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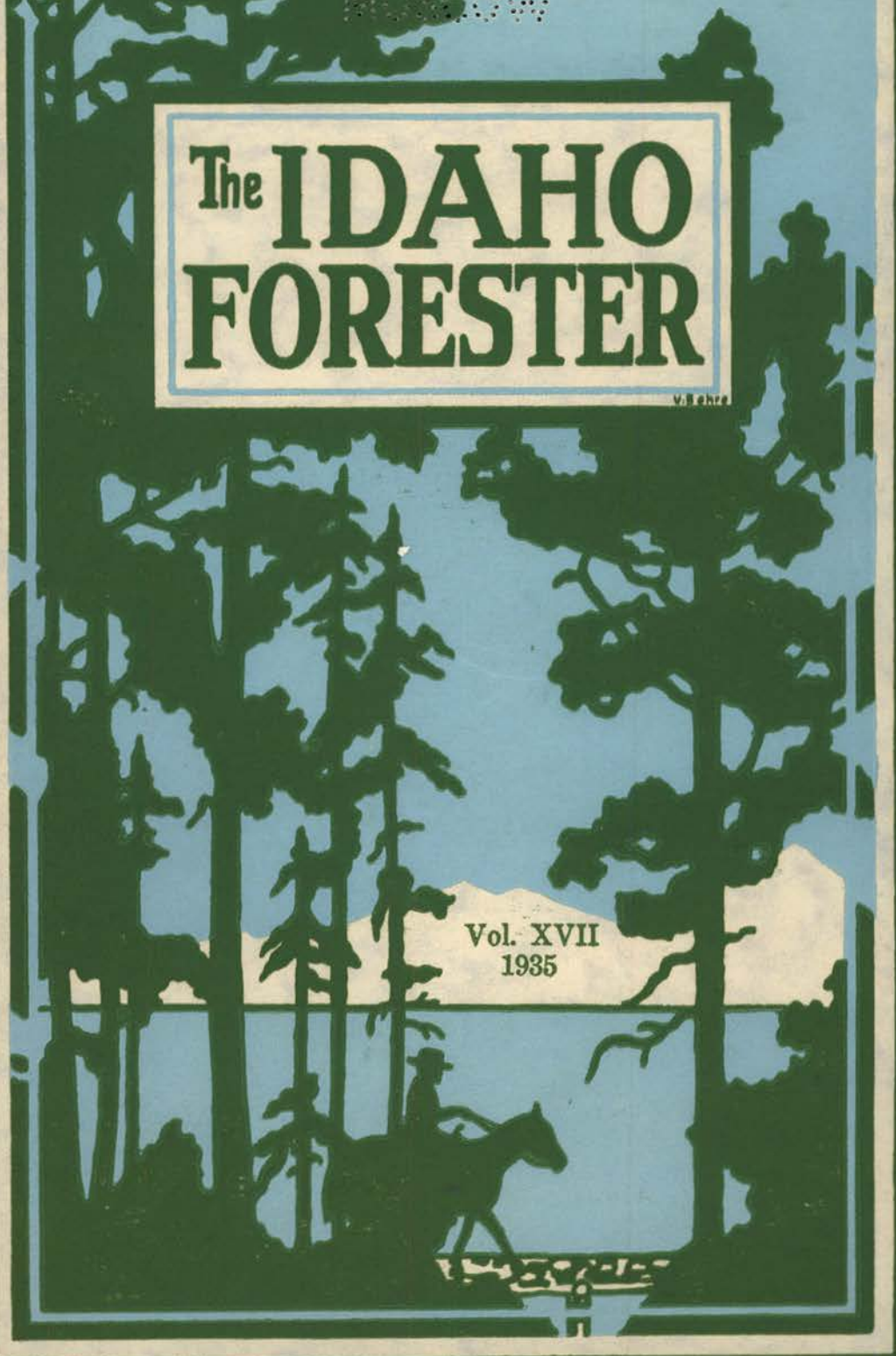

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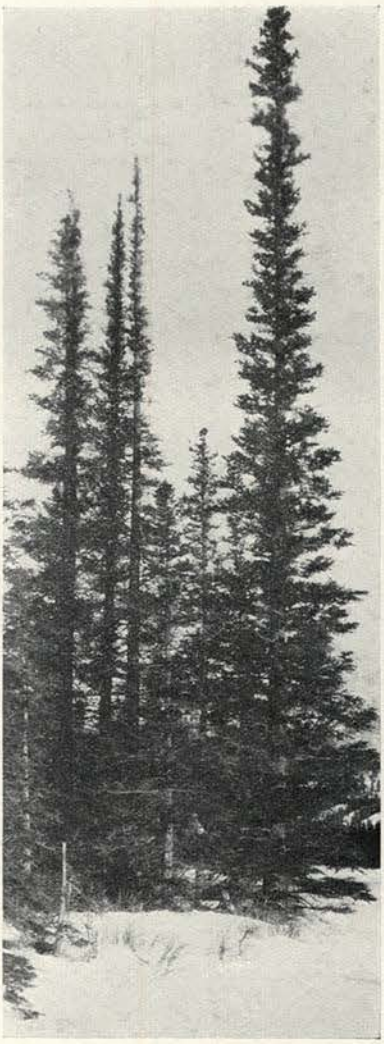

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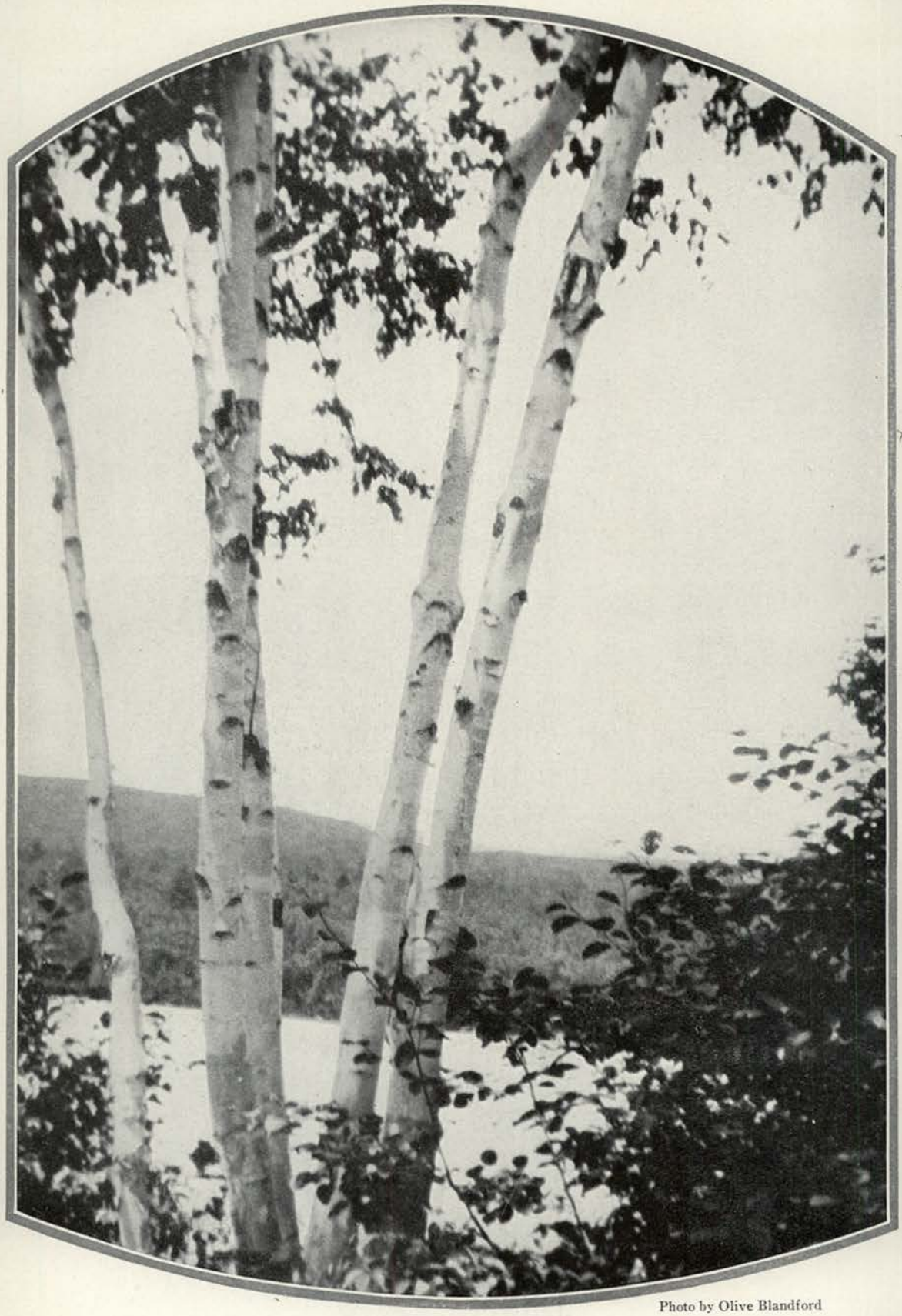

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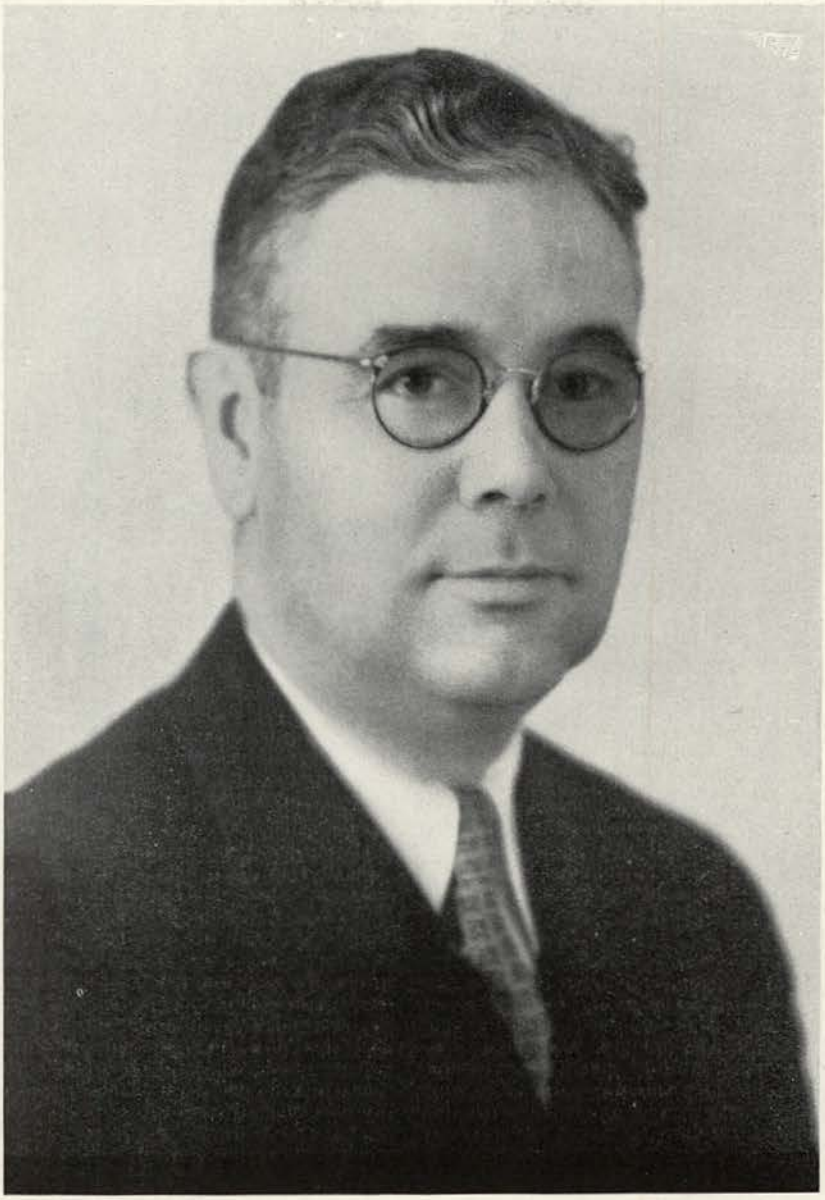

DEDICATION

To Mr. C. L. Billings, a progressive lumberman who has long been a real friend
of our School of Forestry, we, The Associated Foresters,
do gratefully dedicate this seventeenth
edition of The Idaho Forester

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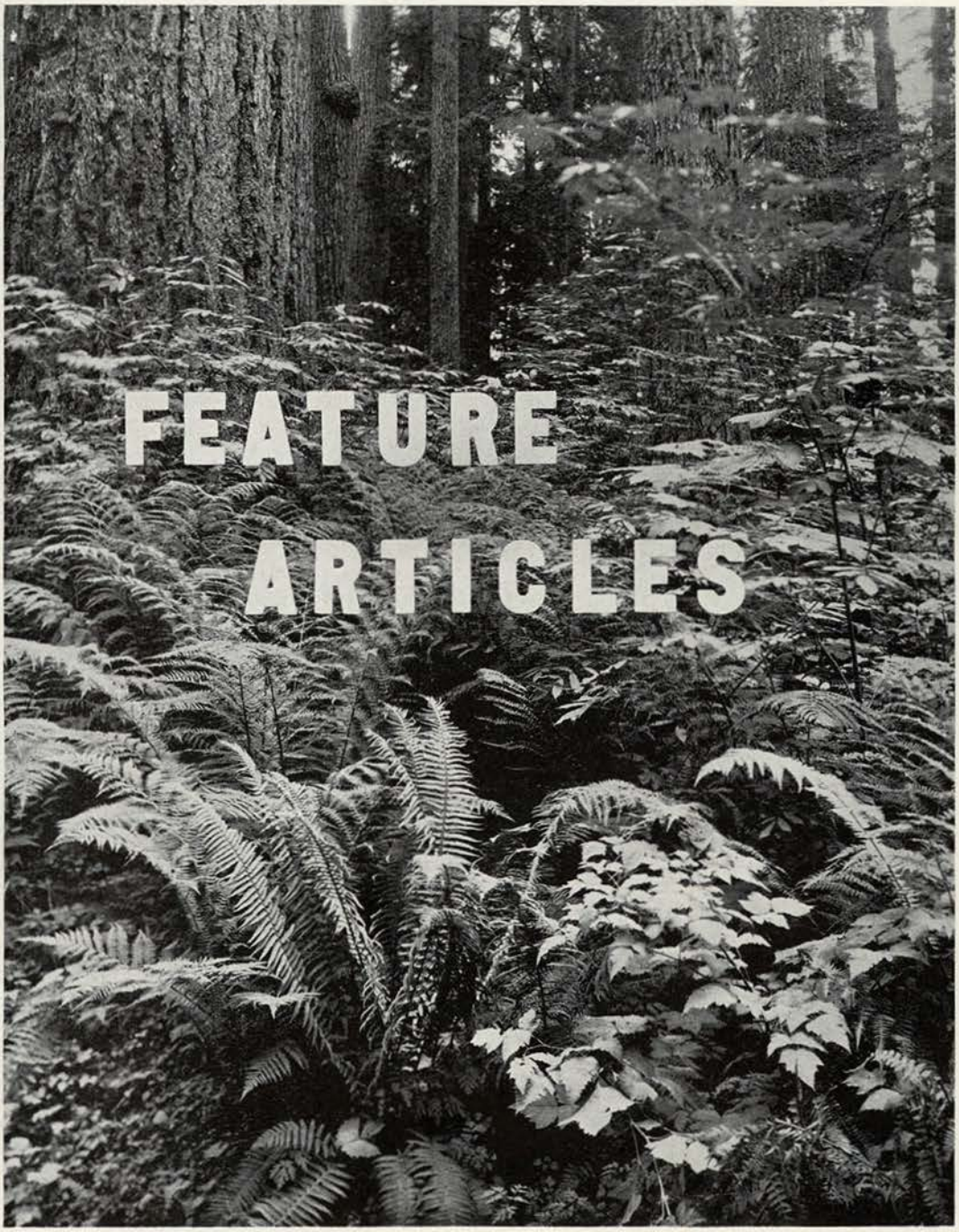

FEATURE
ARTICLES

Stabilized Lumber Production in Northern Idaho

By C. L. Billings
General Manager, Potlatch Forests, Inc.
Lewiston, Idaho

THE Editor of the Idaho Forester has asked me to try to answer some questions about the future of the lumber industry in Idaho. The questions are tough ones not only of themselves but also because they are fraught with deep significance to the economic life of the state and the peace and prosperity of our people. I am grouping these questions together for the purpose of going at them as one subject which they really are. And to reach the future, I must first retrace the past.

Original Conditions

To the early day lumbermen who came out here to invest their money in timber, Idaho must surely have presented a handsome picture. These men found dense stands of fine timber standing close to our lakes and railroads and drivable streams in very much the same way that the timber had stood in Minnesota, Wisconsin and Michigan, the states from which most of them had come. It was quite safe to expect that the physical operating conditions would not be greatly different from those in the Lake States and that easy, flat ground close to the railroads or drivable streams would make for cheap logging. Railroad freight rates seemed reasonable. The nation needed the lumber to replace the declining output of other regions and all of our principal species could be cut into lumber and readily sold.

All of these things taken together presented a very attractive invitation to enter the lumber business and this invitation was accepted by many operators large and small. Dozens of operations were started, mills and railroads were built, streams were cleaned for driving. Thousands of men were put to work on the Kootenai, the Clarksfork, the Priest, the Coeur d'Alene and on the St. Joe and St. Maries. Only the Clearwater country for a time was left undeveloped. Communities around the sawmills sprang into existence almost overnight. Enormous inventories of forest products of all kinds were piled high in every village. These things were the economic bone and sinew of northern Idaho.

Changing Conditions

But the picture had to change and change it did, radically. High logging costs were encountered as the flat ground was left behind and logging was moved to the steep hillsides, and the cost of constructing logging railroads and other logging improvements increased tremendously. Money was tied up in these improvements for long periods, thus effecting what amounted to a reduction in working capital for each operating company. And operations which became dependent upon driving in the smaller streams found that they must finance an entire season's cut of logs before any of them could be sawed and sold as lumber. The going became pretty tough.

And as if these natural handicaps were not enough, other artifical ones appeared to color the picture still more darkly. The construction of the Panama Canal which had been carried on during the same years as those of early large scale lumbering in Idaho finally came to an end. The Canal was finished and thrown open for business. At once there began the development of a movement of Pacific Coast lumber to the Atlantic seabcard which has finally reached the amazing proportions that we see today. The profound effect of intercoastal traffic through the Canal on the value of timber properties in Idaho and the Inland Empire generally was not forseen by anyone or grasped in its full significance until too late. The Douglas fir lumber of the coast states which could not only be produced for less cost, but which could now be transported to market for less money, came into close and direct competition with the mixed woods (red fir, larch, white fir, spruce, hemlock) of our region.

The railroads, badly crippled by Canal traffic competition and by rapidly increasing operating costs, raised freight rates to a prohibitively high level and the markets of the great Middle West were also lost to these woods. The region was being asked to pay higher freight rates than any other producing region in the United States. It could not be done. There could be and there was only one possible result—the destruction of the value of these woods and the consequent elimination from production of one-half of Idaho's timber.

Taxes in these years went up by leaps and bounds. The very communities which the lumbermen had built up exacted enormous sums annually for purposes of education, road building and government. The standards of living, common in older states, were established in northern Idaho in an unbelievable short time. And all that was done was done by the levying of taxes on property. Mounting tax costs on a declining output of lumber brought an inevitable reaction against the holding of large properties. The scheme of blocking 20 years supply of timber behind a sawmill in order to justify the cost of a large plant, had been overtaken by economic events and had collapsed. It could not be done.

All of these things presented a definite suggestion to many operators that their capital might be better employed elsewhere. The suggestion has been adopted quite generally. Literally scores of small mill operations have vanished. And of the large operations, far more than half have closed down permanently. The difficulties, natural and artificial, have been so severe as to constitute an impossible handicap for a large share of northern Idaho lumber production in comparison with more favored regions of the United States.

Operators Forced Out

The operations in the list to follow have passed out permanently. Even after reciting the contributory causes of their passing it is astonishing and depressing to know that in each case the final shutdown came before the company had finished cutting the timber naturally tributary to the operation and before the company had finished cutting its own owned timber.

Courtesy News-Review

Nature in the Raw—Log storage pond at the Potlatch Unit of the Potlatch Forests, Inc, Potlatch, Idaho.

Courtesy News-Review

The Finished Product—View of the storage yards of the same plant. Perhaps portions of those same logs are in these piles.

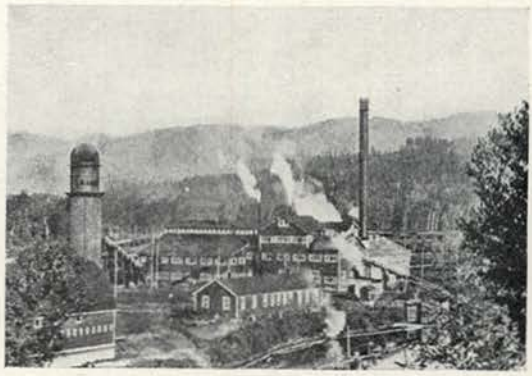
Bonners Ferry Lumber Co.	Bonners Ferry
Humbird Lumber Co., Sandpoint, Kootenai, Newport	
A. C. White Lumber Co.	Laclede
Dover Lumber Co.	Dover
Hope Lumber Co.	Hope
Coeur d'Alene Lumber Co.	Coeur d'Alene
Grant Lumber Co.	Harrison
Export Lumber Co.	Harrison
Springston Lumber Co.	Springston
Rose Lake Lumber Co.	Rose Lake
Milwaukee Lumber Co.	St. Maries
Milwaukee Land Co.	St. Joe
Blackwell Lumber Co.	Fernwood

This rather dismal recitation of past events brings us down to the present day and the present condition of both the industry and the communities in which it operates. The communities find that hundreds of thousands of acres of cutover land and of remotely located, lightly timbered lands are tax delinquent to an amount which exceeds their full cash value. More than 100,000 acres of these lands have been donated outright to the Federal government and included among these transactions is an instance of one of our counties giving 10,000 acres of these lands which it had secured throguh tax delinquency. It seems inevitable that the great bulk of these lands must drift into public ownership of one kind or another. No other timbered state has yet had the foresight to revise its taxation of forest lands in time to prevent this drift. Idaho has repeatedly declined to do so and will probably continue to follow the road of the other older states who have done most of their legislating on timber taxation after their timber had disappeared. The proposition of taxing the lumber industry on an equitable basis is a proposition which primarily involves the stabilization of tax income from timber properties as a measure of good government in making community life more secure through the considerate and proper handling of labor. The prospect of "benefit" accruing to the timber owners is an item entirely secondary. To put the cart before the horse in this matter is to most effectually obscure the real issue. In Idaho this has been done so often and well that those who have the most to gain from equitable timber taxation have been its most active and vociferous antagonists.

Industry Over-Built

The industry finds itself over-built for the limited volume of white pine business available with too many mills competing for the comparatively small amount of business that can be had. Production control under the Lumber Industry Code of Fair Competition has, at least for a time, halted the ruinous competition which was rapidly driving the remaining survivors of the old days to the wall. Careless, or if anyone prefers, "ruthless" logging practices—particularly, bad brush disposal—have been curbed by the Forestry Laws of 1925 and amendments. Voluntary selective cutting, Lumber Code rules of forest practice and proper brush disposal all work together to the end that young timber is left to grow on logged areas instead of being destroyed. The greatly extended participation in Timber Protective Association affairs on the part of the U. S. Forest Service not only through contribution of funds under the Clarke-McNary law but, as a result of land donations, as an actual land owner with consequent sharing of expense has had a stabilizing effect. And the further disintegration of the Association has been indefinitely postponed as a result. Water transportation on the Snake and Columbia Rivers now seems to be a possibility. If developed, it will mean an enjoyment of advantages such as those had by the timber industries of Norway, Sweden, Finland and Germany and without which advantage forestry has never been successfully practiced on a large scale.

If we sum all of this up we see first that the difficulties of the past have, by elimination of sawmills, reduced the terrific drain on our forest resources to a point much closer to the growing capacity of the forests. And next, that the operations still carrying on are leaving cutover lands in much better condition for the continued production of forest crops.



Bonner's Ferry Lumber Co. Plant.

Forest economists argue for the practice of sustained yield forest management which means that timber should be cut at a rate commensurate with its total annual growth in a locality or region, but at no greater rate.

In northern Idaho we can see that the forces working toward elimination of productive capacity are nearly spent. They were mighty hard to combat in their day, but their day is over. Conditions will still be difficult enough at best and some few of the companies now operating will retire from the field but in terms of total annual production it is very doubtful if any such proportionate reduction as we have had can occur again for a long, long time.

Sustained Yield in Sight

We face now the interesting possibility that we have reached a point from which sustained yield forest management is at least in sight. Lumber production will suffer some further decrease and the production of forest crops through better handling of our cutting is bound to increase. Probably at a day not too far off we shall have actually reached a balance between growth and cutting in the white pine forests of northern Idaho.

This is an inspiring prospect. With two or three large operations running steadily and a growing activity of small mills hauling their products by truck northern Idaho lumber production will have settled down to a steady pace for the long pull. When the people can grasp all that this implies, tax income from forest properties can be stabilized, labor can be considerately and properly handled and community life made more secure.

These are the things involved in stabilized lumber production in Idaho.

The Place of Foresters in Erosion Control

By E. V. Jotter, *Chief Forester*
Soil Erosion Service, Department of the Interior

TO attempt to define the place of foresters in erosion control, would be, indeed, an ambitious undertaking. Certainly, it is not possible in one short article, for we must remember that there are entire books on the subject. At that, the history of American forestry indicates that foresters, themselves, have but recently begun to put into effect, on a large scale, practices which have been advocated for many years by Federal and state agencies.

Erosion Losses

The results of erosion have been recognized for a long time, both abroad and in the United States. We have been told of the enormous quantities of silt that have been borne by river waters into the sea, and the present current news deals with the widespread dust storms from the bare dry plains. Whatever the cause of erosion, either water or wind, momentous soil changes have resulted, which have been accompanied by appalling devastation of natural resources with significant economic and social implications. The result from the wastage of non-agricultural lands within forest areas, is relatively insignificant when compared to the appalling consequences of improper, indifferent and unwise practices so generally employed on lands given to agricultural use. From the fields and pastures of the nation, there is removed by erosion each year, an amount of plant food material that almost staggers the imagination, approximating a monetary loss of not less than $400,000,000. To replace the plant foods represented in this enormous wastage, through the use of commercial fertilizers and soil building crops, would involve impossible expenditures by the farmers. No business can withstand such severe losses, certainly not farming, where the profit factor is small. Hardship and poverty are inescapable where lands are permitted to wash away through haphazard, careless farm practices. So insidious are all the ill effects of sheet erosion that the average landowner scarcely realizes the dire processes. Not many farmers know that the actual level of the soil in fields has been lowered from one and a half feet to six and a half feet, although in many cases, topsoils to a depth of 10 to 12 inches have disappeared within a generation.

Soil losses are not confined to isolated areas; a nation-wide reconnaisance erosion survey, recently completed by the Soil Erosion Service, shows that the area of formerly cultivated land that has been essentially ruined for any practical agricultural use, amounts to not less than 100 million acres. Assuming an area of 160 acres as a general farm average, we arrived at the astonishing figure of 625,000 as the number of farms destroyed.

From another 125,000,000 acres, so much of the original fertile top-soil has been lost that crop returns have shrunk, on the average, from 50 to 90 per cent.

