enterprise as a long-time proposition. Additionally, there is need for authority to combine timber in public and private ownerships with in certain logical areas so that the combined timber resources may be managed on a sustained-yield basis for the benefit of logically dependent communities. Other needs involve such items as forest fire insurance, additional cooperation on forest tree insects and diseases, cooperation in furnishing young trees for planting on non-farm forest lands, and additional cooperation on further revision of tax laws as they pertain to timber-growing enterprises.

Thus we find there are many opportunities for cooperation now between the Forest Service or other Governmental agencies and the forest products industries. It is recognized by nearly all concerned that some of the opportunities need to be expanded through additional appropriation of public moneys, and it is likewise recognized that further legislation is needed in some instances. If we can increase the opportunities for the cooperative approach to the forest land problem, many of the perplexing questions now bothering us will be on the way to solution. However, it must always be remembered that cooperation requires positive action by both parties concerned. I, for one, feel confident that given an opportunity for full Fed-

eral participation in the cooperative effort, the industry will respond in kind and thus continue to provide not only a large measure of profitable employment and investment, but all of the other benefits inherent in properly managed forests.

EROSION CONTROL--Bennett

(Continued from Page 36)

Investment:	land	\$75,000	
	buildings	7,500	
	livestock	34,000	
			\$116,500
		Before 1935	Since 1935
Acres in ranch		14,080	20,800
Rate of stocking		36 head per section	24 head per section
Animal units grazed		792	792
Acres per animal unit yearlong		18	27
Ratio bulls to cows		1:25	1:25
Calf crop, per cent		65	93
Weight of calves at sale time		350-375 lbs.	425-450 lbs.
Cottonseed cake (average yearly cost)		\$1,050	\$520

Operating expenses have remained approximately the same.

Income:	Gross	Net
1930	-	\$5,000.00
1931	-	1,900.00
1932	-	769.00
1933	\$ 5,494.75	1,500.00
1934	12,159.00*	4,000.00 (loss)
		*Forced sale because of drought under Government purchase program.
1935	11,647.68	2,800.00
1936	12,721.71	3,700.00
1937	17,011.52	5,000.00
1938	20,420.00	6,500.00 (est.)

This record shows a very definitely increased financial return as the result of good range practices. The figures do not show all the benefits such as the improvement of the forage and soil conditions which in future years will further safeguard the operator's investment.

Accelerated erosion has been reduced if not stopped entirely. By diverting water out of drainages that were forming gullies and spreading it over broad, flat swales, the operator has made native haylands over 600 acres of what was formerly only fair to good grazing land.

The density and volume of growth has increased over the entire range and at the end of a 12-month

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grazing season, a generous sprinkling of seed stalks assured an ample seed supply of the more important grasses.

This operator remarked that since 1935 he has not had to worry about having enough feed to carry him through years of low rainfall to say nothing of the saving in purchasing supplemental feed. He leaves a lot of feed on the ground but is he wasting it? Some stockmen think so but not he. His statement is that it's the best insurance he can carry to maintain and improve his operations.

LEADER DUCK

(Continued from Page 33)

is how Pete worked in Paul's method of getting leader ducks. When he was not serving duck, which was to Paul whenever he showed up at camp and to the crew on Sundays, Pete sent half of the chore boys with shotguns to bring down a few clouds of ducks onto designated hills and later had the other half of the chore boys drive a shipment of hogs up to the hills.

The hogs spotted the ducks and waddled up to the top of the hills where they ate so greedily that fattening was a joke. It took the hundred chore boys only one day to fatten a hundred car load of hogs. The boys would watch the animals, holding them up where necessary, until their feet barely protruded from their stomachs and then they shoved the hogs off balance permitting them to roll down hill. The trip down hill would roll the hogs out until they were about 20 feet long and 5 feet through at the snout end.

This system saved Paul much money in Maine because the hogs never did get bigger than the hogs—he ran into trouble when he started using corn fed hogs in the middle west.

