

The cover of 'The Idaho Forester' journal features a dark blue background with intricate white cutouts of a forest scene. The cutouts show tall evergreen trees, a mountain range in the distance, a body of water, and a person riding a horse in the foreground. The title 'The IDAHO FORESTER' is printed in a serif font within a white rectangular frame at the top. The volume and year information, 'VOL. XVI 1934', is printed in a smaller serif font in the center of the cover.

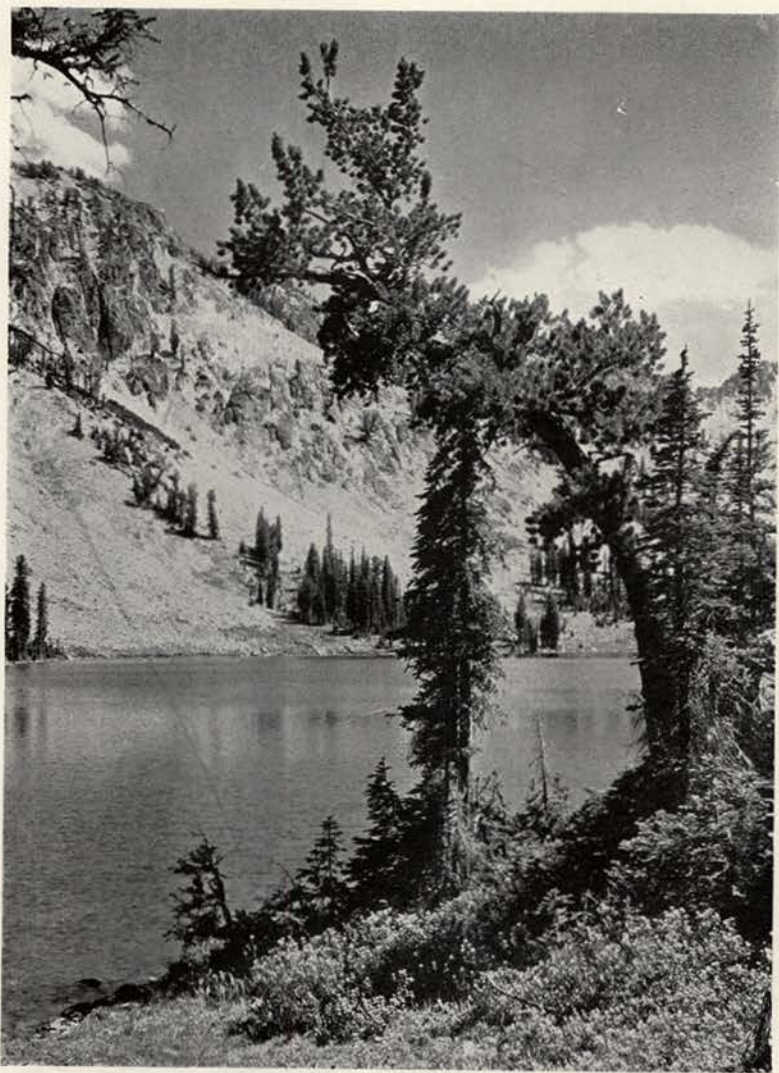
The IDAHO
FORESTER

V. Behre

VOL. XVI
1934



"Here We Have Idaho"