Great changes have taken place on large areas of prairie lands, once covered and held in place by the native cover of nutritious grasses, but which have been plowed out of virgin sod for agricultural uses. The story of that is a tragic tale. A detailed survey of one representative farm showed that in a nine-year period, 61 per cent of the farm had lost from 3 to 24 inches of soil. The dust storm of May 11, 1934, and the recent storms, were spectacular demonstrations of our lack of definite policy in the matter of allocating lands to farming uses on the basis of suitability and adaptability.

In Idaho, 8,000,000 acres of formerly good crop land have essentially been destroyed, and one-fourth to three-fourths of the top soil has been lost from an additional 17,000,000 acres. Of the 53,218,009 acres in the state, erosion is actively attacking not less than 33,000,000 acres.

Although the relation of erosion to agricultural land problems has not had popular recognition, the public has long been aware of the relation between vegetative cover, especially forests, and the control of large volumes of water. In discussing this phase of the subject recently, Mr. H. H. Bennett, Director of the Soil Erosion Service, said, "Until we strike at the critical points of accelerated run-off from cultivated and over-grazed slopes, where floods really originate and silt loads are picked up, we shall never have any approximation of permanent flood control or any important reduction of the hazard of silting. I am concerned, also, that this work would result generally in a 25 per cent reduction in the volume of floods, and an even greater reduction in some drainage basins. If I am correct in this appraisal of the possibilities of erosion control, then we can, in a practical way, bring about adequate flood control and a tremendous reduction in the costly filling of stream channels and reservoirs."

The silting in of reservoirs presents a serious economic problem in any part of the United States, and in many instances, it becomes a threat at social stability. A major reservoir on the Colorado River, near Austin, Texas, was largely filled in the course of five years. One of the largest western reservoirs, estimated to have a life of 220 years, at the beginning, will probably be useless in times of prolonged drought, at the end of about 60 years. Such conditions indicate not only huge losses in money, but also tragic consequences to the people who have formed what they thought were permanent homes. An exceedingly long article would be required to enumerate the ill effects of erosion.

Control Measures

Efforts to control this menace to national and personal well-being have been made. The U. S. Forest Service and state forestry organizations, through fire control and regulated grazing on forest lands, have been eminently successful in restricting erosion activity. No effective programs have been installed on lands used for farm crops. Measures of control have been confined to a single angle of attack. Hillside ditching and hillside terracing to slow down the run-off, have been the chief devices. These have done much good on land with gentle slopes that were adapted to their use, but where the area is steep and erosive, the method has not been helpful; on the contrary, there is evidence of active harm. In Georgia, for example, there are two million acres of terraced land that have been destroyed for farm use by erosion. Engineering methods alone are no longer recognized as adequate means for a low cost of permanent erosion control.

The means developed by the Soil Erosion Service have as their objective such practical methods of land treatment as will reduce to a minimum the rate of run-off and which will cause the maximum amount of water to be taken up by the soil at the place of precipitation. The measures adopted include the use of various thick-growing vegetative crops, such as grasses, legumes, trees or shrubs, as a part of the orderly farm program; the use of engineering structures as may be decided necessary, and the retirement of steep and highly erosive land from cultivation. This plan requires the coordinated efforts of specialists in soils, agricultural engineering, agronomy, and forestry.

At this time the Soil Erosion Service has 41 projects arranged in 33 states, involving treatment of about 37,000,000 acres of land for demonstrating the best means of erosion control for the various land regions concerned. In Idaho, the first demonstration project established by the Soil Erosion Service, is located in the Palouse Region, with headquarters at Pullman, Washington. Mr. W. A. Rockie is the Regional Director, and the forester in charge is Mr. Clarence Svendby.

The Forester's Place

Now what is the place of the forester in this vast land use program? In the National Forests, adequate forestry methods which are principally carried out for forest production of wood, forage and wild life, have also been those which have operated effectively toward control of erosion. In fact, it has been said that the control and storage of run-off is the most valuable function of forests in many regions. Where this is the situation, it is obvious that silvicultural methods and production objectives will be modified to conform to a major use of water conservation. Men technically trained as foresters would continue to be the technicians employed to handle forest resources, but the school training would include more instruction on soils and engineering. Incidentally, in order to be considered in their relative values, the forest products of wood and water need more consideration in college in their relationship to social and economic life. It is particularly desirable that the forester should have a broad understanding of land use and an ability to coordinate his efforts with other specialists when he attempts to do his share toward rehabilitating lands which are neither wholly forest or wholly agricultural. The treatment of such lands is a far more complicated problem than that of handling large areas of land which are obviously and definitely to be used as forests. In the first place, the practice of his own profession on these erosive lands, presents far more problems than areas always used as forests. The original soils have been entirely changed. What species shall we use? How shall they be planted to get the best "catch"? How can we compensate for changes in soil texture that affect heaving out or drying out? What sort of returns may be expected? To what extent should one get returns aside from erosion control, in gullies? Would it be desirable, as one authority asserts, to develop acorn and nut production, as is done abroad on such areas, to get crops similar in their uses to corn or potatoes? The forester should know, or at least understand, more about regional grazing. Always there arises the question, shall the erosive land when removed from crop cultivation be put into grass or trees? Foresters and agronomists alike have sufficient data to argue successfully.

A feature of the various Soil Erosion Service Projects is the treatment of tracts of submarginal lands where profitable farm use is no longer possible. Under plans proposed, and in effect on one area, in Washington, these lands are purchased and developed as forestry and pasture or grazing units, supplemented by such other uses as are consistent with the general program and local needs. A part of this land development program is one of rehabilitation for residents of the area by which work is provided on the area. Where forestry is the major use involved, a forester will be in charge, and the labor provided to supply money needs of local people, will consist of forestry operations such as planting, improvement cuttings, fire control, and the logging and manufacturing of the timber, the latter activities carried on as private business.

As a final result it is believed that such areas, like the community forests abroad, will return a revenue to the operating agency, which may finally be a city, a state or some other agency, to which the land may be later turned over for operation.

There is so much of natural science to be used and such a need for broad understanding, that it would appear exceedingly desirable for foresters to have a very thorough training in ecology.

The forester should also know more engineering; he should know something of terracing, of water run-off, of water absorption, if for no other purpose than to cooperate with the engineer, or perhaps to show that the forestry means of control is cheaper and more effective than purely engineering devices. The forester, on erosion work, should know soils. It may be that by this time the reader may wonder whether a man trained as a forester or as an engineer, or agronomist, can most successfully handle the work of erosion control. This thought is not at all new. In fact, already courses in erosion control are being presented, and various colleges are considering a curriculum which will qualify men as erosion control engineers. The classification "engineer" falls short of the kind of training required of a man who specializes in maintaining lands in a productive state, or of restoring devasted lands to profitable use. Engineering courses do not usually include social and economic studies and the man who would succeed in working most successfully and in the intimate personal fashion demanded, must have a deep and thorough understanding of people and the social and economic adjustments involved in correct land use.

Whether or not it is worth while to devote study and specialized effort toward becoming competent in erosion control work, is a question that is not easily answered. That there is great need for such services cannot be debated. The facts of soil erosion are entirely obvious; utter land ruin will result unless something is done on a big scale on a long time and continuous program. Undoubtedly, just now, the temper of the notion, under the direction of an energetic president interested in natural resources, is such that much will be attempted. Just how far back to apathetic indifference the pendulum of public interest will swing is not easy to conjecture. It may be assumed, however, that the present condition of natural resources, the concern in national preservation, and the general enlightenment of self-interest, are such that even though this may be a peak period of endeavor in natural resource protection, that there will continue in successive years, a demand for services in the control of soil erosion.

A Forest Insect Problem

By James C. Evenden, *Entomologist,*
Bureau of Entomology and Plant Quarantine
U. S. Department of Agriculture

During the past few years the need for protecting our forests from insect depredations has been fully realized and now occupies an important position in all programs of forest protection. Although the destruction of timber by insect is less spectacular than fire losses, it is actually of greater consequence in many areas. Of the many entomological problems within the forests of the West, the checking of the activity of the mountain pine beetle (*Dendroctonus monticolae* Hopk.) in stands of western white pine is one of the most important. This insect is present in all white pine stands, and the timber losses resulting from its attacks are considered under two classifications, normal losses and those resulting from epidemic outbreaks.

Annual Losses

The normal annual loss occurs in all white pine stands approaching maturity and may fluctuate from practically nothing to as much as one per cent of the total stand. Though such losses are often so inconspicuous as to escape immediate attention by the forester, their presence is subsequently revealed by thousands of inflammable snags which stand for many years. Needless to say, these snags, which often average as many as 10 to an acre, add seriously to the cost, difficulty, and danger of fire suppression. From time to time, owing to the temporary breakdown of some environmental factors that had previously held this destructive insect to a proper balance, epidemics occur, and unless these are checked artificially, a large percentage of the total stand is often destroyed in a very few years. Although epidemic losses are more impressive than those of normal or endemic nature, they, too, are often unnoticed until, owing to the rapidity of their increase, a serious situation exists.

There is another, less appreciated aspect of the activity of the mountain pine beetle in white pine forests. Losses resulting from the attacks of these bark beetles so affect the proportion of tree species, as to convert the resulting forest into one of an entirely different composition, containing a larger proportion of an inferior species. This may necessitate an entire reorganization of management plans.

This entire problem in western white pine stands is one to which the forest insect laboratory of the Bureau of Entomology and Plant Quarantine at Coeur d'Alene, Idaho, is devoting considerable attention. The task is in brief the direction of control so as to reduce existing epidemics and to prevent the development of others. This may sound simple, but in truth there are many ramifications and complications that require thorough and fundamental studies before a proper evaluation can be made of all the factors involved.

Though during the last 10 years epidemic conditions have existed to a greater or less extent in all white pine stands, control measures have been confined to the Kootenai and Coeur d'Alene National Forests. Artifical control conducted on the Kootenai Forest for the last 6 years has successfully eliminated the threat of a serious outbreak. On the Coeur d'Alene Forest a program of control has been in operation since 1930, and all phases of this project have been studied intensively in an effort to improve the methods and results of artificial control. To indicate the many problems of this project as well as the major steps that have been taken in an effort to solve them, it seems best to relate the history of the Coeur d'Alene control operations.

Before this discussion is carried further, however, the reader should be reminded that after a tree has been successfully attacked by bark beetles, it cannot be saved. Furthermore, the methods of control that have been used during this project are faulty in that they destroy beneficial insects as well as the destructive pests.

Control On the Coeur d'Alene

In 1928 a survey of the valuable white pine stands of the Coeur d'Alene National Forest revealed the presence of a potentilaly serious outbreak of the mountain pine beetle. As a result, the largest bark-beetle control project ever undertaken was instituted in the spring of 1930. A 74 per cent reduction in the amount of infestation followed, and the immediate danger of an outbreak was averted. Since that time, maintenance control has been conducted on a greatly reduced scale, the operation being directed into areas where the infestation was the heaviest. In 1933 the infestation had been reduced to a point where control was considered necessary for only one small area, where 900 trees were treated. In all, approximately $280,000 have been spent for the control of this insect on the Coeur d'Alene Forest since 1930. Contrasting the results with what has occurred in other similar areas where no control was undertaken, there can be no question but that a large percentage of the mature timber has been saved as a result of this expenditure.

After the second year of these control operations it became evident that, although our plan of campaign would reduce the infestation to even a below-normal status, no permanency in the results was assured. With the cessation of control in the various units, the infestation would start to increase, and it was evident that in a short time conditions comparable to those existing at the start of the project would prevail. In 1930 the plan of operation was based upon the location and treatment of all infested trees with a rather quixotic idea of practically eliminating the insects from the area. It was not until 2 years later, after spotting methods had been strengthened and improved to what was considered the economic maximum, that 100 percent control was conceded as being impractical. Then it was evident that trees

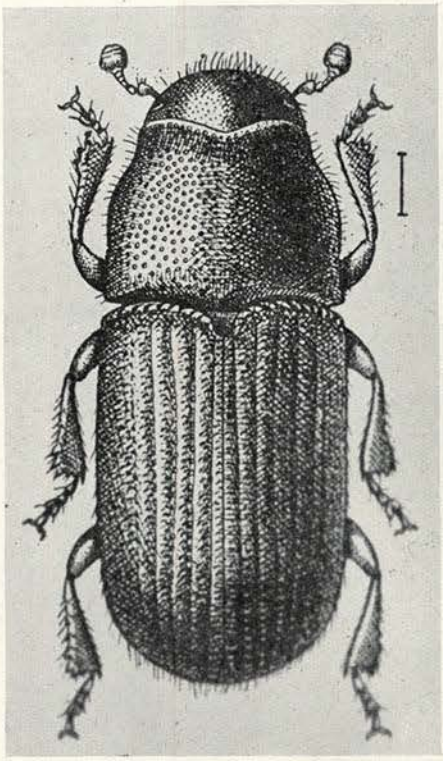
missed during the operation, as well as the possible flight of insects into the treated area from adjacent untreated units, were responsible for the reinfestation that occurred within the areas covered by control. Another factor that was found to be contributing to the subsequent reinfestation of treated areas was the large number of trees blown over during the second year of the project. Wind throws with roots in the ground remain suitable for insect attack for at least 2 years and offer no resistance to attack, so only a few insects may produce abnormally large broods in them. Many of these wind-falls were only very lightly attacked, nevertheless it was necessary, in planning for subsequent control, to consider them in the same category as attacked standing trees. As the results of control were computed on an infested-tree basis, the consideration of windfalls as infested trees, though necessary in computing the number of trees to be treated, gave an improper conception of the insect population, because it has been estimated that a successfully attacked windfall might have only one-third the number of insects required to overcome the resistance of a healthy tree.

Use of Parasitic Insects

The realization of the impracticability of 100 percent control made us feel the need for a fundamental change in control methods. The treatment of only a certain percentage of the infested trees by a method as destructive to beneficial insects as to the harmful species could result in no more than a temporary reduction in the insect population, with no change in the potential power of the infestation to increase. A radical departure from former plans of control was therefore inaugurated, and spotters were instructed to leave unmarked all trees in which a certain percentage of the beetle brood was found to be parasitized. The purpose of this move was to favor the increase of beneficial insects in the hope that they would care for the infestation purposely passed by the spotters as well as that which seems to be inevitably missed. The importance of these beneficial insects can best be realized when it is understood that they are responsible for a considerable part of the 92 percent mortality normally occurring in the broods of the mountain pine beetle. It will be seen that with such a high mortality of the bark beetle, a slight fluctuation in the population of these beneficial insects will produce marked changes in the infestation.

This plan of operation was first instituted, in 1933, in the Steamboat Creek drainage of the Coeur d'Alene Forest, and as a result of this rather novel experiment the population of beneficial insects materially increased in 1934, and the mountain pine beetle infestation was reduced to a point where control was not considered necessary. In fact, the 1934 survey showed that the area in which this experiment was tried was the only one where no increase in the mountain pine beetle infestation occurred. It is hoped that by fostering the beneficial insects more permanency can be obtained in the results secured from control.

During the 1933 season another factor entered this problem to complicate still further the accurate measurement of control, as well as to affect seriously the benefits that can reasonably be expected from such operations. In several areas trees were found that were in a decadent condition owing to the presence of a root disease (*Armillaria* sp.). This condition had apparently lowered the resistance of many trees so that very light attacks of the bark beetle were successful in producing normal broods.



After A. D. Hopkins.

Mountain Pine Beetle, Dendroctonus monticolae (Hopk.).

It has been necessary to analyze these various situations carefully, as the importance of the fact that windfalls and trees weakened by disease sustain the infestation, as well as contribute toward a rapid increase, is appreciated. Though some progress has been made, a great deal of intensive work will still have to be done before the exact relationship which exists between this favorable host material and the subsequent infestation is fully understood. Also, although advances have been made in methods of fostering natural control agencies, there is more to be done in this field.

In summation, we find the successful solution of the existing problem to be a proper recognition and evaluation of all factors concerned, so that artificial control can be directed toward the restoration of a proper biological adjustment. While this solution will satisfy present demands, in the future, with a greater depletion of our virgin timber supply, our thoughts must be directed toward the prevention of losses by insects through silvicultural practices that will permit white pine to be grown with little fear of serious insect attack.

The Next Step in Fire Control Engineering on Private Lands in the Northwest

By C. S. Cowan

Chief Fire Warden, Washington Forest Fire Association

WITH such an impressive title it behooves a budding author to search diligently for the one step to end all steps. Obviously, such a desirable thing would bring renown to the originator of the aforesaid step, but apparently one must become analytical of the past before one can forecast the future.

Conditions in western Washington, with which I am most familiar, may be taken as a general yardstick of forest fire conditions, and more particularly, of fire causes. History is a good teacher, providing always that the lessons taught are assimilated.

So we will look over the lessons of the years 1917 to 1932, dividing this period of 16 years into two eight-year terms. The lesson is given statistically below.

FIRES	1917-1924	1925-1932
Number of Fires	6,006	7,330
Acreage burned over	1,271,822	956,970
Average acreage per fire	212	130
Average loss per fire	$ 700.00	$ 215.00
Merchantable timber killed	605,222 MBM	213,332 MBM
Total—all damage	$4,207,696	$1,578,058

PROTECTION COST—FOR WASHINGTON	1917-1924	1925-1932
State	$ 514,112*	$ 589,669*
Federal	224,236*	518,996*
Private	1,269,084	2,105,545
	$2,007,432	$3,214,210

The lesson is not as obvious as the figures. We find that the second term showed 1,324 increase in number of fires or 22 per cent. The acreage covered by these fires showed a decrease of 314,852 or 24.4 per cent and a reduction in average fire coverage from 212 to 130 acres per fire, a reduction of 38.3 per cent.

We will leave the loss figures to speak for themselves; we are particularly concerned with the figures detailed. We want to know what caused the increase in number of fires—what caused the decrease in acreage coverage? We cannot go into too many details, so we will segregate lumbering fires from all other causes and delete all lightning fires. This shows the two periods as follows:

Lumbering Fires 1917-1924	Total Fires	Per Cent
975	6,006	16.2
Lumbering Fires 1925-1932	**Total Fires**	**Per Cent**
660	7,330	9.0

Comparing the two periods, we find that the second period includes the three years of *greatest recorded fire hazard* in addition to the maximum production years of 1927, 1928, and 1929. This but makes the lesson still more significant.

There is a decrease in fires caused by lumbering; there is an increase in the total number of fires.

What is the reason for this?

Logging Not Responsible

The figures prove that the process of logging is not responsible for the increase in number of fires; the average acreage covered by fire shows a very decided decrease, and it may be incidentally mentioned that expenditures made by private owners increased by 66 per cent, and the Government, State, and Federal expenditures increased by 50 per cent as between the two periods.

There is, of course, one more set of figures to be considered. We have shown lumbering fires to be responsible for 16.2 per cent and 9.0 per cent of the humanly caused fires for the two respective periods.

These percentages read well, but what acreage was covered by these fires? We find that in the first period out of 1,271,822 acres burned over in western Washington, that lumbering fires are charged with 501,512 acres, or 39.4 per cent. In the second period, out of 956,970 acres, lumbering fires are charged with covering 182,131 acres, or 19.0 per cent. Not too bad a record of improvement, comparing period with period, but even this does not tell the full story.

It is known, of course, that under any system of protection (which includes slash burning), that the operator can never get away from his hazard. He logs in slash, if he did not, he would not be logging. Obviously, therefore, fire risk is inherent in any logging operation, and if a fire does start therein, it is bound to spread rapidly in fire weather. In this country of ours, which I am using as a yardstick, slash resulting from logging operations *must be burned*. The Law says so, and as law abiding citizens we obey, more especially when such slash burning is a definite measure of protection for the virgin crop and a healthy assurance of protection for the crop to come. Of the acreage covered by lumbering fires, 86.0 per cent (almost identical in both periods) was fresh slash. This means that the area would have been burned deliberately in due time—it happened to burn accidentally.

I will not enter into a discussion as to whether the ground was damaged to a greater extent by such fires burning during the fire season, but this we do know, that slash fires are or should be set with the

*The figures relating to State and Federal expenditures are for the entire State. It was found impossible to segregate these expenditures between eastern and western Washington. Private expenditures, however, are for western Washington only.

view of removing the slash—that is exactly what a summer slash fire does. That we do get splendid reproduction following such fires is plain to all who can see, providing we do not get repeated burns over the same area and that a seed supply is reasonably near at hand. The same thing is, of course, true of slash areas deliberately set on fire.

If we consider these basic facts, we will arrive at the points for the next step.

Fires Other Than Logging

First, however, we must analyze those fires not caused by the lumber industry. We have eliminated lightning fires, which have not yet come under the Lumber Codes, although lightning is pictorially shown within the grasp of the Blue Eagle. The initial period had 216 and the secondary period had 337 lightning fires, which leaves remaining totals of 5,790 and 6,993 respectively. A recent analysis made shows that almost 70 per cent of all fires originate within one quarter of a mile of traveled roads in Oregon and Washington.

A further research shows that the recreationist is responsible for approximately 35 per cent of all fires, while the land clearer is responsible for 25 per cent during the latter period. Compare this with the industry's 16.2 per cent for 1917-1924, and 9.0 per cent for 1925-1932. Certainly this shows a very marked improvement by industry and a back-sliding by the recreationist and land clearer. In other words, the general public is to a much more marked extent responsible for the increase in the forest land devastation so vigorously and wrongfully laid upon the logging industry.

Obviously, we cannot stop road building, even if we would; we cannot prevent land clearing, unless we stop human ambition. Certainly we can educate these two prime factors in land despoilation, if we would conserve our forest wealth. But that at the best is a very slow process. This would appear to be the most desirable step, but is it the "next step"?

We must still further go into the statistical record; we must find out why fires have increased in number; what are the causes, and why the acreage per fire is decreasing; why costs are going up in total expenditures; who pays the money, and whose is the real responsibility for the costs.

We state that with the building of roads fires have increased. Then the general public which uses these roads is responsible. But the acreage of cut over lands with its attendant high fire hazard has increased. True, but the garnering of the forest crop is a legitimate enterprise and *good forest practice*. The cut over land in itself is not dangerous, if we as sensible people discount the spontaneous combustion theory. It is the people who use and abuse the forest land areas who are primarily responsible. The forest protection agencies have greatly increased their efficiency, as shown by the per acre decrease. No comparative cause for complaint here, so long as the protective agencies continue to improve their technique and employ men who are chosen for their experience and *willingness to learn*.

Costs have gone up because fires have increased in numbers. Logging is being pushed back into the more rugged country, and the public is also going back as increasing road mileage makes the path easier. Let us look again at the governmental and private expenditures for forest protection purposes, remembering that the expenditures shown as private do not include expenses incurred by logging operators for their own protection within the sphere of their own operations. For purposes of ready comparison, we will divide the State and Federal forest protection expenditures into halves as we are dealing only with western Washington figures. There may be a balance in favor of East or West side, but not enough to make any real difference. It will be noted that the 25-25-50 set-up still remains a goal to be sought. Actual figures are both brief and interesting.

Expenditures	1917-1924	1925-1932
State and Federal . ....$	369,174.00	$ 554,332.50
Private Land Owners	1,269,084.00	2,105,545.00

The lesson to be gathered so far is that the logging-operators' fires decreased, and the forest land owners' expenditures increased. Public expenditures also increased but not in proportion to the rate of increase in public caused fires.

The Next Step

The next step in fire control engineering on private lands in the Northwest becomes one which is so simple that it has been overlooked. It is against the "preachments" of those set in authority.

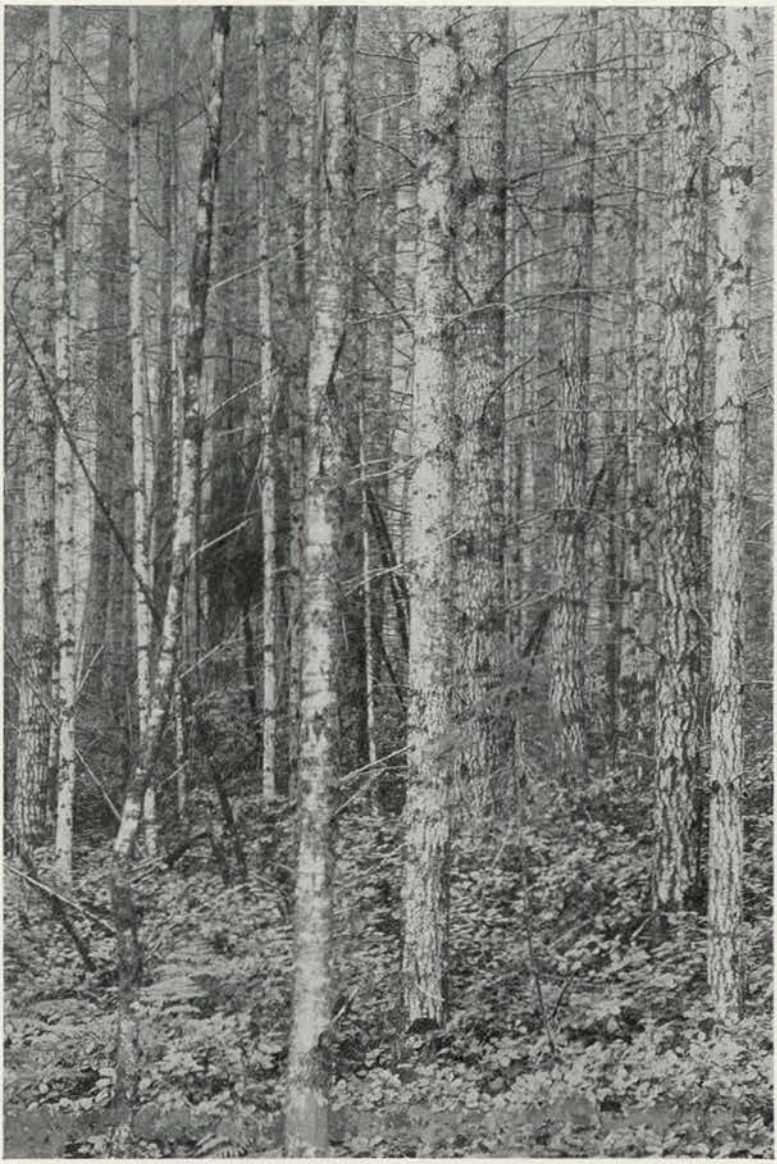
It is a step which those who have authority have failed to make clear to those who do not know the facts of the fire control situation, or who are unable, for various reasons, to analyze the situation in its most simple form. The next step has *already* been taken by the lumber operator and that step is fire prevention. He must still further improve to become perfect, but he is on his way. It is the step which *should* have been taken which is lacking.

Let us revert for a moment. We have set out the years 1917 to 1932 and created a yardstick. These dates are not taken in any arbitrary spirit to bolster up a case, or to erect a straw man in order to shout with glee when he disintegrates under a barrage of artifically created facts.

The year 1917 was the first year of the Compulsory Patrol Law in Washington; it was the first year when cut-over lands were looked upon as carrying any value to the state and its people and therefore worthy of protection. It was the first year when the principal of the financial responsibility of the land owner was set out, even though such financial responsibility was in addition to all other taxes usually imposed upon the land owner.

The year 1917 can therefore be safely taken as the start of organized forest land protection, as opposed to standing timber protection.

Let us remember that the very human attitude of any property owner is always the safeguarding of his present or immediately prospective values. In other words, the natural interest of any investor is the safeguarding of his prime property interests; in the case of the timber owner, the standing green timber. Cut-over forest land values were so far in the future that the return to the individual could be relegated to the empire of dreams, when considered in cash-crop terms. Cut-over land which has a primary agricultural value was looked upon as benefitted by repeated fires which removed much of the heavy debris and added to its sales value. There is a very insignificant amount of logging now



DOES FOREST PROTECTION PAY?