... Jeepers Cripers '39, School of Forestry

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ALUMNI

(Continued from Page 49)

1926

BOLLES, W. H., M.F. '29, Yale; 424 U. S. Court House, Portland, Oregon. Ass't Forester. Warren is doing flood control work at the Pacific Northwest Forest and Range Experiment Station.

DE LA CRUZ, EUGENIO S., M.F. '27, Yale. School of Forestry, Los Banos, Liguna, Philippines. He is now the Forester, Chief of the Division of Forest Studies and Research, and is at the same time associate Professor of Forest Policy and History.

SAJOR, VALENTIN, P. O. Box 36, Cagayan, Misamis Oriental, Philippines. Valentín received his M.F. from Yale in '27. He is now District Forester, of Forest District No. 13, for the Philippine Bureau of Forestry. He is also President of the Department of Agriculture and Commerce Association of Northern Mindanao.

FIELD, WALTER D.

GILLHAM, NORMAN F.

HOFFMAN, HENRY C.

PUGH, L. R.

1927

BURROUGHS, ISAAC C., M.F. '28, Yale; 4709 Broadway, Fountain City, Tennessee. Ike is in charge of Forest Management plan preparation for Authorities Reservoir Properties and cooperating management work with state forest organizations.

JOHNSTON, ROYAL H., 917 11th Ave., Lewiston, Idaho. Jerry is timekeeper for Potlatch Forests, Inc. "Was like a check from home running into Smoky Sling the other day."

LANSDON, WILLIAM H., Box 316, Morristown, Tennessee. Bill is busy on erosion control work as Jr. Erosion Engineer with the TVA.

PIKE, GALEN W., M.F. '28, Yale; % U. S. Forest Service, Harrisburg, Illinois. Galen is Supervisor of the Shawnee National Forest.

TOOLE, ARLIE W., 5118 N. Idlewild Ave., Milwaukee, Wisconsin. Arlie is Forester in the Division of State and Private Forestry of Region 9. Mr., Mrs., and three children are all in fine health.

WALRATH, F. J., 3301 22nd St., Oklahoma City, Oklahoma. He is Administrative Assistant to the Oklahoma State Forester. He is supervising CCC work under the Division of Forestry and doing construction work.

BAIRD, JOHN C.

BEALS, WIFRED F.

CALLENDER, WILLIAM C.

GODDEN, FLOYD W.

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OLSON, OSCAR A.

PHELPS, EUGENE VINCENT

SPACE, J. W.

1928

ANDERSON, BERNARD A., M.S.(For.). Assistant

Supervisor, Nez Perce National Forest at Grangeville, Idaho.

MITCHELL, WILLIAM W., 1739 Eye St. N. W., Washington, D. C. Bill is a Junior Forester but he gave no more dope on himself or his activities.

ROWE, P. B., M.F. '30, Yale; 331 Giannini Hall, Berkeley, California. He is Associate Silviculturalist with the California Forest and Range Experiment Station. His work consists largely of detailed studies of the influence of forest vegetation on surface run-off, erosion, and water yield from forested watersheds.

SALING, WALLACE M., M.S. '29; % U. S. Forest Service, Hailey, Idaho. Smokey is District Ranger on the Soldier Mountain District of the Sawtooth National Forest. Glen Brado and Smokey have taken up skiing for better or worse.

BIKER, JOHN BARNELL

CONNAUGHTON, CHARLES A.

DAVIS, ROBERT

FOX, CHARLES E.

GREGORY, C. A.

HATCH, A. B.

NETTLETON, H. I.

SPENCE, LITER E.

1929

GARIN, GEORGE L., M.S. '30; 55 Cherry St., Woodmont, Connecticut. George is going to school again; working on his Ph.D. at Yale. The family is now 5 strong; a daughter, Greta, arrived last year.

GUERNSEY, WILLIAM G. Now on the Nez Perce National Forest with headquarters at Grangeville. Bill was in the east after the hurricane.