Alice Lake, in the Sawtooth Mountains, Idaho

THE IDAHO FORESTER

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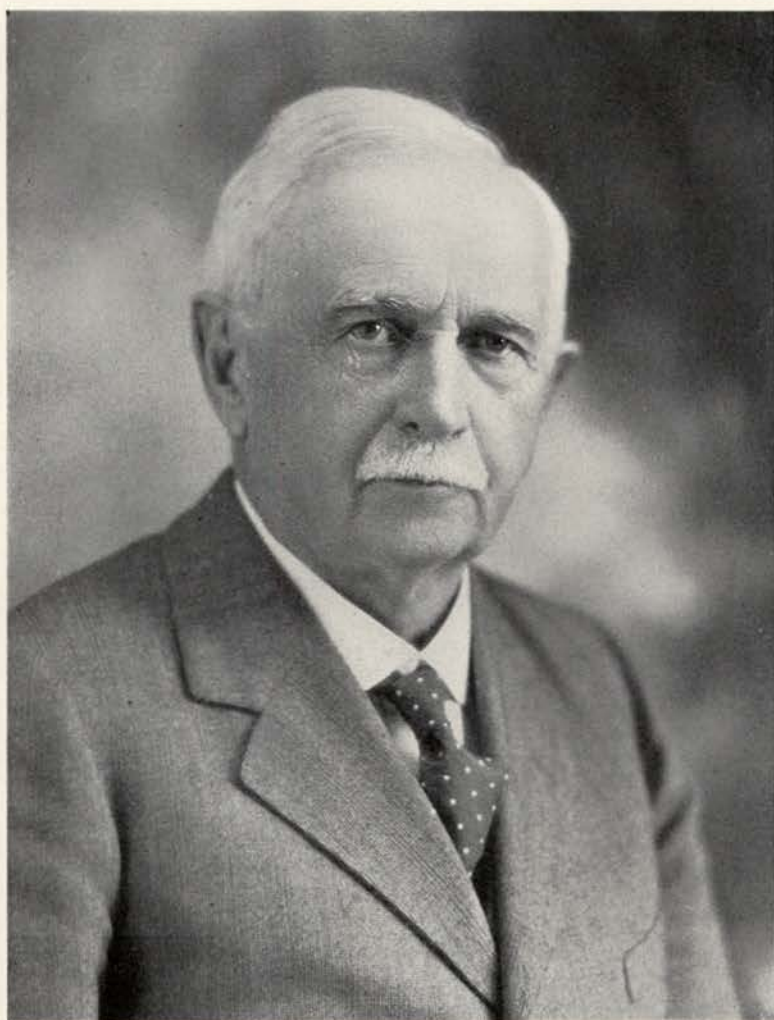
VOLUME XVI

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ANNUAL EDITION

CONTENTS

	Page
Scene on the University of Idaho Campus	1
Alice Lake and "The Harp," Sawtooth Mountains, Southern Idaho.....	2
Dedication, Dr. E. A. Bryan	4
Forestry Education in Idaho, by Dr. E. A. Bryan	5
Francis Garner Miller	6
The Great Fire of Idaho, by W. G. Weigle	8
Toward a University Forest on Moscow Mountain, by Dr. M. G. Neale	12
Developing the Moscow Mountain Experimental Forest, by Floyd L. Otter.....	16
University Has Historical Pen	18
Forestry in Relation to Game Conservation, by Major E. A. Goldman	19
The School of Forestry—A Quarter Century of Progress, by Dr. E. E. Hubert..	21
Notes on the Origin of American Forests, by T. R. Ashlee and F. B. Laney....	23
Moisture Content, by Harold Z. White	25
"Here We Have Idaho"	25
Acting Dean Appointed	26
New Instructor on Forestry Staff	26
Class of 1934	27
Graduate Class of 1934	28
Charles Houston Shattuck Arboretum	28
The Associated Foresters, by Henry Ziminski	29
Here and There (Field Trip Pictures)	30
Xi Sigma Pi, by John J. McNair	31
Quarter Century of Service to the University (C. L. Price)	32
The Eighteenth Annual Banquet, by Leon F. Nadeau	33
Junior Field Trip Pictures	34
Junior Field Trip, by Wm. Towns and John Parker	35
The 1933 Big Creek Bath, by Elliott Redman	36
Song for the Idaho Foresters, by Stanley Foss Bartlett	36
Blister Rust Laboratories Maintained at School of Forestry	37
Forestry at the Southern Branch, University of Idaho, by Chas. M. Genaux.....	38
Activities of the Southern Idaho Foresters, by Howard Campbell	38
Foresters' Exhibit Proves Interesting (Engineers' Day), by John Hays.....	39
Eleventh Annual Barbecue, by Charles Brown	40
Prize Winner Now Studying Forestry	41
C. C. C. in Idaho	42
Society Meets at School of Forestry	43
Directory and News of Alumni and Former Students, by Floyd L. Otter	50
Index to Advertisers	64
Appreciation	64



DEDICATION

To Dr. E. A. Bryan, who as Idaho Commissioner of Education, succeeded in calling our late and beloved Dean Francis Garner Miller to the University of Idaho in 1917, this edition of The Idaho Forester is gratefully dedicated.