This photo shows the site of an area burned in 1883. The second growth is dense and vigorous, and now has a market value. Ninety-five per cent of the area burned is covered with a similar stand.

taking place upon lands of known agricultural value. The days of the land boom, of the highly speculative era in acreage values has apparently gone the way of the stage coach. Forest land protection, as now in force, has therefore an additional objective; the regeneration of a second forest crop. Whether the forest land owner is in sympathy with this movement or not is beside the question of whether the forest land is receiving the benefits which tend towards reproduction. Under the Compulsory Patrol Law, all forest lands are receiving the benefits of organized protection. So much for the datum year. Why did I take the year 1932 instead of 1933 or 1934? The answer is really quite simple—I took the year 1932 because 1933 was a very wet year; in addition to this the Civilian Conservation Corps was in the field and available for fire suppression purposes. The fire season of 1934 was the year the Lumbermen adopted Article X of the Lumber Code. In the Douglas Fir region, we incorporated into our requirements the power of shutting down any or all operations when weather conditions warranted such a step. We also required all operators to fight *all* fires with *all* their available employees until released by properly constituted authority. Equipment provisions were stringent as well as expensive. The requirements were lived up to in a very complete and satisfying manner. The net result was that 1933 had but 49 operators' fires or 8.8 per cent of the year's total, and covered 5,084 acres or 15.5 per cent of the acreage total. The year 1934 showed but 13 operators' fires or 1.5 per cent of the total, and covered but 275 acres or less than one per cent of the total acreage burned over for the year.

In addition, the year 1925 was a year of heavy loss, as was 1926, and to throw either of these years into the first period would appear to savor of padding statistics. The years 1933 and 1934 are therefore left out of consideration with the above reasons in mind. I am trying to present an accurate picture of the problem involved in forest protection.

Recreation and Land Clearing

It is not out of place to point out that while the Lumbermen voted the "close down" provision into the Code of Forest Practice, there is no compensatory provision for controlling the public. Indeed the days when caution counsels the closure of logging operations, shutting down large equipment investments, throwing men temporarily out of work, are just the days when the public likes to get out in the woods and thus carry into the forest land a risk which we have taken steps to control in logging operations even to the extent of preventing men from working. How true this is, is shown by the fact that while the logger started 13 fires, the recreation seeker started 367, burning 5,707 acres and destroying 23.4 per cent of the timber lost. The land clearer took advantage of such days also, for he started 134 fires and burned 5,982 acres or 18.7 per cent, while the incendiary came through with 188 fires and burned over 18,323 acres or 56.6 per cent of the area burned over in 1934.

These figures are official, and they should give rise to thought. I therefore believe that I have set out a very fair table, and that the deductions drawn are logical.

Public Control Imperative

These deductions must lead to the conclusion that there must be at least the same measure of public control as there is of the lumber operator. If the operator is forced to close down his operation because of fire risk, there must also be some way to control the public risk. This is all the more true when we know that the timber operator must carry a large share of the cost imposed by the public. Inevitably the conclusion must be drawn that there must be a greater measure of public control and public responsibility.

There is no sound or logical reason for the present basis of the Clark-McNary allocation of financial responsibility, whereby the cost is split on a 50-25-25 basis of private, Federal, and State responsibility. There is no real reason why this basis should be held sacrosanct. It is falsely premised. In addition the Clark-McNary allotments have never yet reached their authorized total, leaving the States and private owners to carry the added burden. Yet we hear, year after year, the cry of "forest devastation"—"the logger is despoiling the nation"—"there is a shortage of timber, now and to come, because of the logger". What utter nonsense! To sit and write of burned over areas is one thing, to find out who or what caused these areas to be burned is another. The one requires a facile pen, a crusader's spirit and a desire to change things. A most worthy spirit, but not always a logical one. It results in books, debates, and antagonistic cliques, but it settles nothing; proposes nothing.

Those of us who have spent some years in forest protection work know the whys and wherefors. There is a step forward to be taken, but it cannot come from the "wailing wall".

That step will come only when public authority undertakes to assume financial responsibility and liability for the acts of its citizens.

The most desirable method would be to set up the Clark-McNary Fund to at least the limit authorized in 1924 when the Act was passed. Failure to do so, is bound to have its effect. This fact is shown conclusively in the foregoing. Public effort must keep pace with private effort. Forest land owners must be granted at least the same measure of protection that is provided the urban land owner as against the arsonist. The Government must offer protection to its citizens and their property.

It is for this reason that Governments are constituted and maintained.

My answer is that the *next* step in fire control on private lands is the assumption by public authority of public control in all its phases. The problem on private lands is the problem of public use, and the assumption by public authority of public responsibility is the NEXT STEP.

Education of Foresters for the National Park Service

By John D. Coffman, *Chief Forester*
National Park Service

THE practice of forestry within park areas should have as its objective the maintenance of the forest and forest life in as nearly a natural state as is consistent with the proper use of the area for recreation, education, and inspiration. This is a far different objective from the practice of forestry for the production of commercial products. In the commercial forest the forester may very properly interfere with natural conditions in order to produce the greatest quantity of the best saw timber, or other desired products, within the shortest rotation. In that case certain trees may be considered as inferior or "weed" trees and may be cut or girdled in order to make room for species that will produce a higher return in dollars; pruning may be desirable in order to encourage production of clear lumber; the prompt removal of decadent or dead timber which is still merchantable may be necessary for the purpose of salvaging its value; removal of "wolf" trees may be in order to provide additional room for growth of greater commercial value; the removal of all dead trees of no commercial value may be desirable from the standpoint of stand improvement and fire hazard reduction, unless wildlife considerations are involved; and for ease in logging operations it may be desirable to have a stand fairly free from undergrowth.

Parks Maintain Natural Conditions

In the park forests, on the other hand, the desire of the forester should be to maintain natural conditions so far as practicable. The "weed" tree of the commercial forest may be of the highest scenic value in the recreational forest. Why then the need for any forestry or foresters within the parks? In the first place, the protection of the forests is as important within the parks as it is within the national forests and areas of privately-owned forest land. The forests form a very important element in the sublime scenery of the national parks. Much of the charm of the parks would be lost if these forests were destroyed or seriously disfigured by fire or by insect and fungous epidemics.

While most park areas are free from fires intentionally set, there is a considerable number of man-caused fires resulting from carelessness on the part of smokers and campers, in addition to lightning fires, and the parks are likewise threatened by numerous fires originating outside their boundaries. Fire protection is, therefore, the most important forestry activity within the national parks, as it is likewise within the national forests. Because of the high scenic and recreational values at stake, there are no areas where adequate fire protection deserves greater consideration or demands greater efficiency in organization and equipment than in the national parks.

Second only to protection of the park forests from fire is their protection from destruction by insects and tree diseases. Much attention has been given to the control of bark beetle epidemics threatening the magnificent sugar pine and ponderosa pine stands in the national parks of California and in the lodgepole and western white pine stands of these and other western national parks. Protection from white pine blister rust has also been under way in Mount Rainier National Park in the State of Washington as well as in a number of eastern national park areas wherever the amount of white pine has justified protection from this introduced disease. In some areas where the white pine is of scattered nature and Ribes form a conspicuous part of the landscape, it has been found more desirable from the scenic standpoint to preserve the Ribes.

Type mapping and range surveys are important in the parks in connection with fire protection, insect control, tree disease control, wildlife management, and in furnishing data on plant succession, correlation of site and vegetation, natural regeneration, and other matters of a silvicultural and ecological nature.

Use of certain areas as public camp grounds gives rise to problems of preservation of the vegetative growth, coincident with recreational use, that challenge the forester.

All clean-up operations for forest fire hazard reduction require careful supervision by foresters in order that this work may be done with due regard to the preservation of proper forest conditions as well as fire prevention. If left to untrained individuals or to those without a knowledge of forest ecology, such work is usually carried to extremes with consequent detriment to the fertility of the forest floor as well as to landscape and wildlife values. While it may be necessary to fell snags in certain locations where their presence during a forest fire would form an especial hazard, it is not justifiable to remove snags indiscriminately throughout the park forests. They are of material value from the standpoint of wildlife and are a part of the picture in a primeval forest.

In all timber cutting for roads, trails, telephone lines, or for development projects of any character, the advice of the forester is needed in the prevention of openings which would result in excessive windfall, and his supervision is essential in the disposal of debris so as to avoid damage by fire and insects. Damage to the surrounding timber too frequently occurs when the burning of debris is not supervised by someone experienced in forest fire protection and acquainted with the necessity for burning only under the proper weather and humidity conditions. It is also important to keep in mind the danger inherent in delayed brush disposal which might permit tree-destroying bark beetles to breed within coniferous slash and then emerge to attack surrounding live trees.

While forest planting and forest nursery work are of very limited extent within the national parks, supervision by trained foresters is essential where such activities are in progress.

It is evident, therefore, that recreational forestry within the parks includes many phases of forestry practice but excludes those incident to commercial logging operations and to cultural practices designed to assist nature in the production of the greatest amount of commercial timber. It likewise excludes the use of the parks for the grazing of domestic

stock, except as incident to grazing of horses used for trail travel. The meadows within the national parks are protected in order that their natural display of native flora may delight the park visitors, and also in order that these and other sources of forage may be available for the grazing animals native to the parks without competition with domestic stock, which might possibly result in over-grazing with consequent damage to flora and scenery.

Design. The majority of foresters in the National Park Service have entered through the ranger organization. The Branch of Research and Education also offers opportunities for foresters in the Park Naturalist Division. Those on the Civil Service eligible list for Junior Park Naturalist are eligible for appointment either as park rangers or as junior park naturalists when vacancies occur in the permanent organization.

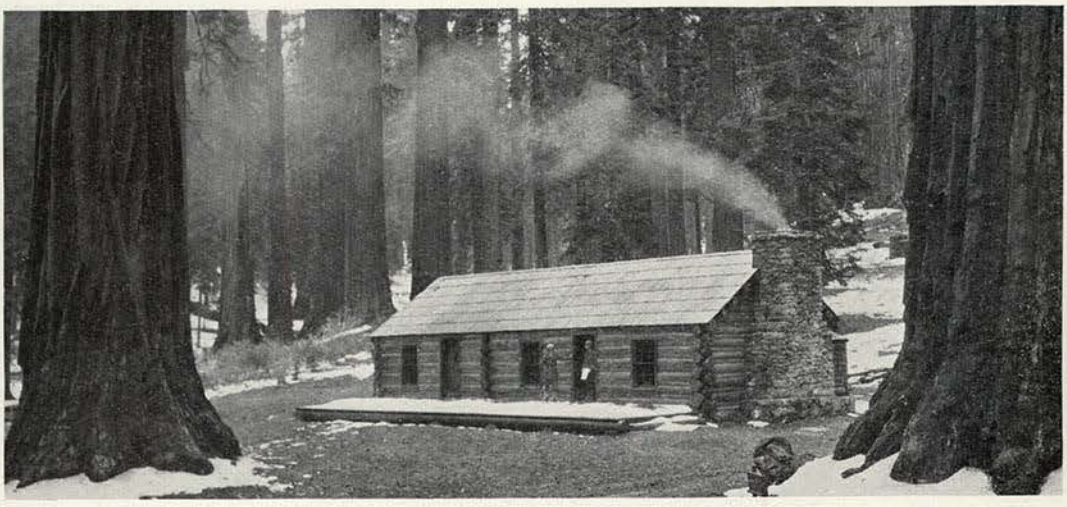


Photo Courtesy Nat. Park Service.

Galen Clark Cabin, Mariposa Grove of Big Trees, Yosemite National Park.

Opportunities and Training Required

Forestry projects within the parks cannot be divorced from consideration of landscaping and wildlife interests. Every forest activity must give heed to these interests. It is, therefore, essential that there shall be close cooperation between the park forester and the landscape architects and wildlife specialists, with careful coordination of all three interests in every phase of park forestry. While this is especially essential in parks, it is likewise desirable in all forest administration, but its importance has too frequently been overlooked in the training of foresters in the past. In my opinion, every forester who has hopes of becoming an administrator of any forest area involving recreational interests should have instruction in wildlife management as well as an appreciation of forest landscape principles. These I consider two fundamental subjects which should be included in the training of every park forester. If not acquired in college, these subjects should by all means be given thorough study through reading and field observations and contacts.

I should list as other desirable subjects for a park forester or recreational administrator courses in vertebrate zoology, forest entomology, geology, forest pathology, and recreational administration, if such courses are available. A knowledge of first aid is also highly desirable.

Within the National Park Service foresters are represented in each of the following permanent positions: Park Superintendent, Assistant Superintendent, Chief Ranger, Ranger, Chief of Field Division of Education, Chief of Wildlife Division, Assistant and Associate Park Naturalists, Chief Forester, and a number of forestry graduates trained in landscaping are members of the Branch of Plans and

I know of no better general preparatory training for park administrators than a forestry course which embraces the special subjects already enumerated, and there is no reason why any forester in the Service should not aspire to any of the higher administrative positions, provided his ability and personality are such as to qualify him for such advancement. In the National Park Service, as well as in every line of work that has to do with public contact, personal qualifications of the highest character are essential, irrespective of the employee's scientific training. Personality, appearance, and judgment must be such as to enable him to deal with the public in a manner that will create a favorable impression for the Service; energy, physical condition, and stamina must be such as to enable him to endure long periods of hard work; and by no means last is the important quality of initiative. A park officer should likewise find pleasure in meeting and furnishing information to park visitors.

For park work outside the National Park Service there should be opportunities for foresters in State and metropolitan parks. Many of the states had started the development of state park systems prior to the initiation of the Emergency Conservation program. However, the opportunity under the ECW program for aid in the development of state parks through the Civilian Conservation Corps has given great impetus to this movement and has resulted both in the enlargement of state park programs and in the initiation of such programs in a number of additional states. There are now 42 states participating in the use of CCC for park work, and since the start of the ECW program approximately 457,000 acres have been added by donation and purchase to the state park systems.

The New Public Domain and Wasteful Processes, a Personal Viewpoint

By Sinclair A. Wilson, *Senior Forest Economist*
Pacific Northwest Forest Experiment Station
Portland, Oregon

EARLY in our national history, an idea was conceived that land might be worked, wealth distributed among the people, and some public revenue derived if the Federal Government and the several States were to pass their title to land into private ownership by gift or for a nominal consideration. Out of this idea a system developed whereby undirected individual preference rather than directed proper best use was the criterion in the disposal of public lands.

An extensive expansion ensued from coast to coast. Settlements sprang up, some reasonably permanent, some unreasonably temporary, and others without any justification for having been established. Speculation in forest land with little or no agricultural possibilities dominated the real estate movement. At the outset it resolved itself into a hodgepodge of ownerships, bent upon speedy conversion of forest and land values into cash. The thought of leaving the cut-over forest lands productive was nil, and the concepts of economic stability and social responsibility either made no impression or were wholly disregarded.

Advent of the 20th century witnessed beginnings of a breakdown in the system. Although striking developments have taken place since then, nevertheless, private demand for public domain properties began to fall off, and in sections of the country virtually ceased.

Coincident with this tapering demand for the old has come an unwanted, growing, new public domain—a no-man's land created by abandonment of privately owned low-grade lands through the paths of tax delinquency—reverted and reverting to states or to their counties. Almost unnoticed at first, this movement steadily has gained momentum, reaching today disturbing proportions, particularly in cut-over forest areas of the Great Lakes section, in the South, and even in the comparatively young Pacific Northwest.

In the Pacific Northwest (Oregon and Washington) awareness of the breakdown of private forest land ownership and problems incident thereto has been growing slowly. Warning notes have been sounded by the United States Forest Service, timber owners and associations, private foresters, investment and commercial bankers, chambers of commerce, and economists and social workers. Attention has been focused upon tax reverting unprofitable and unmarketable lands in stump, brush, timber, and farm.

Steps have been taken to encourage continued private ownership of forest lands for timber production through remedial tax legislation, mutual insurance against excessive fire protection costs, and investigation and instruction in sound forest management. Large areas of mature, merchantable timber remain in this region, and opportunities abound for rounding out these holdings by acquiring near-by second growth stands and recent cut-overs, or by consolidating mature stands, in the interest of continuous production.

In spite of whatever awareness, legislation and opportunity exists, breakdown of private ownership still continues and now extends beyond submarginal bare lands even to good timber. For the past fifteen years the situation has become progressively worse.

Recent studies conducted by the Pacific Northwest Forest Experiment Station reveal that in the forest areas of eighteen counties in western Oregon and Washington nearly three and a quarter million acres were tax delinquent, and another almost half million acres already forfeited for unpaid taxes. When one realizes that one third of the area studied is involved in long-term tax delinquency, that the owners of land valued for assessment and tax purposes at over $40,000,000 had stopped paying taxes, and that the bulk of these lands are forest in character, the conclusion must naturally follow that forest-land ownership in the Douglas Fir Region is in an unstable condition.*

Financial and Industrial Aspects

The situation has serious aspects in additon to the implied financial distress of the owners. The non-taxpaying owners' share of the burden of supporting local government has, of course, been shifted to the owners who continue to pay taxes. As this burden becomes concentrated upon a smaller and smaller number of property owners, the processes of timber depletion are speeded up and lands giving little promise of yielding early income are dumped into the delinquency hopper. The cumulative effects of these processes fall heavily upon all taxpayers, place in jeopardy tax-supported institutions and services, threaten the existence of once thrifty communities, and limit the opportunities of obtaining gainful occupation.

The industrial structure of the average community is built largely upon local natural resources, their ownership and management and the conversion of their products into useful articles. Our forests constitute one of our major natural resource industries, but its permanent welfare is being threatened by progressive deterioration and devastation stimulated by the "No Man's" status of tax delinquent forest lands. When the welfare of any one major natural resource industry is impaired, the entire industrial structure, being indirectly dependent, is weakened.

Although strenuous efforts have been made to reduce the sum total of taxes levied, and some progress has resulted, nevertheless, in many counties the millage has increased materially with the disappearance of forest land values. To illustrate: in Clatsop County, Oregon, between the years 1920 and 1931 the assesed valuation of all taxable property dropped from $41,550,000 to $27,296,000, and the total general property taxes levied for all purposes decreased from $1,964,352 to $1,738,821. Even though taxes were reduced, the average tax rate increased from 47.3 mills to 63.7. And during this same period the percentage of levies uncollected at the end of each first year after the levy, increased

*Facts Bearing Upon Instability of Forest Land Ownership in Western Oregon.
*Facts Bearing Upon Instability of Forest Land Ownership in Western Washington.
Pacific Northwest Forest Experiment Station, Portland, Oregon, September, 1934.

from 15.4 to 56.3. The net debt of this county and its subdivisions grew from 25.6 percent of the total assessed values in 1922 to 34.8 percent in 1931. Other values have not come in to replace the forest values which are disappearing as a source of public revenue.

Disposition of Tax Delinquent Lands

What is to be done with the hundreds of thousands of acres reverting or reverted to the counties for unpaid taxes? Will they find their way into agriculture? The idea long has prevailed that where trees once grew, there farming would succeed, and until very recently it has played an important part in diverting attention from keeping forest land productive and forest communities stable. We have been slow to realize and admit that most of the remaining forest land is physically unsuited to agricultural use under economic conditions of the past two or three decades. The sum total of land in farms in western Oregon and Washington has increased very little during recent years although the area of privately-owned, clear-cut, burned-over, and second growth forest land has grown by leaps and bounds. In the twenty years between 1910 and 1930, only 159,939 acres were added to the farm land area in western Oregon and Washington.* But in the fourteen years between 1920 and 1934, over 1,824,000 acres of privately owned forest land were clear cut, which, added to the area of privately-owned old cut-overs not restocking, deforested burns and immature second growth conifer types, makes a total area of 7,436,201 acres of privately-owned forest land from which the virgin stand has been removed. (This total does not include 988,363 acres in hardwoods and non-commercial forest types.)**

Nevertheless, during this period we have witnessed the platting and selling of large areas of stump land for farm purposes, and the ensuing far flung settlements with their attendant demand for roads and schools. We sympathize with the distress of many of these settlers who are unable to make both ends meet. We begin to realize how heavy a burden is borne by the public at large in building and servicing roads and schools in sparsely settled areas. We now see that the public service we are able to render is controlled by available revenue measured by capacity to pay. We have recognized numerous services as rights of society. But have we recognized the right of society to prescribe limits within which these services may be rendered?

Problems such as these are common to all of the "Douglas Fir" counties. They are the result of several wasteful processes, five of which I will discuss, namely: selling privately-owned low grade lands for farm purposes; selling publicly owned low grade lands for farm purposes; farming sterile areas; speculative subdividing in submarginal areas; paying taxes on submarginal lands.

It is not uncommon practice for people to sell land for farm purposes in localities remote from existing centers of population where the costs of schools, roads, and other improvements are far beyond the capacity of dwellers thereon to pay for in taxes. The opening of such areas to settlement usually throws upon other tax payers an added burden, by way of making advances for the construction and maintenance of schools and roads for these new settlers. A serious loss may be incurred if the future returns in taxes from these new settlers are insufficient to pay for such advances. A most serious loss may be incurred if the new area is not self-supporting after the improvements are in. The public should be interested enough to take a hand because every tax contributor is affected by this sale policy in one way or another.

Power to forbid sales of this nature may not be vested in local governments. Power to discourage sale, however, is always present. It may be exercised in several judicious ways, such as, (1) by a frank talk with the present owner laying the public's cause clearly before him and asking him to desist; (2) by refusal to accept deeds to the public dedicating certain rights of way for road purposes; (3) by notice to present and prospective owners that it is not the intent of local government to provide roads and schools for this area at public cost, and that owners and settlers will be expected to furnish their own rights-of-way, to build and maintain their own roads, and to pay all costs in cash for the education of their children, over and above what might be determined as normal average cost, the latter to be collected in taxes; (4) by enlisting the interest of the press, or responsible groups of realestate dealers, of chambers of commerce and other associations; and finally, (5) by enlightening people generally. The passage and enforcement of adequate zoning laws would afford an effective means of controlling the sale of lands for farm purposes in areas not now suited to settlement.

Another unproductive wasteful process may be found in cases involving the disposal by county authorities of tax-reverted land for farm purposes in localities remote from existing centers of population where the cost of schools, roads, and other improvements are far beyond the capacity of the dwellers thereon to pay for in taxes. On the one hand, it is recognized that pressure to return all such property to the tax rolls is heavy, and it is further recognized that there is an element of pride in showing a minimum of county-owned property. On the other hand, such land disposals might easily be considered as carrying with them an implied contract on the public's part to do something more, at least to assist in school, road and other improvement costs. When it is obvious that the parcel or parcels owned by the county can not return in taxes the public advances to be made for improvements needed by farms and families, then it is folly to sell. The public is better off in holding them until such time as they may come into proper agricultural use and may play their fair part in defraying public costs. In some cases the public is better off in waiting until other contiguous lands have reverted, sufficient in area and quality to be administered for forest purposes, and then disposing of the same for such purposes. In other cases the public may profit by blocking out reverted poor lands with existing private or public forests.

Farming Sterile Areas

The farming of sterile areas where the returns are too little for the effort involved may present a serious public problem. If by chance such an area should be self-sustaining, then no great harm has been done other than possible waste of human energy and possible injury to contiguous lands suited chiefly to other purposes, such as forest production. It may happen that a school is maintained for the benefit of a single family at an annual cost greater than the value of the farm. It may happen that road construction or road maintenance costs will exceed the

*United Stated Census of Agriculture, 1910 and 1930.
**"Forest Statistics of the Douglas Fir Region," Forest Research Notes No. 13, Pacific Northwest Forest Experiment Station, July, 1934.

value of the farm or of all farms in the area. In most cases we find that sooner or later, settlers in areas like these, unable to bear their share of the cost of public service, attempt to increase the area of the school or road district so as to bring in added tax revenues; failing in this, pressure is brought upon the county at large for aid, and the county oftentimes comes to the rescue when it is known that there is no possible hope for ever recovering from these people the advances made in their behalf. The county might well consider the feasibility of closing out such sterile areas, and the following methods are suggested as a few of the ways in which this might be done: (1) trade good land owned by the county located near established schools and roads for this poor land; (2) county purchase or acquire through condemnation proceedings sterile areas where public service costs approach value of land; (3) withdraw such lands acquired by the county from agricultural use; (4) zoning as to the use and the extension of public services to lands such as these.

Speculative Complications

Unwise speculative subdivisions in poor locations are a source of constant trouble. There may be grave doubt that the entire tract to be subdivided could ever survive as a single operating farm, to say nothing of surviving as several operating farms; sooner or later it might be abandoned to farm use and in all probability would revert to public ownership; and then the cost to the public for handling delinquency proceedings would be present. But if such low grade land is subdivided into small units of 2.5, 5, or 10-acre plots, probably some will be sold, and the balance dropped; gradually various owners will become delinquent; the costs of delinquency will multiply for the county is dealing with several owners and with several degrees of delinquency instead of with one, each requiring a separate step and each step as costly as if there had been only one owner and one parcel in the entire tract. If the plat is not recorded, the county may more easily vacate the subdivision, but it is still put to some extra expense in listing numerous and lengthy descriptions. If the plat is recorded, listing descriptions may be a mere matter of entering names and lot, block and tract numbers, but the problem of vacation is difficult, prolonged and expensive; and in accepting the recorded plat the county may have stumbled into an implied agreement to assist in constructing such roads as have been dedicated to the public by the speculator and needed by prospective residents. Finally, subdividing submarginal lands delays their proper employment and interferes with plans for handling other contiguous areas. It is within the province of officials (1) to advise responsible real estate dealers, chambers of commerce, the press, and the public, the price paid for speculation of this nature; (2) to confer with owners who contemplate putting a subdivision upon the market with a view toward discouraging patently unwise promotions; (3) to refuse acceptance of tendered road dedications that do not fit in with the general county program unless (and this should be a minimum requirement) such roads and their connection with existing highways are improved in advance at private rather than public expense; (4) to encourage enactment of legislation making it a misdemeanor to publish plats showing roads but not designating their status as to ownership and condition; (5) to discourage recording plats of subdivisions of low grade lands by requiring the owner to justify the act of subdivision. I believe the right to record plat of subdivision should be treated as a special privilege accorded by the public to the owner, and therefore that the public has the right to protect its interests. This right may be protected by the passage and enforcement of suitable zoning laws.

U. S. Forest Service Photo.
Somebody's Forest Yesterday. No Man's Land Today.

Real Property Must Be Taxed

The paying of taxes, no matter how small, on land that possibly will return no income equal to the taxes in the lifetime of the owner is a diversion of capital from better uses. This type of land is usually owned with no thought of direct return, but with the speculative hope that it may be sold to somebody else. History shows that sooner or later it is abandoned, becomes delinquent and reverts. In the meantime, it has been put to no profitable or proper use, has a depressing influence upon the market price of other lands, and interferes with planned use of contiguous and intermingled lands. When the owner is brought face to face with the situation and has placed before him a careful analysis of just what is being done, or how he is losing and how the public is losing, he may quickly determine upon a policy of holding only that portion which may be expected reasonably to find its way into private use, and of deeding the remainder to the public, providing the public is willing to accept it in its present condition. In other regions, officials of the state or county government, advised of such a situation, have sought out owners and have explained the facts to them. In some cases, owners have promptly responded and have deeded the property to the public .It should be remembered that as long as real property remains in private ownership, the public should tax it for no other reason than to prevent the creation of tax free estates in perpetuity; that taxes on property can be so low as to create a public loss by keeping such property on the tax rolls, unless a minimum tax, even though it has little assessed value, can be legally levied in an amount sufficient to cover the cost of keeping it on the rolls.