OTTER, FLOYD L., M.F. '33, Michigan; 1124 W. 18th Ave., Spokane, Washington. Floyd is Associate Forester with the Soil Conservation Service. "Work on farm woodlands is increasing in importance and may mean much to farmers in the future."

WIESEHUGEL, ERWIN G., M.F. '29; 124 Dale Road, Norris, Tennessee. Erwin is Chief, Forest Resources Planning Division, Forestry Relations Department, TVA.

BENNETT, CAREY H.

GENAUX, CHARLES M.

KEENE, W. L.

KEMP, PAUL D.

KENNEDY, FRED H.

KRUEGER, OTTO F.

1930

BURTON, C. L., District Ranger on the Pike National Forest with home in Buffalo Creek, Colorado.

KRUMMES, WILLIAM T., P. O. Box 1306, Albu-

querque, New Mexico. Bill is Associate Refuge Manager with the U. S. Biological Survey. The Krummes have a Junior, aged one year.

LANGER, CHARLEY J., Stanley, Idaho. Married, two children—Mary, 8, and Charley, Jr., 5. (Charley says, "The count still remains the same. Must have hit a constant.") According to Charley things have been pretty quiet on the Stanley front. Two fires on his district last season with a total burned acreage of 1,570 square feet. Smokechaser's Heaven!

WOODWARD, DOREN E., 548 Custom House, Denver, Colorado. Doren is Supervisor of the Western Area, Division of Land Acquisition, Bureau of Biological Survey. Doren says he sees few alumni; we believe he would like to see some of you fellows—especially old classmates. Drop in and see him if you are in Denver at any time.

BUCKINGHAM, ARTHUR

FARMER, LOWELL

HARRIS, THOMAS H.

SARGENT, HOWARD J.

STANLEY, WILFRED B.

STOWASSER, CLARENCE E.

1931

EASTMAN, VIRGIL H., 423 S. Euclid Ave., Sandpoint, Idaho. Virgil is District Ranger on the Kaniksu National Forest with Headquarters at Sandpoint.

FICKE, H. O., Ranger on the Helena District, Helena National Forest, home address at 7 Olive St., Helena, Mont. Herman and Esther are proud parents of Janet Alice, born April 19, 1938. Congratulations and we hope she is a U. of I. student in 1956. "Quite a flock of Idahoans on this forest now."

FRITCHMAN, HOLT. Holt is ably looking after a District in the Payette National Forest, Boise, Idaho.

HILL, EDWARD B., U. S. Forest Service, Dayton, Wyoming. Ed is a Junior Forester on the Big-horn National Forest.

HOCKADAY, JAMES M., May, Idaho. Jim is a District Ranger on the Challis National Forest with headquarters at May.

HUMER, JOHN F., Chatcolet, Idaho. John bears up well under the title of Project Superintendent with the National Park Service. John is working on the development of Heyburn State Park.

JEMISON, GEORGE M., Appalachian Forest Exp. Station, Asheville, N. C. George is Associate Forester in charge of Fire Research, and reports a M.F. from Yale in 1936.

JEPPESEN, MARVIN S., 745½ West 5th St., Reno, Nevada. Marvin is Assistant Supervisor of the Toiyabe National Forest. On the twelfth day of

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June in the year 1933, Marvin and Irene Kitch of Kimberly, Nevada, became Mr. and Mrs. Jeppesen.

NEWCOMER, FRED R., Box 793, Sheridan, Wyoming. Fred is foreman in CCC Camp F-24-W, Shoshone Forest.

SHANK, PAUL J., Ashton, Idaho. Paul is Ranger of the Big Springs district of the Targhee National Forest.

SIEWERT, GEORGE W., Cedaredge, Colorado. George is Ranger on the Grand Mesa National Forest. He married Jeannett Lambert of Virginia, Minnesota, in 1938.

FIFIELD, CHARLES E. Chuck is Ranger of the Wapiti District of the Shoshone National Forest, with headquarters at Wapiti, Wyoming.

BROWN, RICHARD I.

DITTMAN, CLARENCE P.