Even if no more than these five wasteful processes are seriously considered and remedies conscientiously applied, their repetition will be limited, distress will be relieved, and the forester's task of managing the forest lands of the New Public Domain for forest production will be simplified.


SCHOOL
ACTIVITIES

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THE NEW DEAL

THE NEW DEAL!—how familiar are those words in the headlines of our papers and on the tongues of men prominent in the public eye. Some use the phrase as something to swear by, and others, as something to swear at, but what else can be expected, it being a well known fact that to please all the people all of the time is an impossibility?

The New Deal is particularly significant to us as it marks the beginning of a new era in the life of the IDAHO FORESTER. This year, for the first time since 1930, the IDAHO FORESTER is being edited by the Associated Foresters in the School of Forestry of the University of Idaho. We feel that things are now as they should be. True, it means plenty of work for the staff but this work has been shared whole-heartedly by every member of the Associated Foresters, and it is our fond hope that our efforts have met with some degree of success. In the past, the IDAHO FORESTER has maintained a high ranking position among similar publications and it is our aim to even more firmly entrench that position.

As should always be the case, when new hands take over a task new ideas come into being. What new ideas we may have brought into existence with this edition, we hope are pleasing to our readers. If we have failed, and our ideas do not seem so brilliant to you as they did to us, please tell us. Each year sees new graduates swelling the ranks of our Associated Foresters' alumni. This year, even with our greatly increased enrollment, our alumni exceed in numbers our student enrollment. It is the alumni, then, who constitute the majority, and it is they who must be given first consideration and who must be the final judges of our publication. If you are pleased with this issue, tell us so; if you are not, tell us so anyhow and feel perfectly free to offer any constructive criticisms that may come to mind. How can we edit the type of publication which you desire to read unless we know what that desire is?

We are grateful to each and every member of the faculty for their cooperation. They have adopted a hands off policy but have always stood ready and willing to be of assistance at all times. Their confidence in us has given us greater confidence in ourselves. Let us prove to them our abilities by having each succeeding year bring forth better and better issues of our annual publication.

THE EDITOR.

THE REVISED IDAHO FORESTRY CURRICULA

By Edwin C. Jahn
Associate Professor of Forestry

FORESTRY is a dynamic profession. It is in a constant state of change and growth and cannot be strictly delineated by any set of rules which would apply from year to year or even from day to day. The foundational roots of forestry, which include the basic sciences of botany, chemistry, mathematics, physics, zoology, and their various subdivisions and technical branches are in themselves constantly changing, enlarging, and developing as human effort through research adds facts and interpretations to them. This alone is a reason for evolution in forestry. Yet forestry more than embraces and utilizes branches of the basic sciences for it must deal with their delicate and complex interrelationship as applied to the problems of the management of forests and their utilization. Social and human problems also enter, and are a factor of tremendous importance. The economics of production and utilization, the social and economic problems and philosophies of recreation, conservation, watershed protection, erosion control, and land use are factors of human welfare which at the present time are exerting a greater effect upon forestry than probably at any previous time. Nor is the road ahead in clear view and unobstructed. We still know too little. This can be quickly gathered by reading the conflicting opinions and philosophies expressed by eminent foresters in recent issues of the Journal of Forestry and elsewhere.

These facts place great responsibilities upon the faculties of the various forest schools. It is a challenge to train competent able men to carry on investigations in the various fields of forestry and to apply the best forestry procedure to any given situation.

The extensive government forestry program during the past two years has added still further responsibilities upon the forest schools. It has resulted in practically no unemployment in the profession, and this fact, together with the public interest developed in forestry, has led to greatly increased enrollments in the forestry colleges. The necessity for unqualified insistance upon a well grounded basic and professional training is therefore likewise increased.

A forestry school curriculum which remains static and inflexible soon fails to meet the requirements of the developing profession. Recognizing this fact and taking into consideration the recent developments in forestry, the Idaho forestry faculty has recently revised its curricula of courses, but only after most careful and thorough study. I shall briefly outline the procedure by which the revisions were made.

As the first step a committee of two members, Mr. L. E. Spence and the writer, was appointed to make thorough study of the courses and curricula of the other forest schools of this continent. This was done in order to determine the minimum requirements of any forest school, to estimate the needs of any forest school, and to determine and evaluate the scope of the courses taught at other institutions. This committee met in frequent conference and summarized their analysis in a series of reports to the faculty, each of which was fully discussed.

The second step was the consideration of our own needs and responsibilities in relation to the changes and developments occurring in forestry. These factors were brought out by frequent discussions of the subject on the part of the faculty. It was agreed that the curricula should be flexible to permit a coordination with the probable future needs of the profession, and that a sound professional training should be emphasized.

With these criteria laid down, the curricula committee was requested to draw up their recommendations for course and curricula revisions. Their report was thoroughly discussed in several meetings by the forestry faculty together with other members of the University faculty who teach subjects in the forestry curricula. After many revisions and much stimulating healthy debate the curricula of courses was adopted which now appears in the new 1935-1936 University Bulletin.

Forestry Curricula at Other Universities

Before discussing the new Idaho curricula it may be of interest to survey briefly those of other forest schools. The courses of study offered at eighteen forestry colleges were examined, namely: British Columbia, California, Colorado Agricultural College, Georgia, Iowa State, Louisiana, Maine, Michigan, Michigan State, Minnesota, Montana, New York State, Oregon State, Pennsylvania State, Purdue, Toronto, Utah Agricultural College, and Washington. Strictly graduate colleges such as Cornell, Duke, Harvard, and Yale were not included in the committee's study, since the organization of graduate curricula cannot generally be applied to undergraduate colleges.

The classification of the curricula offered at the different schools is not as simple as might be expected. This is particularly true of the specialized curricula. A careful study of the subject matter offered is necessary before each curriculum can be properly pigeon-holed. Of the eighteen schools studied, seventeen offer a schedule of courses broadly based upon the general sciences with major emphasis on botany and designed to train the student primarily in the production and management of forests and to some extent in their utilization. This might be considered the standard forestry curriculum and it is variously labeled "general forestry", "forest production", "forest engineering", "forest management", and "technical forestry". However it is by no means standard as regards course content. All schools offer in varying measure the basic forestry courses, such as dendrology, wood technology, silviculture, mensuration, management, forest economics, utilization, and protection. In general the essential forestry subject matter is presented but the emphasis and distribution varies greatly from school to school. For example, some schools devote more time to silviculture than do others and divide the subject matter of this field into a greater number of courses. In other cases, this is true of forest economics and management, or of utilization or of mensuration. In some schools, Pennsylvania State for example, a greater share of time is given to field and practise courses than in others.

The fundamental non-forestry courses offered by the different schools in the forest production curricula show even greater variation. In some schools these courses are strong and numerous in the basic

sciences, whereas in others a large proportion of business and practical or vocational courses appear. Considering the schools as a whole, there is no uniformity of agreement as to just what subjects should be included in the forest production curriculum which will be of most value to the future forester.

The various utilization and technical curricula are especially difficult to classify and there is tremendous variations between schools. Some schools have a thoroughly fundamental curriculum based on the sciences, mathematics, and engineering, and with broad training in the technical properties of wood and the technology of wood utilization. Such a curriculum is offered by Michigan (wood utilization), Minnesota (forest technology), and New York State (technical properties of wood). The forest products curriculum at Washington approximates this type.

Other utilization curricula are offered of a more specialized nature designed to train the student for only one industry or class of industries, such as lumbering or pulp and paper. These are given by Iowa (lumber marketing), Minnesota (commercial lumbering), New York State (pulp and paper, conversion and distribution), and Oregon State (wood products). Of the colleges investigated only one, Oregon State, offers a complete curriculum (logging engineering) to train men for the specialized position of logging engineer. However, in some schools it is possible for the student to train for such work by the proper selection of electives.

There is a remarkable difference of opinion between the various colleges as to the amount of production forestry material which should be included in the utilization curricula. Michigan and Iowa State are good contrasting examples. At Michigan the student in wood utilization enters a different curriculum of courses than the forest production student in his freshman year and takes only fifteen semester hours of strictly production forestry. At Iowa State the lumber marketing group takes the same curriculum as the general forestry students only with the exception of certain courses in the senior year. At New York State the freshman year only is common for all students, while at Minnesota, Oregon State, and Washington, the first two years are essentially the same for all students. At Michigan the student is required to attend one summer session for the study of electricity and machine shop and he has no forestry field work. At New York State the student attends a 10 weeks summer camp and receives elementary training in dendrology, silviculture, mensuration, and particularly the details of mill operations. Minnesota and Washington both require general forestry practise field work of their utilization students.

A curriculum in range management is organized at Colorado Agricultural College (grazing specialist), Minnesota (grazing), Montana (grazing management), and Utah Agricultural College (range management). Washington State College also has a three year curriculum in forest range management combined with a fourth year in botany. California provides for specialization in range management and outlines certain requirements for such work which essentially embody a separate curriculum. As in the production and utilization curricula the curriculum in range management in the different schools varies in organization and subject matter. Some emphasize foundational work in systematic botany, ecology, zoology, and animal husbandry more than do others.

Besides the curricula in forest production, utilization, and range management there is a scattering of other specialized curricula. These are landscape and recreational management (New York State), municipal forestry (Michigan State), game management (Minnesota and New York State), entomology and pathology (New York State), forest sciences (Minnesota), engineering and forestry (British Columbia and Michigan), letters and forestry (Michigan), business administration and forestry (Michigan). These last three curricula are five year courses.*

Features of Idaho Curricula

A survey of the fields of work taught at the different forest schools shows that two important and distinct branches are recognized which are related to forest production yet stand apart from it in many of the basic requirements needed for each. These are utilization and range management. Because of their relationship to forest practise these fields of work are best taught and administered by forestry schools, although a majority of the subjects included are distributed among other colleges and departments. There is a growing demand for highly trained men in these fields of work. At the present time the demand for capable men in range work exceeds the supply. Because of these facts it was decided to organize the curricula at Idaho on the basis of forest production, wood utilization, and range management. The curriculum in logging engineering was discontinued because it represents too limited and specialized a field, and because the demand for men who are essentially trained only for logging work is limited. However, opportunity to study logging is not lost in the new set-up, for by the proper selection of electives a major study in this and in other fields may be followed.

In organizing the new curricula the thoughts foremost in mind were, first, that they should be designed upon a broad fundamental basis, second, that upon this sound basis carefully organized, solid, technical courses should be laid which will give the student a good grounding in the fundamentals of technical forestry, and third, that the curricula should be sufficiently flexible to permit a liberal degree of choice in selecting a major in those courses in which the student shows most interest or aptitude. Some of the salient points follow:

The total credits for graduation are 142 in each curriculum. The required forestry credits are, forest production, 54; wood utilization, 35; range management, 35. The minimum elective credits are, forest production, 19; wood utilization, 18; range management, 8. These elective credits are a departure from the old curricula in which there were only 1 to 4 elective credits. These elective credits occur only in the Junior and Senior years, permitting the advanced student to choose subjects which will enable him to strengthen or broaden his knowledge in certain fields, as for example, forest economics, silviculture, logging, pathology or fire control engineering. Or, if he chooses, the student may select electives to prepare for future specialization in forest research.

As in the old curricula the first year is common for all students in order to enable them to become oriented before deciding upon a curriculum.

* There is a growing tendency on the part of the profession and some forest schools to recognize the need for a five year curriculum in forestry. Duke has organized its forestry work on a graduate basis and Cornell has recently changed to this basis.

In the first and second years no courses numbered above 100 (advanced undergraduate courses) may be elected. The work given in these two years is principally foundational in nature. In the first two years the student in forest production takes the following forestry courses only; general forestry (2 semesters), dendrology, forest planting, and forest economics.

Course Changes

Each course taught by the forestry faculty was carefully considered in relation to the others. A brief discussion of the principal course changes follows: Elements of forestry was changed from a two-credit, one-semester course to two semesters of two credits each. The course was expanded in order that it might better serve as an orientation course. Each of the various fields of forestry, such as silviculture, management, protection and utilization will be discussed by the faculty members specializing in those particular fields. The course is aimed to orient the beginning student in the principles of forestry, forest resources, the history of forestry, and its economic and social importance.

The essential subject matter in forest resources of the world and history and policy were combined with that of forest economics, and forest economics was expanded from two to three credits. Sophomores (in forest production) will take this course, which will be a foundational forestry course covering the historical background of forestry, forest resources and their importance, forest policies of the United States and important foreign countries, land uses and land use planning, and the place and value of forestry in the national and economic structure.

The one-credit freshman course in fire protection has been dropped and a three-credit senior course in fire prevention and control added instead. It is felt that the problems of fire control and prevention cannot be adequately studied until the student has had a fairly good foundation in forestry.

The subject matter in forest mensuration was condensed into two courses of three credits each from three courses having a total of eight credits. The principles of the subject are not sacrificed but the course will be more intensified. Forest engineering was dropped and a new course, forest improvements added, which will cover most of the original material given. This course will also deal with bridge design, dams, drainage systems, and forest structures. This course is elective.

Silviculture in the new forest production curriculum is an advanced subject. Foundations of silviculture, three credits, previously given in the second year and practice of silviculture, three credits, have been combined to one course, silviculture, four credits, given in the second semester of the junior year. The new course will be an intensive one, and also can be more adequately taught since the student when he takes the course will have had more foundational study than previously, including chemistry, forest planting and plant physiology. A second course, advanced silviculture, two credits, will be offered as an elective to seniors. This course involves detailed study of regional silvicultural methods, surveys, and plans.

The course in lumber manufacture and distribution is combined with forest products, and the subject matter is divided into two courses given in the senior year. The first semester course is chemical utilization of wood and covers the chemical and technological processes for the conversion of wood into commodities. This course is required in the wood utilization curriculum and is elective for forest production majors. The second semester course, wood industries, is required of both utilization and production majors. It includes the study of lumber manufacture, the manufacture of wooden products other than lumber, and the economic aspects of the production and consumption of forest products. For forest production majors not electing chemical utilization of wood, a brief survey of the chemical wood industries will be included in an extra lecture per week in the course in wood industries.

The matter of summer field work received a great deal of consideration from the faculty. The junior field trip taken in May or June of the junior year has always proved to be a great inconvenience to both students and faculty, since it came during the period of final examinations. It was felt that a summer field course of five to ten weeks was not necessary at the present time. Therefore the most appropriate time for field study for production and utilization majors appeared to be during the two weeks prior to registration in September. An organized two weeks' field and industry study will be taken at this time by the seniors.

Range students require a very different type of field study. Therefore a separate two weeks range trip will be taken by range majors in June of the junior year following the final examinations. June is the best month for the study of range plants and conditions.

Utilization and Range Curricula

A worth while curriculum in wood utilization is necessarily based upon a thorough foundation of mathematics, engineering and physics. The curriculum in wood utilization includes 16 credits of mathematics, 10 credits of physics, and 24 credits in engineering including thermodynamics, statics, dynamics, electricity, and strength of materials and materials testing. The foundational forestry courses included are general forestry, dendrology, wood technology, mensuration (one credit), pathology, and forest economics. Utilization courses taken in forestry include logging, chemical utilization of wood, wood industries, and seasoning and preservation.

The foundational courses in the utilization curriculum have been so organized that a student may specialize in either the technical or business phases of production. The student may elect 18 hours of chemistry and prepare for technical work in the pulp and paper or other chemical wood industries, he may elect more engineering and physics courses preparatory to technical work in the lumber industry, or he may elect 18 hours of business and economics courses, which, combined with his technical training should give him a thorough foundation for future work in the business of lumber manufacture or other wood utilizing industries.

The range management curriculum is based upon a thorough foundation in botany, 25 credits being required. The same was the case in the old curriculum. Three new basic courses have been added, namely, general zoology, carbon compounds, and general soils. These give the student a better understanding of the problems of animal husbandry, plant physiology, ecology, and range management, which are taken up in other courses.

There are certain other new features in the revised curricula such as the introduction of geology, the closer correlation of the course in research methods with that in forest research, and the listed

recommended electives. Space does not permit a detailed discussion of all of these points.

This study and discussion of courses and curricula has been stimulating for the faculty. The revisions which have been adopted were done so only after most careful consideration. Whether they will aid in giving the student a better training for the profession of forestry than previously remains for experience to show. However, there is every reason to expect that there will be better correlation between courses, and that the basic training will be intensified.

POTLATCH FORESTS GIVES IDAHO FORESTRY SCHOOL TWO RESEARCH FELLOWSHIPS

TWO fellowships, amounting to four hundred dollars each, have been given to the University of Idaho, School of Forestry, by Potlatch Forests, Inc., of Lewiston, Idaho. These fellowships will be used by the University for forest products research. They will permit studies on the possible development of processes for the economical conversion of sawmill wastes into new products, particularly research on the plasticization of wood. The establishment of these fellowships will enable the School to place greater concentration of effort on the problem of the better utilization of wood and the development of new commodities.

These two fellowships were tendered in behalf of the Potlatch Forests, Inc., by Mr. C. L. Billings, vice-president, and were accepted by the regents of the University last autumn. The regents at the same time approved the appointment of the research fellows recommended by Dean R. E. McArdle of the School of Forestry. The appointees are Leslie L. Larson of Blackfoot, Idaho, who received the Bachelor of Science degree in chemistry at Idaho in June, 1934, and Joseph L. McCarthy of Spokane, a 1934 graduate of the University of Washington with a degree in chemical engineering. These men were chosen on the basis of their training and promise in research ability. The fellowships are enabling both of these men to study for their Master's degree. The fellowships are under the direction of Dr. E. C. Jahn, Associate Professor of Forestry, in charge of the Wood Conversion Laboratory.

Both Mr. Larson and Mr. McCarthy are working on different phases of research on the plasticization of wood. The title of Mr. Larson's thesis is "Plasticization of Wood by Lignin Reaction Products", and Mr. McCarthy's thesis is on the" Coalescence of Wood Particles by the Chemical and Physical Alteration of Its Polysaccharide Constituents." These studies aim to bring about a coalescing of wood particles under suitable conditions to form homogenous structural products.

The giving of these fellowships by Potlatch Forests for forest products research demonstrates this company's active interest in research for the development of new or modified products from wood and for the efficient utilization of wood. The lumber industry recognizes the necessity of a more complete and efficient utilization of wood for stabilized production and as a step toward the economical practice of forestry. Research is one of the means of reaching this accomplishment, and it is evident that Potlatch Forests actively supports this thesis.

The granting of these fellowships is another demonstration of the interest of Potlatch Forests in the development and growth of the Idaho School of Forestry. It is their second large gift to the University recently. Two years ago this company gave to the University 3,646 acres of ideally situated timber land on Moscow Mountain, only a few miles from the campus, which has formed the nucleus of the Moscow Mountain Experimental Forest.

GEORGE M. JEMISON, '31, GRANTED PACK FELLOWSHIP

NOTICE has recently been received that a Fellowship for advanced study has been granted George M. Jemison, '31, by the Charles Lathrop Pack Forest Education Board. With this Fellowship Jemison anticipates work toward a Master of Forestry degree at the Yale Forest School during the year 1935-36. His thesis title for the degree will be, "The Effect of Green Vegetation on Rate of Spread of Fires in Northern Idaho."

Since graduating from the Idaho School of Forestry, Jemison has been assigned as Junior Forester to studies in forest fire and silvicultural research at the Northern Rocky Mountain Forest and Range Experiment Station, U. S. Forest Service, Missoula, Montana. While attending the University of Idaho, Jemison became a member of Epsilon Chapter, Xi Sigma Pi, National Forestry Honor Fraternity. He is also a Full Member of the Idaho Chapter of Sigma Xi, National Honorary Research Society, and had an active record in several other campus organizations.

STATE ADMINISTRATOR OF THE LUMBER CODE TALKS TO SENIORS

Edward T. Nero, State Administrator of the Lumber Code talked to the Seniors in seminar class on January 18, 1935. In his talk he said that he has been confronted with many different types of problems in trying to encourage the lumberman to comply with the code.

"Tact, above all, is needed by the individual", he said, "in anything that he ever does that brings him in contact with other people. Just because one is a graduate of a university or a college does not necessarily mean that he knows everything."

1935
GRADUATING
SENIORS

LESLIE RAYMOND ALBEE
(Range Management)
Weiser High School, Idaho.
Associated Foresters, Vice Pres., 4.
"I" Club 3, Secretary, 4.
Baseball, 2, 3, 4.
High Honors, 1, 4.

STEWART EDWARD BROWN
(General Forestry)
Twin Falls High School, Idaho.
Uni. of Idaho, Southern Branch.
Xi Sigma Pi. Sec. and Fiscal Agent, 4.
Idaho Forester Staff, 4.
Track, 3, 4.
Hell Divers, 3.
A.S.U.I. Male Chorus, 3.

THOMAS STEWART BUCHANAN
(General Forestry)
Morton High School, Washington.
Xi Sigma Pi Ranger, 4.
Sigma Xi, Assoc. Member.
Idaho Forester, Editor-in-Chief, 4.
High Honors, 2, 3.
Highest Honors, 4.
Senior Forestry Award.

BRENNAN BRIGGS DAVIS
(General Forestry)
Bismarck High School, N. D.
Associated Foresters, Ranger, 3.
Idaho Forester Staff, 4.
Class Treasurer, 3.

MILTON BROMLEY EDWARDS
(General Forestry)
Grass Valley High School, Calif.
University of Nevada.
Marin Junior College, Calif.
Asscoiated Foresters, Sec'y Treas., 4.

EARL MAURICE FICKES
(General Forestry)
Boise High School, Idaho.
Idaho Forester Staff, 4.

HERBERT JOHN FREECE
(Range Management)
Yakima High School, Washington.
Hell Divers, 1, 2.
Swimming, 2, 3.
Intercollegiate Knights, 1, 2.

JACK GROOM
(General Forestry)
Walla Walla High School, Wash.
University of Washington.
University Orchestra, 3.

ANDERS BENJAMIN HULTMAN
(General Forestry)
Central Valley High School, Wash.
Idaho Forester Staff, 4.

RAYMOND DONALD LYONS
(General Forestry)
Kendrick High School, Idaho.
Wesley Foundation, 1, 2, 3, 4.

HENRY FRANCIS MCCORMICK
(General Forestry)
McKinley High School, Wash., D. C.
Idaho Forester, Business Manager, 4.

BERT PASCOE MUNTHE
(General Forestry)
Two Harbors High School, Minn.
University of Minnesota.
Eveleth Junior College, Minn.

GRAY DICKSON REYNOLDS
(General Forestry)
Ogden Senior High School, Utah.
Weber Junior College, Utah.

DEAN MORRIS SACHS
(Range Management)
Labette Co. High School, Kansas.
Parsons Junior College, Kansas.

JOHN MARSHALL TAYLOR
(General Forestry)
Douglas High School, N. Dakota.
Bottineau Junior College, N. Dakota.

HENRY VICTOR ZIMINSKI
(General Forestry)
Gardner High School, Mass.
Xi Sigma Pi, Assoc. Forester, 3.
Forester, 4.
Associated Foresters, Sec'y-Treas., 3
De Smet Club.

THE ASSOCIATED FORESTERS

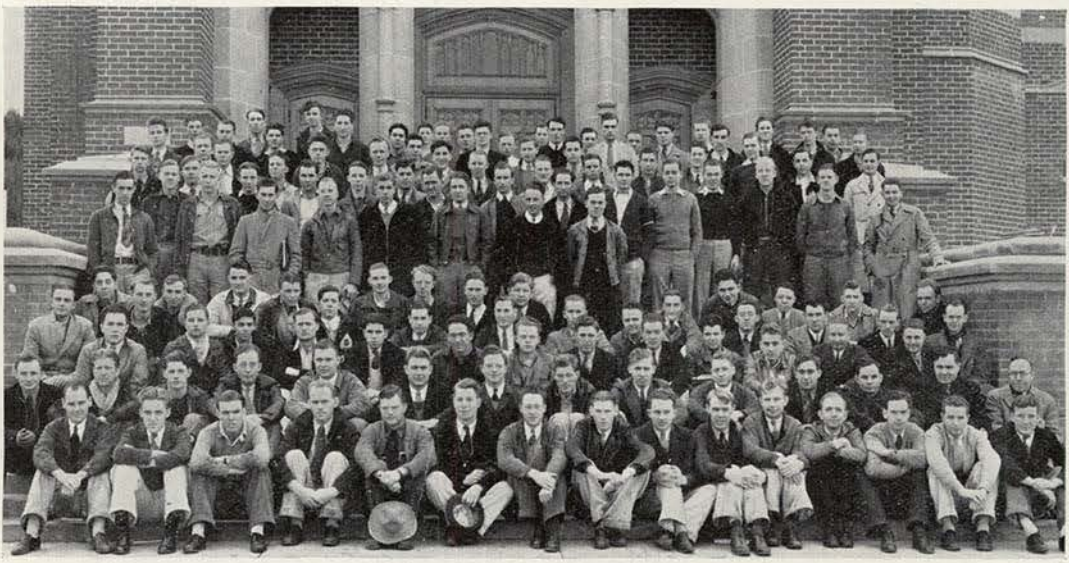
MILTON B. EDWARDS '35

THE Associated Foresters of the University of Idaho is an organization of students and faculty, of the School of Forestry. The governing body at present is made up of John Hays, President; Leslie Albee, Vice-President; Milton Edwards, Secretary-Treasurer; and Richard Bickford, Ranger. Any student enrolled in Forestry may become a member, provided he can produce the required dues at the beginning of each semester. It is said by many that to produce said dues is quite a feat.

Like all other good organizations it has several purposes. They are: to promote fellowship among forestry students; to promote interest in the study of forestry; to secure cooperation with the faculty; to maintain relations with the other forestry schools; and to keep in contact with the alumni.

Along in the middle of the second semester it is generally noted that foresters seem to be consulting Emily Post's book on how to handle a knife and fork and other implements of the feast, so that they may conduct themselves in valiant manner at the annual banquet. No casualties have been reported yet, but those two-bit cigars seem to have a debilitating effect on freshmen.

In the spring of the year, when other men are fooling away their time strolling thru the arboretum, you will find our heroes, on some warm week-end afternoon, gathered together in some secluded forest glade, fighting to secure supremacy for their respective classes. Some one of our predecessors called it a barbecue, so it probably *is* a barbecue. Anyway, several contests are open to determine who is best.



A few of the foresters in attendance at the School of Forestry, University of Idaho.

The social activities entered into at present do not wholly fill the bill, as far as fellowship is concerned; but in the last few years there has been much improvement. The individual activities have been of very high quality, but the long wait in between is an unfavorable feature.

The initial event of the year is the bonfire. It is held as early in the semester as possible, the purpose of it being to provide the freshmen and transfers with an opportunity to get acquainted with the "gang". Though the program may vary greatly in other respects, it is sure to be culminated by the great old sport of eating.

The annual dance is usually given in the middle of the first semester. Some local hall is disguised as a forest, and in it, foresters disguised as college men and their feminine partners, make "hey-hey" till midnight. Some fun we have.

The smoker is a new event this year, and it is hoped that it will become an annual affair. The most popular pastime, of course, is smoking; but a good program is also presented. Chopping, sawing, racing, a tug-o-war, egg tossing, "hairlip horseshoes", tree climbing, and log rolling make up the events. By that time everyone has worked up an appetite or two, so we eat.

Interest in the study of forestry does not need much promotion any more, for the supply of prospective foresters greatly exceeds the facilities to handle them. We like it that way, however. Several times each year movies taken by the Forest Service, of some project of interest, have been shown. The most popular one to date was a Mickey Mouse comedy.

The Associated Foresters also subscribe to several magazines of interest to foresters. These are placed on the open shelves of the Forestry library where they may be read by anyone. The Field and Stream shows the most wear after a month of use, but the American Forests, National Geographic, Timberman, and the Journal of Forestry also take on a used appearance.

Fortunately, cooperation with our faculty has not been hard to secure. We found early in our

life here at Idaho that assistance and advice was always readily forthcoming, and we appreciate it.

The Idaho Forester serves to maintain relationship with other forestry schools and also keeps track of the progress made by former Associated Foresters in their chosen profession.

The members of our organization should realize that as an organization, there is much room for improvement. It is well that there is, for otherwise, future Associated Foresters might find themselves with nothing to do. There have been a few subdued whisperings about a Forester Clubhouse, a lodge on Moscow Mountain, a handmade lake on Meadow Creek, more campus activities, more banquets, barbecues, and dances. Let us not let it stop with whisperings. Let us make a few of them materialize.

INTERESTING ASSEMBLY SPEAKERS

George A. Felch, famous traveler and lecturer addressed the students in an assembly January 15, 1935. The subject of his presentation was the Amazon jungle and the Andes mountains of South America. One of the most interesting features of his lecturer was his animated account of the Jivaro Indians. These strange jungle savages are vicious fighters and head hunters. and are especially treacherous because their appearance is so misleading to one not acquainted with their type, which might be termed effeminate.

Dr. J. H. Mathews, head of the chemistry department at the University of Wisconsin and modern Sherlock Homes lectured January 26. He is a chemist of national prominence whose hobby of scientific crime detection almost over-shadows his professional fame. In the lecture he pointed out different means of identifying shells and bullets fired from different fire arms.

On February 20th Rev. Peter Trimble Rowe, an arctic missionary spoke at a public assembly. Bishop Rowe presides over a bishopric containing 600,000 square miles, a large part of which is above the arctic circle.

For nearly forty years he has traveled over this territory, thousands of miles by dog sled and reindeer team, by snowshoes and canoe, and lately by airplane. He talked on the many assets of that country, stressing the beauty of the scenery, the importance of the fishing industry, and the mining possibilities.

Dr. Roy Chapman Andrews, famous explorer and director of the American Museum of Natural History spoke before a public audience March 28, 1935. The subject of his speech, "Ten Years in the Gobi Desert", dealt with the highlights of the famous explorer's travels in arid Mongolia. Bringing to light information on dinosaur eggs, the lives of the Mongol nomads, and the important scientific data connected with the Gobi territory has been Dr. Andrews' life-long ambition. Movies and slides were shown along with his lecture to clarify his account. They showed the hardships of traveling in the Gobi with automobiles; camp life in the desert; customs of the Dune Dwellers; queer creatures who lived in Mongolia 100 centuries ago.

LIBRARY

ANNUAL FORESTERS' BALL

G. TURNER, '36

"WHAT" and "Where" were the words appearing on the campus sidewalks the first part of November. "What do they mean?" the students asked as they walked briskly to their classes. "Is another political party being organized?" No, they were wrong, for in a few days came the announcement of the Annual Forester's Ball to be held in the Women's Gymnasium on November 9th, 1934. A big event this was for the Foresters, and they worked diligently to make it one of the most successful dances ever held on the Idaho campus.

At last the time arrived. All indications pointed toward a large crowd, a fact which was verified by the sale of 300 tickets. Truly, then, this was to be no "small town" affair.

'Twas early in the evening when the couples began to arrive, and as they entered the doorway of the gymnasium a most appealing scene lay before them. Through a rustic cabin doorway could be seen a miniature forest glade. The air was filled with the fragrant aroma of freshly cut cedar boughs which hung overhead, making almost perfect the setting of a primeval forest. Dim-colored lights, casting reflections on the smooth, polished floor, further enhanced the beauty of the ballroom. On a rustic stand to one side an orchestra played soft, melodious music. Truly, it made an appealing sight as the couples danced in and out of the shadows.

The programs were made of thin veneer, on the front of which a stalwart lumberjack and an old-fashioned schoolmarm were clicking their heels. A Cruiser's Tally on the inside provided ample space for names of the dancers, and added still further to the unique effect of the programs.

Cold, luscious punch was served during the dance, and no one could resist quencing his thirst from time to time.

Soon came the intermission with Jesse Hutchinson and Bob Middleton giving their interpretation of the "Continental". Following this was a clever dancing arrangement by their pupils.

Again the program dance got under way. Time flew by, and before anyone realized it another Forester's Ball had come to a close. That it was one of the most enjoyable affairs of the season cannot be denied, and until the next one arrives the Forester's are anxiously waiting.

Patrons and Patronesses for the dance were: Dean and Mrs. R. E. McArdle, Dr. and Mrs. E. E. Hubert, Dr. and Mrs. F. W. Gail, Dr. and Mrs. E. C. Jahn, Dr. and Mrs. W. D. Miller, Mr. and Mrs. L. E. Spence, and Mr. and Mrs. F. L. Otter.

APPLE POLISHING

Students at North Carolina State College of Agriculture and Engineering are going to select the most popular professor in the school. The students will have a choice of three on the first ballot. A final ballot will be taken on the professors getting the highest number of votes in the first ballot. I'll bet the profs haven't forgotten how to polish the old apple!

THE 1935 FORESTERS' BONFIRE

By Ivan Decker '36 and Kurt Rubisch '37

A BONFIRE is defined as a large fire made in the open air to celebrate an event. The 1934 Forester's bonfire was more than this. It was itself an event and a mighty important one. When circumstances are such that student enrollment doubles and simultaneously a new dean is brought to the school, certain problems arise. Students must become acquainted with each other and with the faculty members, a spirit of cooperation must be built up, and the policies and traditions of the school must be made known. To accomplish these things no better occasion could be had than one from which all formality and restraint were removed—one where students and professors meet on equal grounds to spend an evening of fun, frolic and mutual entertainment.

The scene of action—Price Green in the Charles Houston Shattuck Arboretum; the time—eight o'clock, Friday evening, October fifth; the event—a leaping fire of pine logs surrounded by 250 frolicking foresters. With preliminaries over and Brennan Davis calling turns, the action was started by the whole group shouting songs of the forest, range and trail. This gave way to a series of skits by the faculty members, who shed the cloak of erudition and showed their true natures. With Dean McArdle in the role of "Bean", Doctors Hubert, Miller, and Jahn portrayed "ideal" forestry students. Spence and Otter enacted the real life drama of the hard-boiled boss and the model forestry grads. (Moral: a "sheepskin" won't cover every situation). The Range Management class then snatched a lull in the program to chant a few verses. When the melodists finally got their "range", the harmony attained was well worthy of a dozen distressed doggies at branding time. Not to be outdone by the faculty, three members of the senior class staged that most fascinating melodrama of the overdue mortgage, the fair daughter, and the wiley wolf in worm's woolens. With Henry Ziminski as the vitreous villian with the voluptuous cackle and Henry McCormick the maid in distress, the house was sold out.

When the humble abode and the damsel's decorum had been saved and the roars of mirth had ceased, a short halt was called in the merriment. During this interim Dean McArdle addressed the attentive foresters. In a silence broken only by his own words he told of the need for men thoroughly trained to meet the nation's forestry problems and of the weight which a school's reputation carries in the placing of its graduates. With this in view the aim of the Idaho Forestry School remains that of turning out the best-trained men possible. The Dean's remarks concluded, more logs were tossed on the fire and the biggest and best of bonfire brawls boomed on.

By far the strongest claim to distinction held by the 1934 bonfire is the fact that no less a person than Paul Bunyan (or a very substantial effigy of the great lumberjack) was there to enjoy the show. He remained unseen in the background until he was discovered and his towering figure disclosed by the glare from a flashlight. Axe in hand, pipe in mouth and garbed in blue jeans, calked boots, and mackinaw, he beamed down on the jamboree. And he hadn't forgotten Babe, the blue ox. She was led into the thick of the crowd to display a newly acquired gift for answering questions. She divulged some little-known facts about well-known places, things, and Spence.

With certain omissions the whole affair might be seen as the night after payday in Paul's logging camp. Proceedings were barely under way when Herman "The Hermit" Daughs had a run-in with his accordion, and a wrestling match ensued. "The Hermit" took the first fall in three minutes flat with a body-press, wrenching one melodious wail after another from his writhing opponent. The contestants were roundly applauded and two return bouts demanded in quick succession. This affray was hardly forgotten when Cy Atkins felt the urge to do a back-woods tango. Calk-booted feet pounding, he romped up and down the length of a sixteen-foot plank. When the applause had died yarns were in order. The boys gathered round to hear Amos Nugent tell tales of the great Idaho north-woods as he had known them in his youth. He spoke of a Junior field trip he had taken at the time.

While awaiting the call from the kitchen the revellers joined in an attempt to rattle distant windows with songs of the out-of-doors. When the supper call rang out, harmony ceased for a better occupation. Exact figures are not available, but several hundred doughnuts were torn loose from their respective holes and dunked in enough coffee to run a bucket-brigade, while an equal number of hot dogs were being smeared with mustard. Enough apples were munched to keep the doctor away for a decade.

MEMORIAL STEPS ARE TRIBUTE TO PIONEERS AND ALUMS OF IDAHO

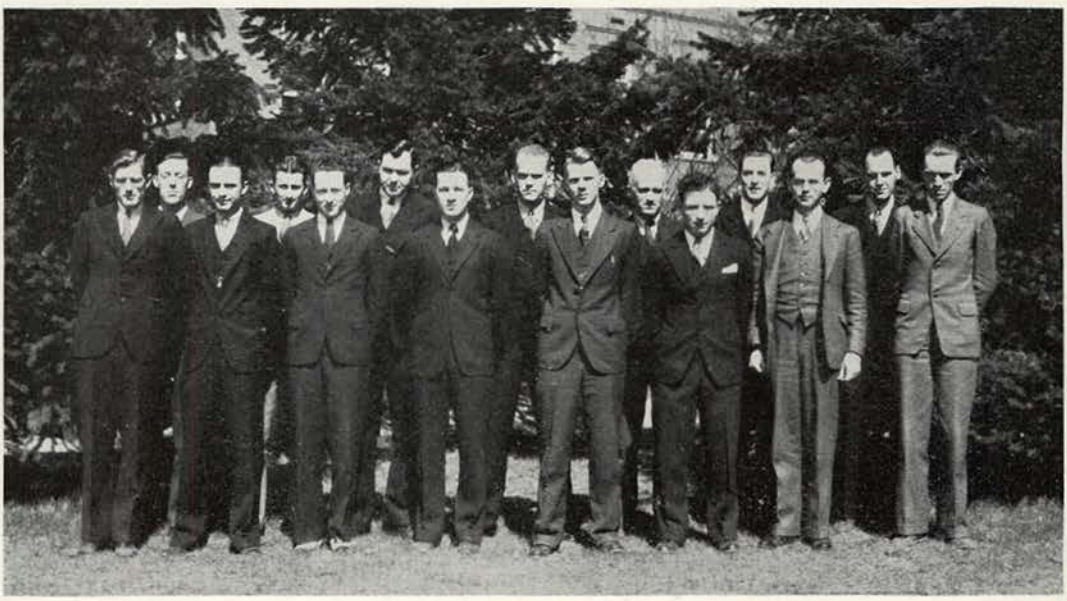
The Memorial steps are not merely a "take-off" to the University gardens. They were erected in memory of the old administration building which was ruined by fire in 1906, and as a memorial to the pioneers of Idaho and the students of the first class of the University of Idaho. To the old alumni they bring back vivid memories of their college days. And they serve as a milestone in the development and growth of the University of Idaho.

In 1933 Burton L. French, a member of Idaho's first class, offered a prize of $25 for the best plans for a memorial to the old administration building. These steps, a reproduction of the old building's steps, were accepted. They are composed of some of the same granite that was used in the steps and foundation of the old building. This granite was buried in front and back of the present administration building and was unearthed to be used for the Memorial steps. They are built at a slightly higher angle than were the original steps, but otherwise they are an exact reproduction. The Memorial was completed in 1934. It was French's intention that this memorial be used as a gathering place for all outside functions such as song fests and rallies.

XI SIGMA PI

PAUL L. ANDERSON
Associate Forester, Epsilon Chapter

XI SIGMA PI, the most prominent forestry honorary in the United States was founded at the University of Washington in 1908 for the purpose of stimulating and furthering the interests of forestry students. The objects of the fraternity are: to secure and maintain high standards of scholarship in forestry education, to work for the upbuilding of the profession of forestry, and to promote fraternal relations among earnest workers engaged in forest activities.



Back row, reading from left to right—*F. L. Otter, Instructor in Forestry; R. K. Pierson, Division of Forest Pathology; Dr. R. E. McArdle, Dean, School of Forestry; Thomas S. Buchanan; Stanley C. Clarke, Extension Forester; George T. Turner; and Paul L. Anderson.*

Front row—*Richard F. Bickford; Charles G. Brown; Stewart E. Brown; Henry V. Ziminski; Frederick W. Goenne; Donald G. McKeever; Dr. W. D. Miller, Instructor in Forestry; and Dr. E. C. Jahn, Associate Professor of Forestry.*

Absent Members—*Dr. E. E. Hubert, Professor of Forestry; and L. E. Spence, Instructor in Forestry.*

To stimulate high scholarship and reward those Idaho students who receive the highest grades in each class, our chapter has maintained in the Administration Building since 1922, a bronze plaque on which is engraved each year, the name of the student of each class attaining the highest scholastic average. Those receiving this honor last year were:

Senior ..... G. Lloyd Hayes
Junior ..... Stewart E. Brown
Sophomore .... Richard F. Bickford
Freshman ..... Donald E. Dimock

SENIOR AWARD

In 1933, the local chapter instituted an award for seniors. Any graduating senior having an average grade of not less than 4.5 for his first two years and 5.0 for his junior and first semester senior year is eligible. The candidates are given a weighted grade on the basis of: scholarship 50 per cent, professional interest 15 per cent, personality 15 per cent, practical experience and recommendations regarding the same 10 per cent, and leadership 10 per cent. The award consists of membership to the Society of American Foresters and a year's subscription to the Journal of Forestry. Membership in the Society of American Foresters is attainable only through nomination by a section of the society and election later by the society, hence our chapter shall recommend the award winner to the Northern Rocky Mountain Section. The winner this year was Stewart Buchanan, Ranger of Epsilon Chapter.

A third award sponsored jointly by our chapter of Xi Sigmi Pi and the Associated Foresters is a silver loving cup which goes each year to the class winning the annual track and field meet at the foresters' barbecue. It was won last year by the Class of 1936.

The Epsilon Chapter of Xi Sigma Pi, was installed at the University of Idaho in 1920. Since its installation it has assumed a place of major importance among the honory societies on our campus. This year we have had several banquets at which professors and members of Xi Sigma Pi gave interesting talks on current forest subjects.

NEW MEMBERS IN CHAPTER

New members initiated this year include our dean, Richard E. McArdle, Richard F. Bickford,

Frederick W. Goenne, Charles G. Brown, Donald G. McKeever, and George T. Turner.

Each neophyte is required to perform some worthwhile task before initiation. He also has to prepare a plaque of white pine (10x12x1 inches in size) and burn on it the Greek letters of the fraternity. Each members signs his name to this plaque and the candidate is required to carry it with him for three days prior to his initiation.

Xi Sigma Pi held its annual formal dance Saturday, April the 13th at the L. D. S. Institute. The hall was well decorated with carnations, gardenias, and daffodils. As seniors and a few juniors were invited to attend the dance a good crowd was present. A. C. Whitaker's orchestra furnished the music.

Patrons and patronesses were: Mr. and Mrs. Allen Jansen, Mr. and Mrs. Lawrence Chamberlain.

The officers of Epsilon Chapter for this school year are:

Forester ..... Henry Ziminski
Associate Forester ..... Paul L. Anderson
Secretary and Fiscal Agent
..... Stewart E. Brown
Ranger ..... T. S. Buchanan

ATYPICAL ANSWERS*

A seedling is a seed that has been cleaned and is prepared to be planted.

Two books that give the ranges of all forest trees in the U. S. are the Copeland Report and the Boy Scout Handbook.

Direct seeding is when you plant the seeds,—one or two feet below ground.

One method of direct seeding is to take out just what the company wants the first time and then later take out what the company wants again.

Nearly all wood comes from trees.

Forestry is necessary not only for the wood but as a place of recreation for some of those easterners who have to get away from the monotony of life.

"1-2 stock" is a No. 1 grade of timber and comes from No. 2 class.

The term "1-2 stock" is to thin out and leave about ½ the stock for timber, for shelter and for seed.

"1-2 stock" is a tree measuring ½ inch in diameter at the butt.

"1-2 stock" are seeds that have been planted in plots 1 inch by 2 inches.

The objectives of silviculture is to know all about the knowledge about trees.

One undesirable result of private ownership of forest land is that it mars the beauty and destroys the habitat of wild life and tax delinquency.

Some undesirable features of unmanaged public ownership of forest land are: They leave too much stumpage; too much grazing aloud; waistfullness of wood; too many men telling others what to do; is a regular brooding ground for diseases; public usually too poor to support a forest.

A cubic foot is 1 square foot.

A cubic foot is a board 1 inch by 1 inch by 1 inch.

A cubic foot is a piece of timber 3 feet square.

A cubic foot is how many cubic feet in diameter there is in a given surface like diameter of a tree or log.

*We can't divulge the authorship of these to anyone. All we can say is that they were secured by one of the staff while ten other members held Dean McArdle captive.

Naval stores are products stored in barrels for shipping.

Naval stores are stores run by the Navy Dep't. and sell drugs that are extracted from the forests.

Navel stores is maple sugar, charcoal and such.

EDITORIAL

FORESTRY is unique in that, more than in most professions, a man is so often known by the school from which he graduates. When asked about the qualifications of an applicant for a forestry position, how frequently the answer begins with the name of the applicant's school. To say that a forester is from Syracuse, Yale, California, Idaho—What a world of information one word conveys! To an appreciable extent the reputation of the graduate and the reputation of the school are bound together. The reputation of a forest school is built up slowly through the years by its graduates. The alumni of every forest school therefore are directly concerned with the calibre of the new graduates. The forest schools are overwhelmed with new students: What kind of graduates will we have three years from now, and what is likely to happen to forest school reputation?

Until 1920, the total annual enrollment in the forest schools of this country was less than 1,000. Today, it is nearly 4,000. At Idaho, the usual enrollment has been 100; this year we have 259, and all signs point to even more students next fall. Nor is this increase restricted to the freshman class for the senior class this year is 50 per cent, the junior class 66 per cent and the sophomore class 108 per cent larger than normal. Many other schools report similar large increases in enrollment.

Alumni may "point with pride" to these astonishing enlargements but the more thoughtful also are doing a good deal of viewing with alarm. For what will now happen to quality of graduates? Will anything happen?

The alumnus can answer these question for himself by asking still other questions: Can forestry be taught on the mass production basis? It is physically possible for the school to expand sufficiently and quickly enough to maintain standards? Are most schools financially able to make the necessary expansion? There is no thought here to bring up the matter of jobs for after all, the capable men will find jobs and the uninterested and less capable will turn to other things. The major question is whether or not it is physically and financially possible to maintain adequate standards of instruction.

The Society of American Foresters is now engaged in a survey of the forest schools of this country with a view toward accrediting those schools having acceptable standards of forestry training. We heartily endorse this action by the professional organization of foresters. It comes at a time when a driving force to see that standards are upheld is sorely needed.

NEW DEFINITION

A professor at the University of Minnesota has a new definition of the difference between a university and an insane asylum. "You have to show improvement to get out of an asylum," he states. He must have forgotten that he graduated from a university.

JUST ANOTHER JUNIOR FIELD TRIP

M. Fickes '35 and H. Ziminski '35

SUNDAY, MAY 27, 1934

THE excursion started as usual, with the boys arriving on time but having to wait for Art—who showed up about fifteen minutes late. As everyone was anxious to get started, the loading of our V-8 was accomplished in record time. After chasing down the "Ball" we left Moscow. Shortly after the noon hour we rolled into Coeur d'Alene. honored by our arrival at about 5:30, and showed appreciation by setting before us one swell dinner. It is needless to say that we all, including Edwards of the bottomless stomach, had to let out a couple of extra notches in our belts.

After dinner, we were shown to our sleeping quarters. It was at this time that our party was divided. Part of us were given the Benton Ranger

All you have to do is read the article and you'll know what these are all about.

You should have heard the fellows complaining about the emptiness in the breadbasket. It was very evident why the sudden desire for dinner. Bathing beauties were lying around in various parts of the park taking sun baths. You know the attractions of mermaids for "Zim" and "Chuck". As we looked for a dining place we had to watch these two or those roving spirits would have been led away and lost for sure. Part of our difficulties were eliminated after we managed to send some of the boys out in a motor boat. As soon as this party came ashore we left the city. We rolled on, along lakes, rivers, and timber, all afternoon, stopping at Sandpoint and Priest River, where the boys indulged in "Schlitz". The Priest River experiment station was Station for sleeping quarters and the others the upper part of the cook-house. The cook-house boys just had to be by that grub. "Our stomachs first" —that's their motto. "Heh! Heh! We Bentons —I hate to say it, but since you have guessed correctly—we are the men."

MONDAY, MAY 28

After a night-long battle with mosquitoes the size of a turkey-buzzard, the Benton boys were so exhausted that they were fifteen minutes late in reporting for breakfast. We were highly commended by Art—but between you and me we were instructed to be on time thereafter. We had a big breakfast, and were able to set a stiff race for the cook-house boys in climbing the little incline to South Ridge.

"Old Man" March showed his hiking ability by keeping within a distance of at least fifty yards from the group. After arriving at the top, Art got his wind back and then told us about the important fires occuring in this part of the country. We proceeded along the fire break, where we flushed a grouse and its young. An experiment lot containing pasture grasses was studied as we proceeded. Next, we located a swell trail—one built by Mother Nature in a burn, and headed for another of our cook's hearty meals.

The afternoon was spent in going over the station grounds with Crankcase Tommy, the Station Boss.

After supper the Benton Boys beat the cook-house boys in a very close game of baseball. While we were resting after the game, we wrote up reports on the day's work.

TUESDAY, MAY 29

Tuesday morning we went out to the Diamond Match Company logging operations on Big Creek. Mr. Yarnow acted as our guide and showed us the works. The most interesting part was watching the "Snubber" in action. This was a drum installed on a wooden base, which held 2500 feet of cable. Logs were skidded down the chutes and let down by this unique hoist. At noon the traveling pantry brought a hot lunch up to the works.

In the afternoon we obtained some pictures of deck men starting the logs on their flume journey. The mill pond by the company's little semi-portable sawmill furnished the comedy of the day. "Chuck" tried to show his prowess as a log-roller and made a perfect swan-dive into the middle of the pond as the log he was standing on bobbed around. Next, Nugent decided that "Chuck" could use a few pointers, but his strangled cry as he hit the water was fully as loud as "Chuck's". Before the afternoon was over, Fickes tried to imitate a fish. The water-soaked trio started treking it back to camp. In order to show their progress they marked a spot in the road by placing a small sapling across it. When the truck caught up, evidently the fact that several were required to remove the small timber decided the driver to let the pranksters give their deed a little longer thought, by driving down the road some distance before stopping. May I say here that the cook-house boys again showed their respect for their stomachs by insisting that the rest of us join in on a strawberry feast which Mr. Yarnow was kind enough to place before us. To top the day, we had a fourth meal when we returned to the station.

WEDNESDAY, MAY 30

"Strawberries!" yelled Art—"They're bigger over here!" He thought he was fooling us, but we knew he only wanted to give us some more notes. The day was filled with taking notes on Mr. and Mrs. Robot, the inflammability instruments, experimental lots, and cruising—and oh, that wind on the look-out tower! We grabbed a handful of berries and followed. Art surprised us all at noon by saying "Let's go", and dashed for the truck. Those of us around the station made it fine, but when we counted off it was discovered that Lyons, Nugent, and "Chuck" were missing. The missing trio showed up about an hour later, looking very sheepish. To avoid future embarrassment, "Speciosa" Gaffney was appointed "Conductor".

THURSDAY, MAY 31

On this day we drove up to the head of Fox Creek and tested for reproduction. Every time we crossed a spring or creek we missed Edwards and upon looking around would find him on hands and knees studying fishing possibilities. Now I ask you, "Was that the way for a Californian to act when we had some silvicultural experiments to cover that afternoon?"

FRIDAY, JUNE 1

Friday we visited the neatest lumber mill the West has—Olson's small mill by the Four Corners. We saw a very good demonstration of work on recreational grounds on Priest Lake, enroute. Yes, Edwards had every "Grand-daddy" trout located in the lake. The big blow over along the route presented a devastated scene. The dusty ride to the Seed Extractor at Falls Creek Ranger Station was compensated by the interesting hour presented by the old shack. On our return trip, we stopped at Priest River to trade instructors. While arguing as to the possibilities of our new leader's arriving in time to get us to the station for dinner, we saw a big grin six feet above the ground come sauntering down the walk. Otter got us there in time, but boy—Jo-Jo nearly lost Munthe and "Greasy" Hays. Sh! Sh! Our secret opinions. We were all sorry to see Art leave, but his summer's work prevented his staying.

SATURDAY, JUNE 2

Br-r-r-r! We followed Floyd all morning through a rainstorm. A CCC foreman took us through the nursery and plantings. Gaffney and "Scoop" stood around all afternoon arguing about the number of logs in a two-log White Pine, but we finally determined the basal area and tree heights on our Thinning Experiment plots. We then jumped into a good old hot shower-bath. Then, bed for us.

SUNDAY, JUNE 3

Although it was Sunday, the breakfast table was well attended as the gang was anxious to go to Priest Lake for a picnic lunch and boat trip. Fickes and Carlson, still feeling like the "morning after," slept in. Edwards timed himself a little too slow, and arrived in time to get a cold breakfast.

Breakfast over, twelve of us hurried into the truck and drove to Coolin on Priest Lake, where Cap. Markham was waiting for us with his launch. After a snappy run up the lake, we stopped for lunch. We won't say why, but only "Stew" Brown fished. His audience was very appreciative.

After lunch, we entertained ourselves until three o'clock, then sped back down the lake and boarded the truck for home. The usual baseball game followed supper. Umpire "Erie" Aronholtz stood two evenly matched teams but was unable to tie the score after the Sluggers' batting spree in the last inning.

MONDAY, JUNE 4

Floyd tried to make a lot of silviculturists out of us today. It's not as bad as it sounds from a text-book. We had a good ride up to the plots and a lot of fun marking and tallying trees. Those queer scratches on the paper, which we call graphs, padded our reports and eliminated a lot of writing. We wanted more thinnings!

TUESDAY, JUNE 5

"Stew" Brown made the mistake of wearing pajamas. He was all a-flutter and we were all "surprised" when he took a cold plunge in the bath tub. Of course, we asked him to, in a kind, gentle manner, and used a little persuasion. You know how it is when sixteen fellows "kinda" like to see one do

tricks! We had a real picnic and saw some beautiful country when we visited a state forest and marked a lot of trees for cutting. We drove to a summit from which we could see Newport, Pend d'Oreille River, and a beautiful little lake. Ranger Magillory said the lake had been taken over by live minnows the fishermen had used in catching the fine trout which used to inhabit it. We must be careful where we put those undesirable minnows.