GILL, TYLER S.

HJORT, GORGE VINCENT

LE BARRON, RUSSELL K.

LINDSAY, CLIVE J.

PLUNGUAN, MARK

SCHUMAKER, FRANKLIN O.

1932

HEPHER, WILLIAM STANLEY, Port Nevill, B. C. Bill is a ranger with the British Columbia Forest Service.

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MILLER, DOUGLAS R., 1074 Harvard Rd., Piedmont, California. Doug is Associate Forester in charge of Blister Rust Control on the Eldorado National Forest.

MORGANROTH, EARL S., 1712 N. 19th St., Boise, Idaho. Earl has been Assistant Supervisor of the Boise National Forest since May 1, 1938. Earl says his work is diversified and extremely interesting. They are initiating work on the "Bogus Basin Winter Sports Area" which will ultimately cost one-third of a million dollars and will be second to none in that section of the country.

PECHANEC, JOSEPH F., Intermountain Forest and Range Experiment Station, Ogden, Utah. Joe is doing range research work as an associate forest pathologist.

ANDREWS, MILTON D.

CLARKE, STANLEY C.

COONROD, MELVIN

JOHNSON, ROBERT B.

MILLER, WILLIAM BYRON

MOSS, VIRGIL D.

STOUFFER, DAVID J.

SWAYNE, ALLEN P.

1933

AHLKOG, RALPH H., Cass Lake, Minnesota. Ralph is Junior Administrative Assistant working on fire control and CCC assistant on the Chippewa National Forest. He was recently transferred from the Upper Michigan National Forest where he was assistant in fire control activities. Married to Katherine Herbert of Manistique, Michigan, the Ahlksogs have a 15 month old son, John.

ENSGIN, W. WARREN, Lincoln, Montana. He is District Forest Ranger, Helena National Forest.

FISHER, GEORGE M., Box 1397, Anaconda, Montana. District Ranger, Anaconda District, in the Deerlodge National Forest. Earl should be near-

ing his third birthday, should be an accomplished walker, and wanting to know the why of everything.

FRAYER, HUME C., 141 W. Center St. Manchester, Connecticut. Hume is district supervisor of the Connecticut River District of the New England Forest Emergency Project of the U. S. Forest Service. This assignment is the result of a hurricane. He is supervising fire hazard reduction and timber salvage activities in three Connecticut counties.

JAMES, CORLAND L., 502 S. Huron, Sandpoint, Idaho. District Ranger. Stubie Eastman and he occupy one of the dual Ranger Stations at Sandpoint and visitors, students, and old grads who find themselves in that neck of the woods are invited to drop in.

LORD, PHILLIP B., 110 Fairfield Ave., Susanville, California. Phil is Assistant Forester on the Lassen National Forest.

PIERSON, ROYALE K., M.S. '33; Morrill Hall, University of Idaho. Royale is Extension Forester here at the U.

WELLNER, CHARLES A., M.S. '38, Yale. Forest Experiment Station, Missoula, Montana. Chuck is Assistant Silviculturalist and doing research work in that field. His engagement to Ethel Wolf of Moscow was announced in May and the marriage is scheduled for June of this year.

CRANCTON, WILLIAM V.

DANIELS, K. M.

HOPKINS, JESSE K.

HAYES, G. LLOYD, U. S. Forest Service, Missoula, Montana. Lloyd is Assistant Forester engaged in fire research at the N. R. M. Forest and Range Experiment Station. Lloyd has joined the ranks; he and the former Louise Williams of San Francisco were made man and wife, December 11, 1938. We extend you many happy wedding anniversaries.

KRAEMER, J. HUGO, M.F. '35, Harvard. East

Lansing, Michigan. Instructor in Forestry. His wife is Roberta Bell Kraemer formerly of Spokane, Washington. Hugo is teaching Forest Management, Farm Forestry, and Silviculture Methods and is assisting in Mensuration and Silvics laboratory work. Also on the teaching staff of the Summer camp. It looks like a 24 hour day would seem short to you, Hugo. Art Sowder taught Economics and Policy last fall while on leave from the Research Branch of the U. S. Forest Service.

ARTHURS, AUBREY J.
BENSON, RUDOLPH J.
COCHRAN, A. R.
FREDERIC, JACK L.
GAFFNEY, WILLIAM S.
JAY, JAMES WILBUR
McNAIR, J.
NEWCOMB, LAWRENCE S.
OPIE, ROBERT S.
PARKER, JOHN W.
REDMAN, E. E.
STILLWELL, CLARENCE E.
TOWNS, W. L.

1935

BROWN, STEWART E. Stewart is Junior Forester in the Division of Silvics at the Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana.

BUCHANAN, THOMAS S., M.S. '37, California; 630 New Post Office Bldg., Portland, Oregon. Buck is doing research work as Ass't Pathologist in the Division of Forest Pathology, U. S. D. A. "Am busy with manuscripts. Sorry I didn't take my English courses more seriously." He plans to get in resident work for Ph. D. Yale '39-'40.

DAVIS, BRENNAN B., Box 23 Ord, Nebraska. "Forward my mail to 518 6th St. Bismark, N. Dakota. I move around too much for mail to catch up to me." Brennan would like to hear from the old gang.

GROOM, JACK I., Jack was transferred from Unity, Oregon to the Touchet District of the Umatilla National Forest with headquarters at Dayton, Washington, on the first day of March, 1939.

GULTMAN, A. B., Camp F13, Berryman, Missouri. He is a technical Foreman with the CCC.

McCORMICK, HENRY F., Roscommon, Michigan. Henry is a Junior Forester on the Huron National Forest. "On survival counts all fall; at the present time am concentrating on Timber Stand Improvement in natural stands of red and white pine."

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SACHS, DEAN M., 312 19th Ave. S., Nampa, Idaho. Dean is a groundman for the Idaho Power Company. He says he has a very good chance to work up; go to it Dean.

ZIMINSKI, HENRY V., Box 243, Remer, Minnesota. Henry is a JF on the Chippewa National Forest. Duck hunting is good down in that country. "This is the place to be if a forester wishes to see a rather intensive degree of forest practice being carried on."

ALBEE, LESLIE R.

EDWARDS, MILTON BROMELY

FICKES, EARL MAURICE

FRESE, HERBERT J.

MUNTHE, BERT P.

1936

BROWN, CHARLES G. He is reported to be the Assistant Forester of the Siuslaw National Forest. You should be able to reach him at Waldport, Oregon.

HAMM, HARLEY H. U. S. Forest Service, Winona, Missouri. Harley is Technical Foreman in the local CCC Camp.

JENSEN, RALPH, Monticello, Utah. Ralph is a District Forest Ranger. He was transferred to his present job April 16th.

LARSON, LESLIE L., M.F. '36; working for a Ph. D. at Institute of Paper Chemistry, Appleton, Wisconsin. Les will finish his degree work this year and work in the pulp and paper industry.

McKEEVER, DONALD G., M.S., '38; Priest River Experimental Forest, Priest River, Idaho. Don is Superintendent of the Experimental Forest and extends a cordial invitation to all Idaho grads to visit him and his wife nee Mary Curtis, '36.

ROBERTS, EARL C., Federal Building, Salt Lake City, Utah. Earl is a JRE and was on detail to the Wasatch National Forest from the Weiser National Forest when he wrote to us last winter.

TURNER, GEORGE T., M.S. '38; New York State College of Forestry. Manitou Experimental Forest, Woodland Park, Colorado. He is working on an erosion control demonstration project for the Rocky Mountain Forest and Range Experiment Station.

ANDERSON, PAUL L.

BICKFORD, RICHARD F.

BRADO, GLENN

BROWN, CHARLES G.

CARLSON, CHARLES

CRAWFORD, KENNETH

FORE, ORLANDO

GOENNE, FRED W.

HAYS, JOHN F.