WEDNESDAY, JUNE 6

Wednesday morning we drove up to Watson Mountain and made some observations of some slashing and burning. While we were determining the survival of seedlings, Edwards and Lyons wandered off and caught a mess of trout. Before returning, Floyd chauffeured us to Roosevelt Grove where we saw some ancient cedars, some of which were eight feet in diameter. It certainly looked like an ancient forest, and the mosquitoes inhabiting it must have been multiplying since medieval times.

We arrived at the station in time to get our dinner. "Greasy", "Speciosa", and "Scoop", our agitators for an early dismissal, finally got Floyd to say that we would leave on Thursday if it should happen to rain. Everyone, after that statement, kept running to the window about every five minutes to see if clouds might be gathering. In fact, Amos and Munthe got down on their knees and prayed for rain!

Also the agitators drew up a petition to the effect that we leave for Moscow the following day. The petition was laid on Mr. Otter's desk where he would not fail to see it. However, Floyd did not submit a decision that evening.

THURSDAY, JUNE 7

When morning came everyone made a dash for the windows to look for the rain, but alas and alack the sun was bursting forth in all its splendor. The petition was our only hope left. However, our hopes were dashed to pieces when Floyd told us to put on our field clothes.

After breakfast we followed Floyd down the road for about a half mile where we stopped and heard a nice lecture on discipline and conduct which made all of us feel very sheepish.

The rest of the morning we spent in making soil studies and precultural surveys. That afternoon we finished our reports, and made preparations for a hasty departure the next day.

FRIDAY, JUNE 8

At last we were on the way and were we happy. Even the agitators were smiling. Part of the boys left in the old Studebaker that Floyd drove to the station on his way up. The men, however, left in the truck. Even though the "sissies" had pilot Edwards at the wheel, they had to eat our dust all the way to Coeur d'Alene.

We arrived at Coeur d'Alene about 10:30 A. M. where we went to the Forest Service offices. Supervisor Simpson and his staff explained some of the finer points of forest administration. Fire planning methods were the most interesting to us.

We left Coeur d'Alene about 2:00 P. M. for Moscow via Spokane. At Spokane, Munthe left us for Minnesota where he was to be employed for the summer. After we left Spokane, we crawled all over the Palouse hills trying to find Moscow. Some of us gave up hope. Floyd, being a native, located it by some short, round-about method.

Finally, we arrived at Morrill Hall. Never did the old crumbling structure seem more welcome. Boy, were we glad that the trip was over, and if anyone had mentioned plots to us, he would not have lived to see the light of another day.

FORESTERS THROW A CLASSY SMOKER

Saturday, March 16, at 7:30 o'clock the Foresters threw the biggest and best smoker ever put on by the School of Forestry. Over 100 students and members of the faculty attended.

Amiable Pete Hultman was the master of ceremonies for the evening. Maurice Fickes had his fighters stage two clever and amusing bouts; the boxers were: Lupton vs. Broadhead and Townsend vs. Karl Fickes. After this "Buck" Buchanan starred in a wrestling match with himself. Orlando Fore and Joe Wheeler gave a comic wrestling match which ended by their common consent as they were too tired to pummel each other further.

A skit was put on by Milt Edwards, who starred as Dean McArdle, Don McKeever, Ralph Jensen, Paul Anderson, Kenneth Crawford, and Henry McCormick. In the skit the faculty was meeting. Dr. Hubert outlined the new forestry curriculum in which some of the new courses were Child Psychology, How to Cut Classes, and other similar pipe courses open only to forestry students. After the skit Joe Wheeler, Brennan Davis, and Milton Edwards rendered a few vocal selections, or should we say executions?

The entertainment ended in a blindfolded boxing match in which numbers were drawn from a hat and the lucky ones were blindfolded and led into the arena. The object was to hit the other opponent more than he hit you. Of course, there must have been something else to it too, but that shall not be disclosed—it's "inside dope".

Then came the big moment of the evening—eats! Charles Brown served hot-dogs, cocoa, doughnuts, candy bars, ice cream, and cigars.

MORE FOREST LAND GIVEN TO THE UNIVERSITY

An addition of 320 acres of forest land to the School of Forestry's experimental and demonstration forest was accepted by the Board of Regents in behalf of the forestry school as a gift from the Forest Development Company of Lewiston, a Weyerhaeuser corporation subsidiary. All taxes were paid on the land before it was deeded to the University. The land was given to the School by C. L. Billings, president of the development company.

This is the second major gift of land from the Forest Development Company. In 1932 the company gave the school 3,646 acres of forest land. The 320-acre gift just made adjoins the area given in 1932. This brings the total area of the university forest, located on Moscow Mountain, about 10 to 15 miles from the campus, to 4,126 acres.

C.C.C. camp S-260 has been doing considerable improvement work in the Moscow Mountain area, much of it on the university forest land. The workers are making substantial plantings of trees on cut-over and burned over spots, are building roads and trails, lookouts and in other ways adding to the value of the area as an experimental and demonstration forest.

FORESTRY AT THE SOUTHERN BRANCH

By Fred W. Matthews

History

FORESTRY was first introduced into the University of Idaho, Southern Branch, in the fall of 1931, with Professor Chas. M. Genaux as head of the department. Since no forestry course is complete without a forestry club, one was organized during the same year. By the vote of the charter members it was decided that the club should be named the "Southern Idaho Foresters," and membership should be made up of student foresters, and any other forester stationed at Pocatello, who has been regularly proposed and elected to membership by the club. At the first meeting, Whitney Floyd was elected president; Stewart Brown, secretary and treasurer; and Orlando Fore, club reporter. The membership was fifteen.

The purpose of the club is to further the development of the Forestry department of the University of Idaho, Southern Branch, and provide training and leadership by stimulating the desire to cooperate with others in a worthwhile enterprise, and to bring the members in contact with outside forest officials. This purpose is accomplished largely through the annual forester's banquet, and through speakers obtained for the meetings.

It is the custom of the forestry club to hold a hike each year, at the beginning of the school year. The purpose of the hike is to acquaint the new students with some of the practices of forestry. The annual forester's banquet, as previously mentioned is held during the later part of the first semester at the Hotel Bannock in Pocatello. Besides the annual hike and banquet the forestry club engages in many other activities on the campus.

The membership of the Southern Idaho Foresters has increased from a mere fifteen in 1931 to sixty-five members in 1934-35, an approximate increase of 400 per cent. The club has also developed from one of the smallest organizations to one of the largest. This great success can largely be accredited to the leadership of Professor Chas. M. Genaux, and the cooperation of the members. This year's president, William Hayes, has done much toward making the club an outstanding organization on the campus.

Activities

Shortly after the beginning of the first semester all of the "Foresters" and would be "Frosh Foresters" leave for the annual get-together outing at Scout Mountain. Last year as usual, the freshmen were divided into groups each headed by a sophomore. Immediately after arriving there, the groups each made a three hour hike for observing spots of interest; particularly were noticed the effects of fungi, lightning, erosion, and burns in the forest cover. The sophomores experienced some difficulty in impressing their groups with the fact that the Douglas fir and *Pseudotsuga taxifolia* were closely related.

With the return of the hikers, an exciting baseball game was played between "Churcker" McDermott's "Timber Rats", and "Duce" McKrola's "Pine Squirrels." A "Come and get it" from Matthews at the mess shack caused a panic in the south bleachers. There were no casualties in getting to the "grub", but when "Chung" Parsons brought forth his willow for toasting weiners with six prongs and a weiner attached to each. Well—!

When the greatest outdoor sport was finished to the last bun, each forester was called upon to introduce himself and tell a "story." With this formality finished, baseball was resumed. A heated game of football followed, about half of which became a verbal battle, with the advantage going to the loudest shouters. "Bill" Hayes' team emerged from the fray victorious. The return trip to town was one of much moaning and rubbing of bruises. Those who were not so badly damaged were still arguing about who won which ball game.

Preparations for the Foresters' Club Banquet followed the annual fall picnic and wholehearted support was given the club by the incoming "Foresters." The "biggest and best" banquet of the organization went down in history on the night of December 7, 1934. Richard E. McArdle, Dean of the School of Forestry, University of Idaho, the principal speaker of the evening, chose for his subject, "Are There Any Opportunities in Forestry?" The comparisons he made of past opportunities with present opportunities in Forestry left the audience enthusiastic about the goal they seek. To Dean Richard E. McArdle goes the honor and thanks of the Southern Idaho Foresters' Club for delivering a very fine message.

Forest officers from the Regional Office and from the Sawtooth, Cache, and Targhee National Forests also gave very interesting short talks elaborating upon the subject of Dean McArdle's. Short speeches were made by several of the faculty members attending the banquet, complimenting the club upon its fine work, and for having Professor Genaux to cooperate and advise them on matters needing experienced council. Several short talks, given by student guests from other schools and by local members, revealed their attitudes toward forestry as a profession. The banquet was ended early so that the "Foresters-to-be" might become more informally acquainted with the men of the profession, and their ideas.

Better weather in the spring brought forth many a cheerful smile and whistle from Forestry scholars, and one of those balmy days the foresters once more banded together to take a hike. This time the hike included Mr. Sterling Justice, Cache National Forest Ranger, who taught the boys, after much squabbling and tangling of ropes, how to throw a "diamond." Mr. Justice proved to have many good and original ideas about camping, one of which was his own special recipe for "sour-dough."

Field Trips

The National Forests in close proximity of the University are the object of many enjoyable class field trips, providing much opportunity for recreation and a fuller appreciation of all phases of "Forestry."

The first field trip of the silviculture class on October 5, 1934 to Pebble Creek took the "Foresters" to an area which had been logged over. From this area an idea was formulated about what was being done to encourage reproduction, growth of trees, and the effect of exposure and topography upon the forest as a unit. The day was a "slushy" one due to a slight fall of snow, and observations were hampered in a few instances. A collection of seed was made and while a certain few of the members were up in the trees a bombardment of snowballs

greeted all challengers. However, they were soon tamed by a volume of notes dictated by the professor. It was from the interpretation of these notes later, that gave the class a better view of the long-preached "Biotic Balance", and the use of theoretical and applied silviculture.

Following their trip to Pebble Creek the same class went to Mink Creek a number of times until the study of that forest through description, road study, and distribution of vegetation was completed. Crews were organized for the study of this area, and by the use of quadrats, "abundancy" and "frequency" tables were made of all the plant vegetation. Next, a description of the forest was made by classifying the soil layers to depth, composition, and moisture content. The shrubbery and trees were then counted on a specified area and measured in terms of height, age, and diameter, taking note of estimated percentage composition of the stand by each species of major growth. Root studies were also made by selecting and removing small trees at different contour intervals. Throughout all of the observations taken, great interest was shown by all members of the class, and from the standpoint of "textbooks versus practical experience," the latter would be voted for any day.

The annual forestry field day is one in which study and pleasure go hand in hand. The fore-part of the day is usually spent traveling to Twin Falls. There, Professor Genaux, with his ever-present, "Next test specimen, No talking", presents the dendrology class with those, annoying "foreign" trees, practically convincing the boys that "Down on the farm" was the best place after all.

A sight-seeing trip to the Twin Falls-Jerome Bridge just north of Twin Falls is made, where the boys "oh" and gasp until dwindling time terminates the stay there. On the return trip to Pocatello a visit at the Kimberly Nursery proves beneficial in teaching the class the methods of growing trees and shrubs. Different types of seed beds are described and the methods of their preparation and care. The object of transplanting and how to make them are described along with methods of the packing and shipping of the various species. Much knowledge is gained from the visit to the nursery, and it is a very tired but happy crowd of "Foresters" who culminate their field day with singing or sleeping on the return to Pocatello.

Arboretum

The possibility of a nursery at the Southern Branch was conceived first by Professor Chas. M. Genaux, when he first came to Pocatello in 1931. The project was actually started in the spring of 1932. The original plans were to include a working laboratory for Seeding and Planting and Dendrology classes, and were to provide for an arboretum. The area of the new nursery was then about one-fourth of an acre of run-down, gravelly-clay soil. The stock consisted of a few hundred small trees and shrubs, cuttings, and a few seed beds. Summer care was arranged for by alloting gardening space to a near-by citizen of Pocatello. This care proved inadequate, and much of the planting stock died. Rodents and stray animals also materially damaged the culture.

During the year 1932-33 the nursery area was enlarged to about three-fourths acre, and other seed-beds were planted. Some planting stock was ordered from Moscow to increase the plant variety, but improper care again resulted in the partial destruction of the nursery.

With the establishment of the C.W.A. and F.E.R.A. in 1933 and 1934 student labor was made available and through this medium the size of the nursery was enlarged to approximately two acres. Crowded plantings were used and a four-row windbreak was planted. The nursery eventually began to take on the appearance of an arboretum.

In the fall of 1934, F.E.R.A. work was continued and a larger number of seed-beds were planted. According to an inventory made in the fall of 1934, the nursery contained 8,962 hardwood trees, and an indefinite, but large number of evergreens as well. The space includes twenty-four species of hardwoods, about ten species of conifers, and about fifteen species of shrubs.

During the coming spring (1935) new experimental plantings will be made near the campus and at the school forest. Plantings will be made of juniper, pinon pine, Russian olive, and Siberian elm on the university golf course. Behind "Red Hill," black locust, Russian olive, Siberian elm, and ponderosa pine trees will be planted.

School Forest

The Forestry Department of the Southern Branch recently acquired from the United States Forest Service, a timbered area of 640 acres located on the Cache National Forest about sixteen miles east of Pocatello. This land, containing most of the natural resources characteristic of forested country, is to be solely devoted to experimental work and will be closed to all forms of conflicting use. Forest types are well defined within the area, being composed of lodgepole pine, Douglas fir, alpine fir, Engelman spruce, and aspen.

Development of the area, due to inaccessibility, has as yet been slight and only of the nature of felling snags and rodent control. Tentative plans of the Forest Service are to build a road connecting the area with the highway during the summer of 1935. With the unit being accessible by road, the Southern Idaho Foresters will start the construction of buildings upon the area to house the student groups that will be there for study in the fall and spring months. As far as game is concerned, protection is all that will be required, unless exotic species are introduced. Grouse, mule deer, and elk are found on the unit, and by cleaning the stream beds a very good stock of fish could be developed. Problems of timber production, grazing, fish culture, game management, and recreational development will provide material for research and study, and it is hoped that the results gained from this unit will provide material which may be of value to the surrounding Intermountain Region.

DR. R. E. McARDLE DISCUSSES FORESTRY CURRICULUM AT THE SOUTHERN BRANCH

December 6, 1934, Dr. R. E. McArdle was in Pocatello where he discussed the matters concerning the conformity of the forest curriculum of the Southern Branch to that of the University. Dean McArdle spoke before a general assembly and also at the Forester's banquet. He reported that the banquet was well attended and that it went off in a very smooth manner. He commended the efforts of the foresters at the Branch for their success in putting over the banquet.

Obituaries

BERTIL J. GUNNARSON

Bertil J. Gunnarson passed away at the Gritman Hospital in Moscow on January 28, 1935 following a month's illness with pneumonia and resultant complications.

Mr. Gunnarson was born in Chicago, Illinois on November 29, 1912. He attended high school at Firth, Idaho, graduating from there in 1930, and entering the University of Idaho at Moscow in the fall of that same year. He attended the Southern Branch in Pocatello in 1931-32 and then completed his work at Moscow. He had been appointed to the Fellowship in Forest Pathology in September, 1934, after having been graduated from the University of Idaho in June, 1934, with a B. S. Ag. degree, majoring in Plant Pathology.

Mr. Gunnarson was well started on his research project, a study of heartrots in cedar poles, when death overtook him. Before accepting the Fellowship he had spent the summer recording the presence of ponderosa pine twig blight in the northern range of the species, working out of the Division of Forest Pathology, Portland, Oregon.

Always a sincere and steady worker, a good student, and a pleasant companion, his loss is deeply mourned by instructors and students alike.

IVAN S. DOYLE

Ivan S. Doyle, a member of the woods department of the Potlatch Forests, Inc., passed away at an Orofino hospital on March 3, 1935, as the result of a complication of diseases.

Mr. Doyle was born in Moscow, Idaho, on February 28, 1900. All of his elementary schooling was obtained in Moscow; and upon its completion he entered the School of Forestry, University of Idaho, in the fall of 1921. He received his B. S. degree in June, 1926, and accepted employment with the Clearwater Timber Company immediately thereafter. His first position was as time keeper in the company's camps near Pierce, Idaho. When logging operations were moved to Headquarters, he was placed in charge of the warehouse there; which position he held until his death.

He will long be remembered for his personality and industry, both by former classmates, and by the host of friends he acquired during his work in the Clearwater country.

JOHN DARWIN BROMET

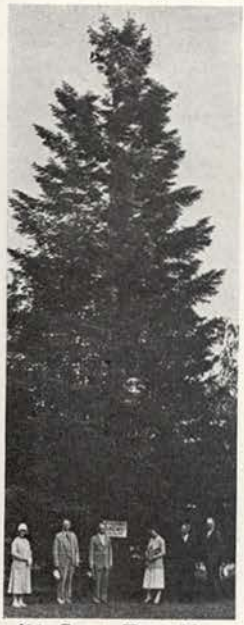
On August 21, 1934, at the age of 23 years, John D. Bromet was killed by a falling snag while building fire line on one of the numerous fires on the Kaniksu National Forest.

Mr. Bromet was born on March 16, 1911 in Amsterdam, Holland. While still a small boy he came to this country with his parents. He attended both grade and high school at Boise, Idaho, graduating from the latter in the spring of 1932. In the fall of 1933 he enrolled at the University of Idaho at Moscow, Idaho and completed one year of work in the School of Forestry.

In his brief stay with us John had acquired a multitude of friends. He was an earnest individual, a pleasant companion, and even unto death was rendering service to his fellow men and to his chosen profession.

'01 CLASS TREE

By Charles Brown, '36



'01 Class Tree Now

FEW students on the Idaho campus know the history of this University as do some of our trees. If each tree could relate the many incidents which have passed during its life, those which have happened under the shade and shelter of its limbs and those upon which each has had an opportunity to gaze, the volume would be an intensely interesting one.

The '01 Class Tree, a beautiful 70-foot white fir occupies a most conspicuous place on our campus. Its beauty stands out most prominently. Each winter, many times its massive limbs are laden with blankets of snow. During the Yuletide season, its beauty is further enhanced, when it is beautifully decorated with hundreds of colored lights. This white fir, if it could have a human feeling, might well be proud of itself, as it is the largest and one of the oldest, and most historic trees on the Idaho campus.

Its history dates back to Arbor Day in 1900, when the Class of '01 was responsible for its planting. At that time the campus was nothing more than part of a hillside, with very little vegetation, except for the balsam and Lombardy poplars which lined the wooden walks. For campus history, this white fir can further claim the distinction of being the first conifer planted.

The life of this tree dates back, then, to the early days of this University. It has seen this school as it was originally planned —as it grew. It saw the fire of 1908— the Administration building in a mass of flames; its reconstruction, the changes, the new buildings and new plantings of trees. It has seen every student who has ever attended this school since 1900 and will see the many more who are yet to come. It has made history, it has seen history made but to our sorrow it will never be able to give up its secrets.

CHANGES ON THE FORESTRY FLOOR OF MORRILL HALL

Just before Christmas vacation 1934, a remodeling began to take place. Show cases were moved out of the hall and exhibits were removed from the walls. A new Indian collection case graces the hall. It contains Indian relics donated or loaned to the University. This was Dr. Hubert's idea and it contains at present some interesting relics.

New hat racks have been added to the sides of the hall to accommodate the much enlarged enrollment.

The library and office has been changed. Mrs. Peck's office has been enlarged and now to see the Dean one must go through this office. That keeps out visitors when the Dean already is busy. In the little office where most of the studying was done formerly is a card index case, a collection case in which forestry products are shown, and a large and small table. There is a door between this office and the main library. That is an excellent idea because it keeps out the noise of the bull-fests in the library from the office force.

MacLEOD GIVES BLISTER RUST LECTURE

Due to illness of Stephen Wycoff, division head of the blister rust control with offices in Spokane, R. L. MacLeod gave a lecture March 5, 1935 in the Science Lecture room.

Slides showing different field operations that have been used in California, Oregon, Idaho, Montana, and Washington in the fight against blister rust were shown. A brief history of the introduction of the rust and its spread was also given. In his slides the distribution of the rust was well shown by the maps.

The Same Tree on the Day it Was Planted

OUR FRESHMEN

WM. BERKENBOSCH, *one of them*

As a result of the tremendous stimulus given to American forestry by the New Deal Administration the enrollments of the forestry schools throughout the country have increased enormously during the past year. The universities in the west were especially benefited by the great publicity given to the forestry activities of the New Deal. At the University of Idaho, September, 1934, became an epic date in the annals of the School of Forestry for it saw the largest increase in enrollment in the history of the school. The great influx of new students (127 per cent over the previous year) taxed the facilities of the university to capacity in taking care of this energetic group of forestry students, many of whom came thousands of miles to study forestry at Idaho. Men were attracted to the school from all over the country. Out of the total freshman enrollment of 144 the class of '38 had 44 students from states or territories other than Idaho. These 44 students came from 16 different states which ranged from California to Maryland; even the territory of Hawaii contributed a student forester to the roll.

It is interesting in looking over the records of the freshman class to note that only four of the fathers of the class of '38 are directly interested in forestry or lumbering; however, 24 of the frosh are sons of farmers which indicates that some students are to a slight extent following their father's vocations for agriculture is closely allied to forestry. Teachers, laborers, grain buyers, contractors, railroad men, editors, engineers—all are among the fathers of the freshman class. It is significant that the number of fathers with outdoor occupations far out-number the so-called "indoor" men; evidently the vocations of the fathers did indirectly influence their sons' choice.

The freshman class, noteworthy because of its great size, is also remarkable for the diversity among its members. An usher, an ex-marine, that saw service in the far east, several former CCC's, a boy that lived in China for a short time, ex-lumberjacks, ex-forest service foreman, ex-nursery foreman—the list is endless—all are in the present freshman class. They differ in all respects—age, experience, home states, wealth and personalities and yet they are all here with one end in mind—Forestry. The freshmen range in age from 16 to 30 years; due to the depression many of them have been out of high school from two to four years; one married student had the ambition to start his college career twelve years after graduating from high school. Of the 144 freshmen foresters only twenty are entirely dependent upon others than themselves for financial support; 88 are from 25 to 75 per cent self supporting and 36 are 100 per cent self supporting! A truly remarkable record for a group of technical students.

NEW BLACK LIST

The Kansas State publication has a "black list" on which appear the names of professors who regularly have inspirations after the dismissal bell has rung. A good idea. Perhaps we might be able to add one or two to the list.

MINERS AND FORESTERS BASKETBALL GAME

We, the Associated Miners of the University of Idaho, do hereby challenge you the lowly, gummy-fingered, conifer-climbing, bark-slinging, snoose-chewing, ax-slinging lumber jacks, of the Associated Foresters to a manly game of basketball.

Come out from behind the brush to take your beating. If you lack the intestinal fortitude necessary to assimilate a beating, don't accept this, our mighty challenge.

(Signed) ASSOCIATED MINERS.

We, the Associated Foresters of the University of Idaho do hereby accept the challenge which you the Associated "Minors", did, in a moment of foolish bravado, force upon us.

There is some doubt if you know what basketball is, and its being a manly game will doubtlessly limit your numbers. We admire your courage for your brave undertaking.

Gather, then, your ill-assorted horde of c' jumping, mine-salting, rock-busting, muck-slir pick-swinging, desert rat prospectors. The date place of your demise will be arranged as soon a we can capture one of your subterranean crawlers above ground in daylight.

(Signed) THE ASSOCIATED FORESTERS.

The Associated Miners made good their boasts by defeating the Foresters 27 to 13 in the basketball game February 16, 1935. It was generally admitted that the Miners' tall center, Jack Barbee, played a game quite beyond himself. A little trouble developed in the second half when the Foresters apparently attempted to start six men in the line-up.

FORESTRY SCHOOL EXPECTS INCREASE

If only half of the young men who have already indicated a desire to come to Idaho next fall to study forestry actually show up, the institution wi" be forced to start night school, correspondenc courses, or pile the students double deck in already overcrowded classrooms to handle the rush. Correspondence to date from prospective students for next year indicates an increase in enrollment next fall at least as large as that this fall, which was 127 per cent above normal.

So far this year the Idaho School of Forestry has received over twice as many requests for forestry catalog and information about the cou than had been received at this time last year, reports Dean McArdle. Last fall the School of Forestry had 100 new applications, yet when registration days arrived, 168 new students lined up. This year's freshman class is nearly four times the size of its immediate predecessor and by far the largest in the School's history.

Particularly significant is the fact that a large proportion of the requests came from the middle-western area that suffered from drought last year. This also is the area of the proposed shelterbelt. Numerous requests have been received from young men who graduated from high school several years ago. Several inquiries have been received from students now enrolled in forestry in other institutions. Practically every Idaho county is represented in the file of communications.

HERE AND THERE

In the four corners are views of last year's barbecue. In case it doesn't dawn on you the upper right picture shows one of the contestants in the "hair-lip horseshoe" event. Left center shows Townsend and Lownik hard at work in a blister rust camp last summer. Now they are wondering why they weren't offered camp boss jobs this year. Center right is the Sheep Creek fire on the Idaho which was considered just a camp fire after the Pete King fire on the Selway got going. Upper center shows a group of ambitious boys waiting for the truck to take them on a field trip. Right smack dab in the center are our Forester "I" men; Wheeler, Anderson, and Albee. Lower center shows one of the numerous camps dotting the Idaho woods where some of the boys spent last summer.

CHANGES ABOUT THE CAMPUS

Changes have been coming fast and furious to the University of Idaho in the past two years. To one who has been away from the alma mater for a few years it would seem a strange new place.

During the summer of 1934 a concrete driveway was finally installed. It starts at the corner of the U-Hut and Lewis Court, goes to the Ad Building and around it past the Engineering Building and ends on Elm street by Ridenbaugh Hall.

There has been more than one winter "of the brown snow". The past two years the campus has been dug up in more places than one. The winter of 1933-34 saw much work done in lawn-making. A new drain was put in by the tennis courts in back of the music hall. The old lawn on the east slope of the campus was changed and given a few more pleasing angles and a new terrace. The University gardens were given a smoother and more pleasant slope and part of it was sown to grass. At present the lawn to the north of the Administration Building is being remodeled. When it is completed there will be an even slope from the concrete driveway to the street in front of Science. This has been done on both sides of the sidewalk from the north entrance of the Ad Building. Also the sidewalk itself has been raised and widened.

The hill at the side of the Metallurgy Building is being sloped off and will eventually be seeded to grass. A new tennis court has been installed in the little hollow in front of the gymnasium. There are four nice new courts. These were much needed since tennis is a popular sport here and the other four proved very inadequate.

The grounds of course have been landscaped. New trees and shrubs have been planted around the Metallurgy Building and the Machine Shops. A large plantation has been made on the west end of the athletic field along the fence by the Pullman road. When these trees, which are evergreens, grow to a fair height, one will not be able to watch football games from the road as well as before.

The bleachers in the stadium have all been remodeled and added to. They have been extended on both the north and south ends and the others given new foundations, painted and straightened up.

RANGER'S COFFEE

What goes in the coffee pot
That boils beside the trail?
Water dipped from a spring
With a battered old tin pail.

A film of ashes and a twig,
A yellow leaf or two—
Obvious components, these,
Of the aromatic brew.

And some other savor
Harder to explain—
Tang of blue woodsmoke;
Wind, a dash of rain;

The fragrance of a forest;
An hour to dream—and more;
A bed of browsed fir tips behind;
A mountain climb before.