LOWNIK, EDWARD CHESTER

NELSON, HARVEY F.

PORTER, DONALD B.

QUESNELL, CLINTON

ROBERTSON, GARNET A.

SILVERBERG, SAVEL B.

SMITH, RUSSELL E.

TIPPETS, VAUGHN E.

1937

GROVES, BRUCE V., Assistant to Technician, in charge of Fire Planning on the Helena National Forest. Not married but "I'm spending Christmas in Boise" s-o-o-o it may be Mr. and Mrs. now. "Building Fire Plan for Helena Forest. For details take Dr. Martell's course 'Fire Prevention and Control'."

HAMPF, FRED E., Arcada Camp, P-54, Hope Valley, Rhode Island. Fred is getting good experience scaling blowdown timber in New England. They are scaling and grading white pine and oak which was prostrated by the hurricane of last fall.

HIGGINSON, L. CYRIL, Soil Conservation Service, Amarillo, Texas. Cyril received his JRE Appointment last April ('38) and he, Dick Burr (An. Hus.), and Dwight Cable are a mobile range survey unit. Cyril married Peggy Collins of Moscow, January 12, 1939.

MARSHALL, MARVIN M., Sam Baker State Forest, Patterson, Missouri. He is with the Forestry Division, Missouri Conservation Commission.

MATTHEWS, FRED W., 218 W. 6th South, St. Anthony, Idaho. Fred and wife are doing fine. He had a grand season on the Targhee National Forest last year, and has been running a tourist camp in St. Anthony since the end of the forest season. Fred reports the marriage of Vaughn Tippetts to which we add a hope for many happy anniversaries.

RICHELSON, PAUL N., Burgoyne Hotel, Montpelier, Idaho. Paul is clerk at the above hotel and worked last summer on telephone on the Caribou National Forest.

STYFFE, HOBART, 78 Ruttan Street, Port Arthur, Ontario. Hob is camp foreman of a 150-man camp, cutting and hauling pulpwood for his Dad's firm.

WEYERMANN, GEORGE F., St. Maries, Idaho. We hear that George has received a JF appointment since he wrote to us giving information about himself.

WILSON, THOMAS I., Box 777, Emmett, Idaho. Tom is a technician at the Black Canyon CCC

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(Continued from Page 15)

show the operator how this sustained yield regime, which we speak of so glibly, can bring profit on his individual property. Especially in the cooperative areas, where State or Federal timberlands are part of the undertaking, is this a field for joint study.

Here is a final word. The most important part of every business is—the customer. If forestry is to have an economic footing and not become a form of public subsidy, maintained for the protection of stream flow or wild life or public recreation, there must be a reasonable degree of economic security under the whole undertaking.

As long as industries were mining timber and not growing it, as long as the timber game was like the prospector's game—clean out and get out—a high stake for a big pot; win, lose or draw—there was small ground for urging public interest or responsibility in the stability of timber values. But we now see the "cut out and get out" period of Western forest industry beginning to pass. Timber cropping is beginning to take its place. The new order is at the opposite pole from the speculative takings of the pioneer. It is a slow up-building of growing stock; the investment of increasing sums for long periods of years; careful planning reaching decade after decade. And all this looms large in the productive use of land, stable employment and social security. But the most important factor in success is still—the customer.

As part of the sustained yield program, then, is it not the obligation of Government to seek to put economic stability in forestry, as Germany, France or Sweden has done for many generations? With 630 million acres of forest-growing land in the United States, apparently unsuited for any other economic use, we have a problem of stable timber marketing and returns to the soil on a par, in national importance, with either the wheat or cotton problem.

Government cannot, of course, insure the success of private business—any private business. But in an undertaking where so much of public interest is at stake, where indeed Government will be an active partner with private industry in many sustained yield units, the public agencies should follow the problems of forestry right through to the market. We should have a public forest policy that sees the problem all the way through—in tariffs, in reciprocal trade with foreign nations, in maritime developments, in products research. In a word, the marketing phase of the forest prob-

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