—Don McKeever.

ARBORETUM SURVEY MADE

THE Charles Houston Shattuck Arboretum, at Moscow, named after its founder, who was the first Professor of Forestry at the University of Idaho, is the oldest arboretum in western United States.

During the winter of 1934-35, a detailed survey was made to obtain data for a report on this arboretum. All plots were accurately located and permanently marked and each tree numbered, measured for diameter and height, and its condition noted. Data were collected from old records and from our nurseryman, C. L. Price, on the source of seed and transplants, and compiled by plot and lot numbers.

The survey showed there to be 92 different species of trees present, of which 20 are exotics. Plans have been prepared to make the Charles Houston Shattuck Arboretum, of approximately 12 acres, a museum of trees. Our efforts will be directed towards providing some 3 to 6 specimens of mature trees of each species for class instruction. Only the lightest kind of cultural work as will be necessary to achieve this end will be permitted. Priority will be given to those commercially important species as will grow in this locality, followed by lesser important species and lastly by exotics.

In the past the arboretum has offered many advantages to students studying Dendrology; in the future, with at least one species of all the important genera to work with, the Idaho foresters should have one of the best field laboratories in the United States.

DR. HUBERT ASSISTS IN COACHING INDIANS IN INDIAN DANCE

On the first of August, 1934, Dr. E. E. Hubert received a telegram from Dr. G. C. Ruhle, Park Naturalist of Glacier National Park asking him to come to Glacier National Park to assist in the coaching of Indians for the ceremony to be given President Roosevelt when the President stopped at Two-Medicine Lake.

Both Dr. Hubert and Dr. Ruhle are well versed in the Indian Lore of the Northwest. Dr. Hubert is "Chief Red Bear" in the White Bird Band of the Nez Perce Indian tribe, and Dr. Ruhle is chief "Mountain Chief" in the Piegan Blackfeet tribe.

August 3, 4, and 5 were spent getting the old Indian chiefs and their families coached in the ceremony and dances to be given for President Roosevelt. An Indian village was arranged on the shores of Two-Medicine Lake. Only the older chiefs of the chieftain lineage were at the ceremony. They were members of the Piegan tribe of the Blackfeet Nation.

One dance was the naming dance for "Lone Chief," the name given Roosevelt who received a pipe, headdress, and various other Indian tokens from the Blackfeet. Dick Sanderville was the interpreter, and chief "Bird Rattler" was the medicine man. Incidentally, all the tourists were hustled away from Two-Medicine Lake before the President's arrival, and a cordon of guards was provided.

Dr. Hubert is not only well-versed in Indian lore but has a very good collection of Indian relics and has donated quite a nice collection to the University's Indian collection.

THE NINETEENTH ANNUAL FORESTERS' BALL

By Richard F. Bickford '36

BIG shots, little shots, half shots, all kinds of shots gathered together this seventeenth day of April to celebrate the nineteenth annual molar festival of the Associated Foresters of the School of Forestry of the University of Idaho. The foresters stood their cords up in the corner, sorted out the moth balls, and donned their Sunday go-to-meeting suits. The rendezvous was the Blue Bucket Inn where they gathered gaping and gawking until the gut hammer sounded.

At seven o'clock the tornado hit the place and for the short space of five seconds the hills resounded with the din of hurrying bodies and the scraping of chairs, then silence complete, except for the occasional clinking of silver, and the munching of fine foods. A silence that lasted until the last plate glowed in the dim light.

highlights were halls and rooms that would put Versailles to shame; featured was the enlarged and landscaped Arboretum, a self supporting division of the school. The pondering pachyderm of the forestry school finally tired and sat down. This was especially lucky as his supply of pictures seemed unlimited.

Next, to restore equilibrium to the party, a few of the more prominent men present were asked to give extemperaneous speeches. W. A. Rockie, head of the Soil Erosion Service office at Pullman, Washington, showed the need for erosion control and outlined the plans of the newly created Bureau of Soil Erosion. S. N. Wyckoff in charge of the blister rust control work in this region discussed the possibility of summer work with the blister rust control office. J. C. Evenden, C. L. Billings, and A. R. Whisnant followed with short humorous talks.

A part of the gang at the best banquet ever put across by the Associated Foresters.

Between two of the numerous courses the Princeton duet of Herm Daughs and his rectangular bellows rendered (to render—to rip or tear) several original compositions.

After the nuts were carried out cigars were served to those who had the courage to chance the vintage. Then Dean McArdle accomplished a miracle. He got up and introduced the toastmaster, Brennan Davis, in not more than one minute.

Music by the world famous School of Forestry Hair Pounders Orchestra under the direction of that eminent maestro Harvey Nelson, next soothed the burnt spirits of those misguided individuals who attended. The wonder of it all is that they finished together in spite of the fact that a few of the boys got left at the post.

Herr Doktor Wheeler, the oracle of Delphi, delved into the past and peered into the future for the benefit of those present. The proposed new forestry school was evolved right before our eyes. Among the

The wonders of modern wood chemistry were then explained by Joe McCarthy. Apparently all that we had eaten that evening was derived from wood. Those delicious salads, cocktails, and steaks all originally came from wood. The difference between a ham sandwich and fried oysters in only in the way wood is treated to produce them. One of the most wonderful devices was a cow called Bossey, who under the careful treatment of Leslie L. Larson, was trained to produce wonderful and diverse liquid refreshments from her udder. Each lobe produced an entirely different liquid. From one, boiling hot coffee was produced. The second one produced cream for the coffee, the third was for those who preferred plain milk. The fourth, when the experiment was completed, was to produce the finest ice cold beer anyone ever tasted. This description of Bossey the dextrous cow was followed by actual demonstrations of wood being changed into the various substances mentioned above. Amid much

fire, smoke, and mystic words wood passed through several stages and finally was wood no longer.

Following this exhibition of wood chemistry, Toastmaster Brennan Davis introduced several of the prominent men present. Then Mr. Spence of the School of Forestry faculty proofed the often mentioned premise that professors are absent minded. He was supposed to announce the winner of the senior award given to the outstanding member of the senior class every year. Mr. Spence got up and boldly announced that this year's winner was a certain Stewart E. Buchanan unknown in the forestry school. Those in the know realized that he meant Thomas Stewart Buchanan, a very remarkable young man known to Mr. Spence for at least six years.

What followed was one of the high spots of the evening. Anders (Pete, T-Bone) Hultman and Milton Bromley Edwards, two very highly esteemed graduating seniors, had in their spare moments invented a contraption so wonderful that it is beyond description. In appearance it looked like a combination of all the dials that could be found in Idaho and all the levers that a good sized switching house contains. This machine bore the monniker of a "Ring-porous Gasoflange." It was supposed to solve all kinds of vexing problems similar to those commonly given to forestry students. Such things as reports, and management plans were supposed to be first grade stuff to this machine. In its demonstration (this was its first public appearance) it worked with machine like perfection until it was confronted with one of Dr. Jahn's twenty minute quizzes to be written in three hours. Then it just gave up the ghost and threw in the towel.

The feature of the evening was a talk by George F. Cornwall, Managing Editor of the Timberman. He was a member of the twelve foresters sent to Germany by the Oberlander trust to study forestry conditions in Germany and German speaking countries. He reported that the customs of the old land holding nobility was what made private forestry possible in Germany. Also the difference between the return expected on an investment made the Germans satisfied with the low return possible. It is common opinion that a three per cent simple interest return on an investment is very good. That would be laughed at in this country where most banks pay more than that and compound the interest as well. He also told how each forest was a unit in itself having its own seasoning yards, sawmills, and other utilization equipment. The general idea of American foresters that the forest floor is swept clean of all litter, duff, and other debris is wrong according to him. While there are forests like that the more successful ones leave the litter and duff to enrich the soil for future forest crops. In speaking of the forests of Bavaria he told of the origination of Logging Engineering. Apparently sometime in the middle ages, some ambitious forester hit upon the idea of building a canal from the heavily forested regions of central Europe to the population centers of the Rhine and Danube valleys. The canal was to be used to transport logs from the forests to the utilization centers at the least cost. The canal was so well constructed that it is still in use today. One branch, however, is temporarily closed for political reasons. He closed with a description of some of the German forest schools.

The banquet finally ended with the singing of "Adieu" by the entire company.

Banquets may come and banquets may go but this one represents a high point in entertainment and stands as a challenge to future students.

WHERE TO, SENIORS?

After commencement, the graduating seniors will be found in widely scattered parts of the country. Edwards and McCormick will have the long distance record. They will be at the Appalachian Forest Experiment Station at Asheville, North Carolina. "Pete" Hultman, "Red" Reynolds, and "Morrey" Fickes will fight gnats and mosquitoes on the Upper-Michigan National Forest. They can be reached by writing to Escanaba, Michigan. Davis will be earning his spurs on the Ottawa National Forest with headquarters at Ironwood, Michigan. Michigan will be a long way from a certain young lady at Pomeroy who must say, "Adieu," to Brennan. Ray Lyons and "Zim" Ziminski, a couple more of our intrepid Idahoans, are also going eastward. They will endeavor to paddle their canoes on the Chippewa National Forest, with headquarters at Cass Lake, Minnesota.

By writing to the Superior National Forest at Duluth, Minnesota, you can reach Bert Munthe. If any of you have occasion to be in that "neck of the woods," drop in to see Bert. You may get an introduction to his girl.

Not all of the seniors are going eastward; a few will remain to uphold Idaho traditions. "Buck" Buchanan is one of those remaining. He will be with the Pacific Northwest Forest Experiment Station at Portland, Oregon. Another researcher, "Les" Albee, will be with the Intermountain Forest and Range Experiment Station at Ogden, Utah. Sachs and Freece will be making grazing studies. Their address will be the regional office at Ogden.

Jack Groom will be somewhere in Region six. His address will be the regional office at Portland, Oregon. "Stew" Brown is to be a researcher also. His stamping grounds will be the Northern Rocky Mountain Forest Experiment Station at Missoula, Montana.

After commencement we may never be together again. Why not write to each other freely to revive some of the happy times that we had together as "budding" foresters at Idaho?

DR. HUBERT ADOPTED BY INDIANS

Dr. E. E. Hubert of the School of Forestry, attended the annual ceremonial dance of the Nez Perces at Lapwai on New Year's eve, was formally adopted by Chief Many Wounds as a member of the tribe under his grandfather's name, Ha-hats Ilp-ilp, or Red Bear. Dr. Hubert has spent considerable time and effort in making collcetions of Indian relics so that he has become known as a student of Indian history.

After some preliminary dancing in which he was invited to join, Dr. Hubert said that the 70-year-old Chief Many Wounds sponsored his initiation before the tribe telling them that he was giving him his grandfather's name, whereupon the chief presented him his arm bands with pendants of porcupine quills used in ceremonial dances. Many Wounds is a descendant of Black Eagle who met the Lewis and Clark Expedition on the Clearwater in 1805.

SCHOOL POLITICS

It seems that this year's politics have been contested hot and furiously by both the United Students party and the Campus party. In the early fall election of September fraudulent balloting apparently occurred. Counts seemed to indicate fraud on both sides of the political fence. Prexy Dave Kendrick expressed himself as very dissatisfied with the outcome of the balloting. In the Sophomore class, ballots were not counted due to the obvious "stuffing" of the ballot boxes.

Another election was held October 10 and the outcome was a little less tainted with mud and the usual dirt of politics. The election committee consisted of four members from each party and things went along smoothly this time.

When the class elections rolled around and February 19 finally arrived more political battles ensued. The election was to be conducted by the A.S.U.I. election board. Voting was to be closely guarded and as each student voted his name was to be checked off the list which the committee had in their possession. All was well in this respect but the big surprise came when the mysterious third party appeared on the ballots. Political intrigue on the good old Tammany style returned to the Idaho campus with a flourish. Ordinarily class elections are prosaic affairs, but this assumed a grave importance when the "third party" was discovered on the ballots. The advent of this was a complete surprise to representatives of the United Student party, but leaders of the Campus party appeared to be less shocked when interviewed. All said that it was a "lousy, dispicable trick", even the majority of the "third party" condidates, some of whom did not know about their nomination. It appeared that the "third party" was turned into the Campus leaders with the required number of signatures, but had not been approved of in the nomination meeting.

Of course, much arguing prevailed. The election was to be contested in the usual manner, but some of the United Student members were not content to let things take the course planned, but resorted to "strong arm" tactics and spirited away three of the four ballot boxes. The remaining votes in the one ballot box were counted and, of course showed a majority of the votes to be Campus votes. When the "third party" was discovered the members of the United Students party on the election committee staged a walk-out and members of that party did not vote. At a later meeting the voting was declared legal and the Campus candidates were declared legally elected.

Brennan Davis, a senior in the School of Forestry, was elected class president of the Senior class. Mr. Davis is a man capable of filling the position as he has participated actively in school affairs. Another forestry man who was elected was Max Kenworty, treasurer of the Freshman class.

After such a deplorable election the A.S.U.I. constitution is to be revised to provide for any and all situations of that nature which might arise. We hope the committee drafting such legislation will make it "fool proof".

Extract from a Lookout's diary—June 30. Saw bear this A.M. Washed clothes after dinner.

EDGINGS AND TRIMMINGS

By Ray Lyons, '35

Don't you boys get rough with me or I'll call Mrs. Peck.

Seems like a fellow would take a night off and give it everything he's got.

"What is the next assignment in ——— ———?"
"Pages 312 to 793 in the text. Reports on the articles in the West Coast Lumberman since 1925 on anything concerning the lumber industry, lumber exports, Forestry, and any other associated information. Know all the definitions on that last set of 17 mimeograph sheets he gave us, and a short review of everything we have had to date in the course."

Did you see his face when "Buck" said, "You kinda fell down on that last one didn't you?"

We ought to give him back to the Indians.

Here, you can read this while I go down and see Henrietta about some strawberry jam.

Have you seen Jack David lately?

I'll cut one out of the herd. They graze them just like goats down there.

Go away. You come around and bother me just when I start to get that education I have been neglecting for the last four years.

We ought to have a party.

Look at the fix I'm in. My one date isn't even speaking to me.

They tell me it is all recreational work. Think of me coming to college four years then having to go out on a job where all I'd have to do is sit around camp every evening with a couple of women on each knee.

Have you been on a junior or sophomore class field trip? All they do is sit and maybe play touch-tackle football.

How does it feel to be one of the gang?—I'll clean the lot of you.

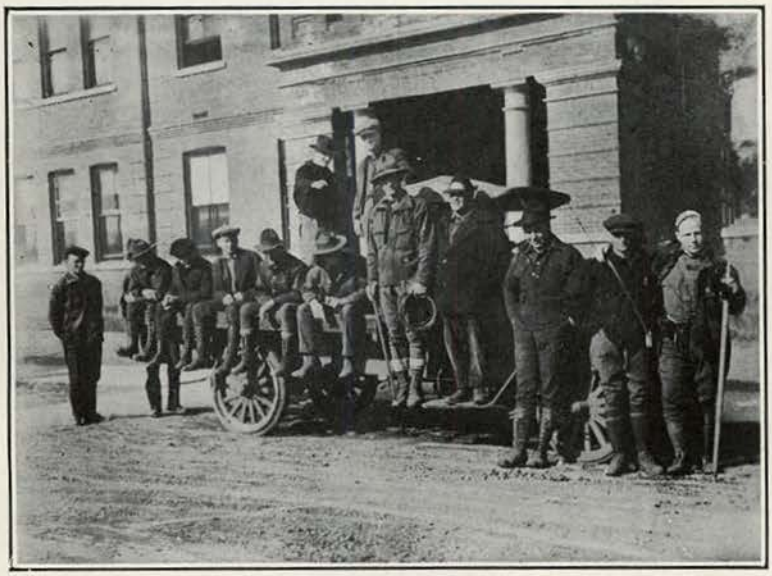
He tore up my cap and Fickes thought it was cute.

He looked up, waved his hand, and said "Hi fellows."

You fellows ought to be the ones passing out the cigars.

"B. M."

Engineers call it a Bench Mark.
Foresters call it Board Measure.
But the doctors call it .....



Do You Remember When These Were Taken?

THINNINGS

By Edwards and Hultman '35

Found on a Freshman Forester's Forestry I Exam: Tolerance is what a tree can stand and how much of it.

Clarence (One Shot) Brown once got 27 ducks with one shot. If his foot hadn't slipped he would have got 28. Ask him.

Seniors—do you remember Dr. Jahn's two final exams before the nine weeks were up?

Those who don't believe that inspiration can be found in the woods should have heard Pete Hultman and Milt Edwards in the Arboretum practising their speeches for the smoker.

SIMPLE RHETORIC
Davis' trifling
Clements' worse
Hollingworths' lazy
Sachs needs a nurse.
—*Anon.*

Prexy Hays scores track triumph—Broadjumps Paradise Creek—One jump and a crawl.

Roses are red
Violets are blue
Kappa Alpha Theta
How about you?
Contributed by Henry Ziminski.

First Frosh: "What's all that crying, moaning, and carrying on in there?"
Last Senior: "Oh, that's Gray Reynolds, he got a C in that last quizz".

Frosh—calls it yellow pine.
Soph.—Pinus ponderosa.
Junior—ponderosa pine.
Senior—P.P.

DR. HUBERT RESIGNS; TO GO TO PORTLAND

DR. E. E. HUBERT, professor of forestry at the University of Idaho, School of Forestry since 1925, has been selected by the Western Pine Association to conduct important research. Dr. Hubert's resignation was accepted by the board of regents of the university at its recent Boise meeting, Dean McArdle announced. The organization which Dr. Hubert will join covers all of the pine mills of the West. He will be engaged in all types of research concerned with the products of the association, one of which is Idaho white pine. Pathological, wood preservation and promotional research will be important aspects of his new field. The resignation is effective June 1. Dr. Hubert will have headquarters in Portland, Oregon.

Dr. Hubert is widely known for his research work in forest pathology and wood preservation at Idaho. He has directed most of the research activities conducted in the university forest products and forest pathology laboratories and has been especially active in cooperation with the federal government in the study and control of blister rust in the vast white pine forests of Idaho. His research in this field has been highly praised by federal blister rust experts.

—Argonaut.

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GREETINGS

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GRUB

You may talk of ten-course dinners
That you've eaten at an inn,
But I sing of dough that's sour
And of fritters fried on tin;
And I sing of dusky coffee,
Minus sugar, minus cream;
And of washing greasy dishes
In an icy mountain stream.
O, you're bound to like your victuals,
If you've packed them sack and can
On your rump across the mountains,
And you'll eat them like a man.
—*Stanley Foss Bartlett.*

GREETINGS

Idaho's Foresters and Alumni

From

GREGORY & HUFF

INSURANCE—INVESTMENTS

Moscow, Idaho

QUOTED FROM FAMOUS POETS

I wish I were a Moron
He never gives a d - - n
I wish I were a Moron
Gracious! perhaps I am.
—*Penstock.*

Here's to a glass of beer
So amber and so clear
Not half the bliss of a woman's kiss
But darn sight more sincere.
—*Nadir.*

A woman is a woman, but a cigar is a good smoke.
—*Kipling.*

Fires are made by fools like me,
But only God can make a tree.
—*Adapted.*

It was the night before Christmas
And all through the house
Not a creature was stirring not even a mouse,
The stockings were hung on the chimney with care
They had been worn six weeks and needed the air.
—*Isoptera.*

Tragedy—Jack Groom settling his breakfast on Lewiston Grade.

Comedy—Same person yields up lunch on Mensuration field trip.

About that Mensuration field trip. Weren't those bean hole beans swell, and didn't we make the woods ring as we worked.

ON THE FRYING OF FISH

Here's an essay, on the culinary page of a smart magazine, devoted to the fine art of frying fish. It is ecstatically desirable that the fish be ever so fresh. And how true it is that nothing of a comestible nature is quite so uniquely melancholy as a fish that is—shall we phrase it?—too dead. Now the glad girlish emphasis in the counsel above alluded to is on the exceedingly brief interval between the fiord and the frying pan, the brook and the butter. Must we forever be taking issue with these well-meaning but misinformed exponents of an art that is essentially simple in its more important detail? It is very bad advice—oh, execrable—to indicate that the best fish is that which has leaped from its native element directly to the kitchen range. As it is with meats, so it is with fish—there should be a decent interval, an interim, in which the tissues have opportunity to yield up the very last of life.

People will say, rolling their eyes poetically, that nobody ever really has tasted a trout that has not partaken of this fish as prepared in camp—five minutes or such a matter after it was lifted, struggling in silver radiance, from the crystal haste of the south fork. Setting aside the matter of wood ashes, small gravel, and neglected viscera, all of which may be identified with but litlte difficulty in the consumption of trout so prepared, it probably is true that the neophyte never tasted anything like it before. For a trout so prepared is a trout profaned, and famine scarcely will excuse the outrage.

Let us suppose, however, that the trout taken from the south fork is affectionately cleaned, and wiped, and placed in dampness, as a dampened cloth or newspaper, for a season of hours—overnight, perhaps, in the river chillness where mists are walking—before ever it is offered to the pan. Will trout so considerately dealt with writhe in torment, as did the fishes of Arabian Nights, when the sorceress asked, "Fish, are ye at your duty?" and prove too recalcitrant for seemly preparation? Not they. These fish are eager for the pan. Their destiny is upon them.

To be sure, and in fairness to the culinary page which prompted these observations on being kind to fishes, there is little or no hazard of any metropolitan housewife being vexed by fish that are too newly caught. None the less it seemed important to declare, the point having inferentially been raised, that mere freshness in a fish is but the half of excellence. Next you must understand the nature of the fish, and deal with it not too hastily. Theoretically, anybody is qualified to fry fish. Actually the cook who can do so, and acceptably, is rarely met with and even then but inadequately appreciated.
—*Oregonian.*

Seniors: we hope you always remember the time Dr. Miller threw Glenn Brado out of the library window.

Foresters' ambition—Plant a row of shortleaf pine down Miami Beach.

Speaking of Miami beach—It has been reported there are some excellent sites there.

DIRECTORY AND NEWS OF ALUMNI AND FORMER STUDENTS

The following list includes only those former students from whom we have actually received word, and a few others whose whereabout was already known to some one around the school. We should like to include everyone who has ever been here, but we're not mystics, and Dean McArdle refused to loan us his crystal globe. The moral is, please drop us a line now and then and tell us, so we can tell the rest of the world, what is new in your neck of the woods. We've probably slipped up here and there, but if so, think nothing of it—but do take the opportunity to write in and tell us what mistakes we did make. Who knows—there may be a dollar chain letter here for you, and we don't know where to send it so that you'll get it before the wolf gets you.—THE EDITOR.

AHLSKOG, RALPH, '33, U.S. Forest Service, Moran, Michigan, District Ranger, Marquette National Forest. Ralph states that his activities are varied—include all that the Forest Service does. He is in charge of two E. C. W. camps.

ANDERSON, BERNARD A., M.S. (For.), '28, 618 Realty Building, Spokane, Washington. Andy is still with the Division of Blister Rust Control in charge of activities on the Clearwater. With the passage of the latest Emergency Relief Act, the boys have decided "thar's gold as well as blister rust in them thar hills."

ARTHURS, AUBREY J., '34. Last reports are that Aubrey expected to be back on the Coeur d'Alene again this year doing camp site improvement work.

AXTELL, DONALD H., Ex-'29, 2604 W. Dalton Avenue, Spokane, Washington. Has been working as an assistant Diesel Engineer for a mining concern in Stevens county. Don now has a line on a sales job in Spokane.

BAIRD, JOHN C., Ex-'28. John is in the supervisors office, Williamsville, Missouri, U. S. Forest Service.

BALCH, A. PRENTICE, '29. District Ranger, Teton National Forest, U. S. Forest Service, Moran, Wyoming. "Bones" visited his old school this spring.

BARTLETT, STANLEY FOSS, Ranger Course '21-'22, is still Associated Press editor of Lewiston (Maine) Sun-Journal. He writes, "recently made a trip into the northern Maine woods to get a feature story for our paper, and boy! it did seem good to get a smell of pitch, wood-smoke and black coffee again. The pulpwood industry is on the upgrade in this part of the nation."

BAUMANN, HERMAN, '24, Susanville, California, has a new job with the Caterpillar Tractor Company of San Leandro, Cal. He will be in logging work on the west coast.

BEALS, WILFRED F., '27, U. S. Forest Service, Lauzon, South Dakota. Wilfred reports a new addition to the family—a baby girl.

BEDWELL, JESSE L., '20, M.S. Oregon State College '24; Ph.D. Yale '32, 631 New Post Office Building, Portland, Oregon. Associate Pathologist, Division of Forest Pathology, U. S. Forest Service, Portland, Oregon.

BENNETT, CAREY H. '29. Shorty is still chasing wild geese with the Biological Survey, Washington, D. C.

BENSON, RUDOLPH J., '34, U. S. Forest Service, Three Lakes, Wisconsin, is Junior Forester Technician and is located at Section Eleven C.C.C. Camp. He writes, "I like this country, the people are fine, but am lonesome for the old stamping grounds. Would like to hear from some of the old classmates and guarantee an answer."

BICKFORD, CHARLES ALLEN, M.S. (For.), '31, has been detailed to the Washington, D. C. office for the winter for training in statistical analysis and experimental methods. Allen saw Art Sowder at a meeting of the Society of American Foresters. He often sees Mitchell '28. Allen and Mrs. Bickford report the arrival of a son, William Honeycutt, on November 19.

BIKER, JOHN BERNAL '28. Trail, British Columbia, Canada.

BOLLES, WARREN H., '26 M.F. Yale '29, 424 U. S. Court House, Portland, Oregon, is still engaged in forest survey work in the Pacific Northwest under the Pacific Northwest Experiment Station. Warren writes, "I lunched with Jesse Bedwell recently and had a grand time reminiscent of Idaho, Yale, and old friends.

BROWN, DR. FRANK A., '22, 127 South Los Robles, Pasadena, California.

BROWN, HAROLD G. '33, 424 Federal Building Spokane, Washington. Harold is an Associate Forester in Forestry branch of the Indian Service.

BROWN, RICHARD I., '31, State Camp No. 89, Conrad, Pennsylvania, is Forester—State of Pennsylvania. "Dick" is doing E. C. W. work mostly—improvement cuttings, stock survey, and roads and trail survey.

BUCKINGHAM, ARTHUR, '30, Challis National Forest, Challis, Idaho, is Junior Range Examiner in charge of the Loon Creek District.

BURNETT, LOYD, Ex-'33, c/o Soil Erosion Service, Pullman, Washington. Swiss spent the winter here in Moscow conducting a survey of our arboretum. He's now in on the ground floor of the SES work, and expects big things to develop.

BURROUGHS, I. C., '27, M.F., Yale '28, Knoxville, Tennessee. Far as we know "Ike" is still offering his talent to the T.V.A.

BURTON, LESLIE, '30, lives at 123 W. Eighth St., Leadville, Colorado. He is District Ranger in the Cochetopa N. F., at Leadville.

BUSH, BEN E., '03, Moscow, Idaho, is temporarily stationed at Underhill Center, Vermont as superintendent of a C.C.C. Camp. He expects to be back in Idaho soon.

CALLENDAR, WILLIAM, '27. Wilson's Dam, Alabama. Bill is still with the T.V.A. according to latest reports.

CARLSON, CHARLES EDWARD MALCOLM, Ex-'35. Chuck is with the Soil Erosion Service at Pullman, Washington. He might go into Blister Rust this summer.

CHAMBERLIN, GALE B., Ex-'23, Coeur d'Alene, Idaho. Is wholesaling lumber in Coeur d'Alene. Gale and Mrs. Chamberlin have two children—a boy and a girl.

CLARKE, STANLEY C., '32, M.S. (For.), '34, University of Idaho, Moscow. Stan is still Extension Forester, and has acquired a multitude of friends on his work. He is one of our alumni who now has a daughter registered at the U. of I.

COCHRAN, A. R., '28 M.F. Yale '30, is in the George Washington National Forest, Buena Vista, Virginia. He says: "Today, even comparatively

recent grads face problems in fields which received little attention in undergraduate days. Recreation is mention as one of several such fields which demand detailed and special knowledge. We are thankful for the extra English courses, very much so we are sorry we slighted mathematics, use the biological sciences every day. Psychology is an old standby. Soil science is indespensible. Have been kicking ourselves 7 years for not learning the touch system in typing."

COCHRELL, ALBERT N., Ranger Course '22. Sandpoint, Idaho. Latest word is that Cochrell is still doing a good job as Assistant Supervisor on the Kaniksu.

CONNAUGHTON, CHARLES A., '28. Ogden, Utah. Charlie is in charge of Silviculture for the Intermountain Forest and Range Experiment Station. His main sub-station is at Idaho City, Idaho, where they have been conducting some interesting Ponderosa Pine Studies.

COOK, JOHN, Ex-'33. Forestry Technician for the State of Idaho. He supervised forestry and road work on the Moscow Mountain Experimental Forest throughout the past year.

COONROD, MELVIN A., '32—Unless we're mistaken Mel is still at Nitrate, Alabama, Box 44, working with the T. V. A.

COSSITT, FLOYD M., '24. Forester Shelterbelt project headquarters at Lincoln, Nebraska.

CRANSTON, WILLIAM V., '33, Hot Springs, Arkansas, c/o Ouachita National Forest. "Bill" is doing road work at present out of Plainview, Arkansas. He cruised for three months last summer and has been doing cultural work most of the time since. He writes: "J. P. Brown is the oldest cultural foreman on the Ouachita National Forest in point of service. 'Dame Rumor says, 'J. P.'s money bags are ready to burst.' "

CRAWFORD, CHARLES R., '34, is a J. F. on the Kisatchie National Forest, with address of c/o USFS, Camp F2, Provensal, La. He is not married.

DANIELS, A. S., '23, Superintendent, Wood Preserving Works, T & NO RR, with address at Box 19, S. Pacific Bldg., Houston, Texas, recently ran across Dr. Henry Schmitz, formerly of the U. of I. Forest School. Mr. Daniels states that he has the one child and the same wife.

DANIELS, KENNETH M., '33, Intermountain F. and R. Exp. Sta., Ogden, Utah. He has been at regional headquarters on analysis all winter, and expects to be on experimental erosion work at the Boise Basin this summer. "Kenny" was married last December.

DAUGHERTY, CHAS., Ex-'22, is Senior Forest Ranger Sawtooth National Forest. He is still married, and has twin girls, aged 5. He says that there has been lots of snow down his way this winter. His present address is at Ketchum, Idaho.

DAVIS, ROBERT, '28. Bob is with the U.S.F.S. somewhere in Region 4.

DECKER, ARLIE, '13, M.F. Yale '17—Lewiston, Idaho? Not sure he's still at Lewiston, but we'll bet he is still with the Weyerhaeuser Sales Co.

DE LA CRUZ, EUGENIO, '26, Bureau of Forestry, Manila, P. I. He is now Forester-at-Large in the office of the Director of the Bureau.

DITTMAN, CLARENCE, P., '31, Lakes States For. Exp. Station, University Farms, St. Paul, Minnesota. He is working on the proposed Shelter belt program. He is still single, but prospects are beginning to look quite promising.

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DRISSEN, JOHN P., '21 was married June 18, 1934 to Miss La Dean Flottman, B.S. Ed., Missouri State Teachers' College, Warrensburg, Mo. He is Forest Supervisor, Fort Hall Indian Reservation, Fort Hall, Idaho.

EASTMAN, VIRGIL H., '31, is a J. F. in the Clearwater Forest at Orofino, Idaho, effective Feb. 16, 1935. He is married and has a daughter 3 years old.

EDDY, LESLIE, Ex-'25, Beaver Creek Ranger District, Coolin, Idaho District Ranger.

ELLIS, F. GORDON, '28 is single and has no offspring. He is cultural foreman at Moon Lake CCC Camp F. 37 in the Ashley National Forest, Utah. He is in charge of thinning and stand improvement work in lodgepole pine stands.

ENSIGN, W. WARREN, '33, Missoula, Montana, is working for the N.R.M. Exp. Station. He expects to go into the field about the middle of April.

FARMER, LOWELL J., 223, 3rd Ave., Salt Lake City, Utah (Res.) is with the Forest Service at Ogden, Utah. He has left the Bureau of Entomology and is now working as Forester on E. W. C. Stand Improvement in Region 4, besides having been in charge of E. W. C. Bug Surveys and Control Jobs. Lowell says that he is still married and is expecting another boy (?) in June.

FARREL, J. W., '22, is Supervisor of the combined Challis and Lemhi National Forests, with headquarters at Challis, Idaho.

FAVRE, CLARENCE E., '14 M.S. (For.) '15. U.S. Forest Service, Kemmerer, Wyoming. Supervisor of the Wyoming National Forest. Clarence reports he is glad to be back on the old job after a temporary assignment in the east.

FICKE, HERMAN O., '31, N.R.M. Forest and Range Exp. Station, Missoula, Montana. Ficke still on the forest survey and moves around too much to get a chance to get married.

FIELD, WALTER D., '26. Walt is still with Potlatch Forests, Inc. as Assistant Land Agent, Lewiston, Idaho.

FIFIELD, CHAS. E., '32. Chas. has given up school teaching and blister rust and now has a J. R. E. appointment on the Shelterblet project. Spends his time in North and South Dakota. Headquarters at Lincoln, Nebraska.

FISHER, GEORGE M., '33. Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana. George has been in charge of management surveys on their Experimental Forest areas. He embarked upon his second marital adventure during the winter of 1933-1934. George Alan arrived January 6, 1935.

FOX, CHARLES E., '28. Charlie was at Camp Cook, South Dakota as a cultural Foreman on a thinning project in Ponderosa Pine. He was through Moscow in April en route to a Supervisor's job on Blister Rust Control. He says Gay Pike is in the Black Hills and that he may get to see him.

FRAYER, HUME C., '33, 311 Penn. Ave. E. Warren, Penn. J. F. Technical Foreman on the Allegheny N. F.

FRITCHMAN, HOLT, '31. "Fritz" has been transferred to the Idaho National Forest as Junior Forester. "Fritz" has been married over a year now.

GAFFNEY, WILLIAM S., '34, Kalispell, Montana. Bill is now Senior Forest Ranger on the Upper Swan River District of the Flathead. Spent the winter at fire planning work here in Moscow.

GARIN, GEORGE I., '29 M.S. (For.) '30, Dixon, Montana. George is Project Manager of E.C.W. on the Flathead Indian Reservation. George was married in '33 and stork was a recent visitor at his home. Winchell thou art slipping.

GATLEY, HOWARD A., Ex-'23. Scout Executive, Kenosha, Wisconsin.

GENUAUX, CHAS. M., M.S. (For.) '29. Spent the summer working for Uncle Sam in Ogden. Helped plan some public camp-grounds for E.C.W. also helped complete the Land Use Plan for Region 4 last summer. They have 70 students now in his department at the Southern Branch.

GERRARD, PAUL H. '23, Coeur d'Alene, Idaho. Paul's been moved around so much lately its hard to keep track of him. Believe he is on a personnel training work on the above forest. He gave the class in Forest Administration a brief talk on that subject this winter.

GILL, TY, '31, is now District Ranger of the Flambeau Unit, Chequamagon N. F. (a purchase Unit in N. Wisconsin). He says, "I have been in Wisconsin about a year now—long enough to marry Eunice Boeckler (local girl). I still say give me the west. Swamps are for the mosquitoes." His home address is now Park Falls, Wis.

GILLHAM, NORMAN F., '26, Ass't District Agent, Bureau of Biological Survey, Room 207, 140 South Central Ave., Phoenix, Arizona. Norm was married in 1928. He has a daughter, Mary, age 4, and a boy, Johnny, 2 years old. Mr. Gillham enjoys his work in supervising the control of Predatory Animals and injurious rodents in the state of Arizona. He states that he is contemplating a visit to Idaho next fall during his annual leave and will attempt to meet as many old classmates and friends as possible.

GODDEN, FLOYD W., '27. Floyd is now supervisor of the Targhee National Forest, St. Anthony, Idaho.

GREENE, E. G., '27, Moscow, Idaho. Long is still pressing pants for the Joe Colleges at the Valet Press Shop.

GREGORY, C. A., '28, District Ranger on Mesaba District, Superior N. F., with address of USFS, Virginia, Minn. He is in charge of acquisition within a 271,000 A. purchase unit, 2 CCC camps, management plan for the district, Timber Stand Improvement. Planting plus prospects of two more camps and the planting of 15,000 acres. In addition he is in charge of a baby girl, born February 3, 1935.

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GUERNSEY, WILLIAM, '29, 618 Realty Building, Spokane, Wash. Bill is still trying to make the world safe for white pine. Is confining his activities to the Coeur d'Alene National Forest.

GUSTAFSON, CARL A., '27, U. S. Forest Service, San Francisco, California. Dispatcher and Assistant.

HAMMOND, GEORGE MERION, Ex-'20. Bowman Lumber Co., N. San Fernando Road, Glendale, Calif. Vice-Pres. and Gen. Mgr. of Bowman Lumber Co. Domestic relation still same.

HARRIS, THOMAS H., M.S. (For.) '30, 102 Administration Bldg., Government Island, Oakland, California. "Tom" has a 15 month old dotter, Melissa. He is Jr. Forester with the Division of Blister Rust Control.

HATCH, A. B., '28, M.F. Yale '29. Biological Laboratories, Harvard University, Cambridge, Massachusetts. Alden is still on the Staff with the Arnold Arboretum.

HAYES, LLOYD, '34, is working under J. F. appointment as assistant in Fire Research, which (according to himself) is a job for a very well educated person, etc. He would have written more, but for the fact that "he just works there." Lloyd says that he is still unmarried, and that no young Hayes' have been blamed on him yet.

HEPHER, W. STANLEY, '31 M.S. (For.) '32. Stan says he's still single, but has a job as Asst. Foreman on road construction. Seen any good parades lately Stan? Address still Boswell, B. C.

HILL, EDWARD B., '31, U. S. Forest Service Painter, Wyoming, is Senior Ranger on the Sunlight District, Shoshone National Forest. "Ed" likes the country and work fine. He expects a big program of work this summer.

HJORT, GEO. V., '31, is teaching and coaching at Burley, Idaho. He transferred from Eden this winter.

HOCKADAY, JAMES M., '31, Intermountain Forest and Range Experiment Station, Ogden, Utah is Junior Range Examiner Technician.

HOFFMAN, HENRY C., '28 (M.S.) '28. Latest report is that Hank is still with the U. S. Forest Service at Paris, Idaho.

HOPKINS, JESSE K. (now known as "Pete"), '33, Box 53, Glen, New Hampshire. Is technical foreman on the White Mountain National Forest. Pete has a new dog now.

HUME, JOHN F., '31, National Park Service, State Park Division, Chatcolet, Idaho.

JAY, JAMES W., '34, Moran, Michigan. Jimmie has been technical foreman in the Moran CCC camp since January, 1935.

JAMES, CORLAND L., '33. Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana.

JEMISON, GEORGE M., '31 is working for the Forest Service at Missoula, Montana. He is married but no children have as yet appeared. He has the same job of fire-weather research with the Northern Rocky Mountain Experiment Station.

JEPPESEN, MARVIN, '31. Desert Range Branch, Milford, Utah.

JOHNSON, DONALD GUST, Ex-'35. "Cactus" is with the U. S. F. S. at Houston, Missouri. It is reported that he has his eye on a couple of southern girls there.

JOHNSON, RICHARD, Ex-'33, 78 Hawthorne Road, Waltham, Mass. Still married to the same gal and holding down the same job. One addition to the family, Prince Nichewang, a pointer pup.

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KEENE, EDWARD L., '29, U.S.F.S. Somewhere in Region 9.

KENNEDY, FRED H., '29, Martinsdale, Montana, is District Ranger on the Lewis and Clark National Forest. "Fritz" writes: "I have been on the move so often the past few months, that my mail has had difficulty catching up with me."

KRAEMER, J. HUGO, '34, Lark Street, Albany, New York. He is doing graduate research work in Silviculture at Harvard University.

KRUEGER, OTTO C. F., '29, Route 7, Box 4307, Sacramento, California, is technical assistant, California Division of Forestry, Sacramento. Otto and Mrs. Krueger have two children: Otto Jr., 4 years, and Martha La Vaun, 2 years old. He writes "I just wish to remind the boys of '28 how the Juniors of that year taught them the finer points of playground ball at the Priest River Experiment Station."

KRUMMES, WILLIAM T., '30. Bill is still with the Biological Survey working on the Migratory Waterfowl Refuge Program, Washington, D. C.

LANGER, CHARLEY J., '30, Fort Duchesne, Utah. Charlie wrote us a book but we will let it go by saying he now has a 4½ year old girl and a 15 months old boy. Is expecting a cow-sheep war in his country.

LANSDON, WILLIAM H., '27, Wilson's Dam, Alabama. Bill married a Kentucky belle in May, 1934. He's right in the middle of the swim on the TVA work.

LE BARRON, RUSSELL K., '31, Box 248, Ely, Minnesota. Russell is at the Superior Branch of the Lake States Forest Experiment Station at Ely, Minn. He writes, "Attended a meeting of the Forest Service employees at Ely, Minn., where six Idaho Foresters were present: Andrews, Swayne, Horton, Gregory, Siewert, and myself. Dittman is working for the Lake States so I see him often. Mighty glad to hear of the curricula overhauling and am anxious to see the revised product."

LEDFORD, BRYCE, Ex-'34. Ledford is now married. He is cruising in Northern Michigan. His address is Kenton, Michigan, U.S.F.S.

LEHRBAS, MARK M., '27, New Orleans, Louisiana. Asst. Director Forest Survey. Polly says he even sees a few Idaho fellers down there.

LINDSAY, CLIVE J., '31, Hazelton, Idaho. Is manager of the Hazelton Bean Growers' Corporation Warehouse. He writes: "am starting in a small way, in the stock business (sheep). A schoolday dream of both Jeppesen and I."

LINDSTROM, C. E., Ex-'26, Box 55, Belmont, Massachusetts, District Representative for the Weyerhaeuser Sales Co. of Boston.

LORD, PHILIP B., '33, c/o U. S. Forest Service, Alturas, California. "Phil" is Junior Range Examiner on the Modoc National Forest.

LUNDSTRUM, F. J., '11, 1613 North Harvard Blvd., Los Angeles, California. Married, 2 girls. Job with L.A. County Road Dept. Res. Eng. County Rd. Camp No. 8. Wants to know how tall Colorado Spruce planted by late Teddy Roosevelt, Wadsworth Fenn, and himself. Planted in 1911. Our Guessometer says it's now around 25 feet high.

MALMSTEN, HARRY E., '17. Assistant Professor of Forestry at the University of California. He teaches fire protection and range management.

McLAUGHLIN, BOB, '25 and various others since. He is making the boys perspire in Logan, Utah. Bob has an Asst. Professorship in that town.

McNAIR, JOHN J., M.S. (For.), '34. Longview, Washington. Mac is doing good work for the paper interests of the Weyerhaeuser Corporation.

MILLER, DOUGLAS R., M.S. (For.), '32. 102 Administration Building, Government Island, Oakland, California. "Doug." is still in Blister Rust work. He is Associate Forester and in charge of B.R.C. activities on the Eldorado National Forest of California. He and Mrs. Miller have two children, a boy 5 months and a girl 2 years old.

MILLER, WILLIAM BYRON, '22, is Associate Range Examiner, U. S. Biological Survey (on leave due to illness—although progressing favorably). He is still married, but has no children. His permanent address is Stevenson, Washington; while his present is Fort Bayard, New Mexico.

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MITCHELL, WILLIAM W., '28, 1739 Eye St., N. W., Apt. 203, Washington, D. C. Branch of Research, U. S. Forest Service, Washington, D. C. Shy was in the library and among other things got out a bibliography on Selective Logging.

MORGANROTH, E. S., '32. U. S. Forest Service Office, Harrisonburg, Va. Technician doing Acquisition Examination work on the George Washington National Forest. Earl is making a trip to Idaho this June and plans to stop in and visit his old Alma Mater.

MOSS, VIRGIL D., '32, M.S. (For.) '33, 618 Realty Building, Spokane, Washington, is doing research work in Blister Rust Control — Chemical and Pathological problems.

MUNSON, O. C., '21. Supt. of Maintenance & Installations, Pacific Tel. & Tel. Co., San Jose, California. Oscar was recently relieved of his appendix. He reports possession of a summer camp in Big Basin Redwood Grove. How do you do it Oscar?

MYRICK, E. H., Ex-'17, U. S. Forest Service, Orofino, Idaho, is busier than ever this year, having a portion of the old Selway added to the Clearwater National Forest, of which he is Supervisor. As usual, he found time to attend the annual banquet.

NERO, EDWARD T., '23, 608 S. Stevens, Spokane, Washington. Ed is now District Forest Engineer for the Western Pine Assoc. Territory, State of Idaho. Ed gave the local boys a short talk this winter.

NETTLETON, H. I., M.S. (For.) '28. U. S. Indian Service, Mescalero, New Mexico. Harry was a visitor to our school this winter lining up a course to train Indians for positions in the forestry projects in the Indian Service

NEWCOMB, LAWRENCE S., '33, c/o the United States Forest Service, Sumatra, Florida. Larry has a Junior Forester appointment on the Apalachicola Forest with headquarters at Tallahassee. He is working on a timber survey. He writes: "I've seen a good many Florida girls which are catchy to the eye, but my advice to Western men is to bring them with you unless you feel that you are adept at learning to say 'you all', 'I done recon', etc."

NEWCOMER, FRED R., '31, Halsey, Nebraska. Fred was appointed Senior Forest Ranger on Bessey District of the Nebraska National Forest on August 1, 1934. Still married but no progeny as yet.

OLSON, OSCAR A. JR., '27, Meinrath and Company, 120 Wall Street, New York, N. Y. Is with Meinrath and Company handling sugar sales to manufacturers and others. He and Mrs. Olson have two boys, ages 2 and 4 years.

OPIE, ROBERT S., '34, U. S. Forest Service, Missoula, Montana. Bob has been married two months—no children. He is working for "Grazing" on Aerial Photography.

OTTER, FLOYD, '29, M.F. University of Michigan '33. Floyd is Instructor in Forestry here and seems to find plenty to keep him busy. Lawrence arrived on Feb. 20, being the second son to take up his abode with the Otters.

PAGE, MILFORD M., Ex-'28, Driggs, Idaho. Is working with the IERA as Project Engineer and likes the work fine. Has three red-headed children —like their dad.

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PARKER, JOHN W., '34, Robertson, Wyoming. Junior Forester, Wasatch Nat. Forest. John is on that old game of tie sale administration.

PARSONS, RUSSELL M., '23, Bureau of Highways, Coeur d'Alene, Idaho. Asst. Dist. Eng. Idaho Bureau of Highways.

PATRIE, C. R., '21, Colville Agency, Nespelem, Washington. Pat is happily married and has no children—1 dog, 3 cats, 1 canary and a bad disposition.

PECHANEC, JOSEPH F., '32. U. S. Forest Service, Ogden, Utah, is Jr. Range Examiner Technician with the Intermountain Forest and Range Experiment Station.

PIERSON, ROYALE K., M.S. (For.) '33. Division of Forest Pathology, Moscow, Idaho. Blister Rust investigations.

PIKE, GALEN W., '27 M.F. Yale '28. According to Charlie Fox, Pike is somewhere in the Black Hills.

PLUNGUIAN, MARK, M.S. (For.) '31, c/o Thomas and Hochwalt Laboratories, Inc., Dayton, Ohio. Mark received his Ph.D. from McGill University last fall and he is now employed as Research Chemist with the above corporation.

POTTER, ARTHUR, Ex-'26. Asst. Forest Supervisor Boise National Forest, Boise, Idaho.

PUGH, L. R., '26, Springston, Idaho. Sales manager for the Russell and Pugh Lumber Co.

REDMAN, E. E., '34. Grazing Department, Forest Service, Missoula, Montana. Technician on G Surveys. Still married but no children.

RENSHAW, EMERA W., '25, 403 Sharp Bldg., Lincoln, Nebraska. Nebraska Unit of the Shelterbelt project.

RICHARDS, HOD, '33, 826 Delaware, Bend, Oregon.

ROWE, PERCY B., '28 M.F. Yale, '30. California Forest Experiment Station, University of California, Berkley, California.

SAJOR, VALENTINE, '26 M.F. Yale, '27. Bureau of Forestry, Agricultural College, Loguna, Phillipine Islands. Has three little kids, two girls and one boy. Forester, Phil. For. Ser. and also Asst. Prof. of Range Management at their local School of Forestry.

SALING, WALLACE M. (Smoky), '28 M.S. (For.) '29, U.S. Forest Service, Oakley, Idaho. Senior Forest Ranger, Cassia, East Division, Minidoka Forest.

SARGEANT, HOWARD J., '30, c/o Bureau of Biological Survey, Washington, D. C.
Shorty still touring the U.S.—alone.

SAWIN, BRUCE E., Ex-'35, c/o Foresters, Proctorsville, Vermont.

SCHARTTZ, JERRY, Ranger Course '24. Box 13, Vail, Washington. Has been with the Weyerhaeuser Timber Co. quite some time now on loggin engineering and construction. Would like to hear from any of the old gang.

SCHUMAKER, FRANKLIN O., '31, 2011 Hill Ave., Alexandria, Louisiana. Frank is working for the U.S. Forest Service on land acquisition. Likes the Northern gals and Huey Long. In fact he likes 'em so well he married a girl from Yakima, Wash. last August.

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SCRIBNER, C. H., Ranger Course '24, St. Maries, Idaho. Ranger, Calder Dist. St. Joe.

SHANER, FRED W., Ranger Course '24. Is District Ranger at Kooskia, Idaho, in the Nez Perce National Forest. He was married in 1932 but has no children.

SHANK, PAUL J., '31, Heise, Idaho. Senior Forest Ranger, Targhee National Forest.

SNOW, E. A., '25, U. S. Forest Service, Monte Vista, Colorado. Forest Supervisor Rio Grande National Forest. Since July 1, 1934.

SOWDER, ARTHUR M., '25 M.S. (For.) '27, 100 Howe Street, Apartment 503, New Haven, Conn. Art is back at Yale working toward his Ph.D.

SPACE, J.W., '27, Glorieta, New Mexico. Senior Ranger Santa Fe National Forest. "Jack" is going to leave the Forest Service and go into the Fox Farm business. Says to come down and visit Ranchita del Cerros de Cedro.

SPACE, RALPH S., '25. U.S.F.S. Flathead National Forest. Assistant Supervisor, Kalispell, Montana.

SPENCE, LITER E., '28, M.S. (For.), California, '30. Moscow, Idaho. Liter is having plenty of fun this term handling 150 frosh in Dendrology. Seems to stand up under the strain very well, however, and keeps the waistline up to par. Business is good he reports—driving to school in a new Plymouth.

STANLEY, W. B., '30, 1107½ S. 3rd, Kelso, Washington. "Bill" is paymaster for the Weyerhaeuser Timber Co. Mills at Longview. Junior is one year old now.

STAPLES, H. W., '20. Moscow, Idaho. Howard is still raking in the cash over the marble slab in the First National Bank of Moscow.

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STILLINGER, C. ROY, Special '19, 618 Realty Building, Spokane, Washington. Roy is with the office of Blister Rust Control, the depression having hit his former connections pretty heavy.

STILWELL, CLARENCE E., '34, c/o U. S. Forest Service, Missoula, Montana. Clarence has a technician appointment in Region 1. He spent last summer and winter working on the North Idaho Fire Survey project for the Saint Joe National Forest. Clarence is still single but says that he believes in miracles.

STOUFFER, DAVID F., M.S. (For.) '32. U. S. Forest Service, Safford, Arizona. Dave has been doing Erosion Control work for the past four months and expects permanent appointment. Nice going Dave.

TAYLOR, CYPRIAN D. N., '32, Route 1, Nelson, British Columbia, Canada. Last we heard "Skipper" was still timbering in the Yankee Girl Mine at Ymir, B. C.

TOOLE, ARLIE W., '27. When last heard from was Assistant Forest Supervisor, Iowa Purchase Units, Ottumwa, Iowa. Recent word tells of Arlie's promotion to Shelterbelt work in North Dakota.

TOWNS, W. L., '34, Box 469, Madison, Wisconsin. Recently advanced to Technician with Biological Survey. Bill is now the proud fawtha of a boy, born March 9.

TUMILSON, FLOYD ORIVILLE, Ex-'35. Tumilson has been with the Soil Erosion Service, Pullman, Washington for about a year and a half now. He got married this winter.

WALRATH, F. J., '27. Is working as Project Sup't. at Vernon, Tennessee, with the E.C.W., doing fire protection work. He says that he has had 14 forest fires this month. (Feb.), and that fire season lasts until May. He has 9 foremen and 220 CCC's. He is married and has 2 children.

WELLNER, CHARLES A., '33. Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana. Chuck still staying with his old classmates and by some unknown power remains single.

WENDLE, REX, Ex-'30. Equipment Clerk Bureau of Highways, Coeur d'Alene, Idaho.

WHEATON, RODGERS G., '24 M.F. Yale '25, 631 White Street, Springfield, Mass. Salesman for Line Material Company.

WHITE, HAROLD Z., '26. Has the "same old job" as Supt. of Dry Kilns, Potlatch Forests, Inc., Lewiston, Idaho. He is still married, and has a daughter 2 years old.

WIESEHUEGEL, ERWIN G., M.S. (For.) '29, c/o Ohio State University, Forestry Department, Columbus, Ohio. Far as we know "Wiese" is still Professor of Forestry at that school, and making more friends every day.

WILLIAMS, G. V., '27. The Mountain States Tel. & Tel. Co., Twin Falls, Idaho.

WOODWARD, DOREN E., '30. Bureau of Biological Survey, Washington, D. C. Has been temporarily detailed to Madison, Wisconsin to direct examination and negotiation work for the lands in the Migratory Waterfowl Refuge Program in the states of Wisconsin, Minnesota, and Michigan.

YOUNGBLOOD, FRANK, Ranger Course '23. Dist. Ranger, Weiser National Forest, Council, Idaho.

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ACKNOWLEDGMENTS

We wish to take this opportunity to express our thanks to all parties concerned with the publication of this year's IDAHO FORESTER. The cut appearing on the title page was loaned through the courtesy of the American Forestry Association. The photograph from which the Feature Article title page was devised was loaned by the National Park Service.

For their many helpful suggestion we extend our thanks to the members of the Publication staff of the University of Idaho and to Mr. P. B. Blake of the Bailey-Blake Printing Company of Lewiston, Idaho, our publishers.

INDEX TO ADVERTISERS

The members of the Editorial Staff of The Idaho Forester wish to take this opportunity to express their appreciation for the hearty support given them by the advertisers. We have endeavored to publish a booklet of such high standard as to merit future support from these advertisers. We wish to encourage our readers to patronize our advertisers. In writing to advertisers, please mention The Idaho Forester.

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