FORESTRY EDUCATION IN IDAHO

E. A. BRYAN*

President Emeritus, State College of Washington

THE most important thing in the Idaho School of Forestry which I have observed from the outside looking in, and which might be slightly different from the inside looking out, is the degree of coordination which it has been able to effect not only in the School itself but amongst all of the interests or agencies centering in or affected by forestry. Such a consummation is not the work of a moment but is the result of years of wise adjustment and readjustment of all the elements.

Within the School itself, I have heard Dean Miller say, "I would have my students become forestry-minded and for that reason I wish them, early in their career, to have close contact with forestry courses and with the forests themselves." As a result of this I have observed among the members of the School of Forestry a "forest consciousness," which is characteristic not merely of classmates but of all men of the several college generations. It resembles the tie which may be seen in men belonging to the same church or regiment of soldiers and does not end with the close of the college year or with graduation. Without doubt not only the curriculum but the organization of the School itself—the clubs, The Idaho Forester—contribute to the development of this common characteristic.

Nature has done much for the Idaho School of Forestry. The Yale School of Forestry has been famous, and yet it must be handicapped by its distance from the most important problems of the forester. Moscow, the seat of the University of Idaho, is located in the center of 40,000 square miles of natural forests. Not only so but it is land that for the greater part should forever remain forest lands. The mountainous character of the terrain, its supply of moisture, the dependence of lower levels upon it for water supply, the proximity of deposits of the precious and useful minerals make the region where in all times to come the wise conservation of the forests is essential to the welfare of its inhabitants and those of other regions dependent upon it.

It may be due to this fact that the University, fully realizing its broader mission to humanity, has planned and promoted the coordination of many interests in connection with its School of Forestry. As every such school, it has a deep interest in the career of its students. It is pleased to see them get through their student days successfully in their grades, in social relations, in their economical living. It is glad to see each of them get a job, especially if in connection with forestry work, and start off on the road to a prosperous living. It notes with careful attention the promotion made in the profession. But it is keenly aware of the fact that the full mission of the School is not fulfilled by attention to these local and personal details.

Forestry, as a business, makes a strong appeal in this rapidly growing nation to the rugged business man who too often in the past has felt

*Dr. Bryan was Idaho's Commissioner of Education for the years 1917 to 1923.

that "the chief end of man is to make money." Yet the School of Forestry for many years has felt that cooperation with forest production was essential to the accomplishment of its mission. Such cooperation has had an important place in its program and with excellent results.

The State of Idaho is incidentally charged with the sale and management of much timber land, belonging to the University and other State institutions. The protection of such land from the ravages of fire, insects and other losses is a duty from which no trustee can escape. The role of the School of Forestry is an important one and has been carried out with a restraint and a wisdom truly admirable. The cooperation of the School of Forestry with the State has been remarkable and is a source of strength.

The department in charge of the forest management of the United States, now well organized, represents the interests of the United States not only in particular pieces of timber, useful for lumber, poles, piles and other forest products, but extends to the whole relation of the forest cover to the national welfare. It is therefore highly desirable that there be a sympathetic understanding and an active cooperation between this department and the School of Forestry.

The laws of the State of Idaho and the rules of the forestry department of the United States have recognized the common interest involved and have enacted legislation in many respects serving as a model for such laws, which have brought about successful cooperative action among the parties in interest. There can be no doubt that the cooperation, especially in the matter of fire protection and control, between the timber interests, private owner, the State, and the United States Forest Service has been largely brought about through the wise planning of the School of Forestry. Meanwhile, through it all, the public is gradually educated on the same subject.

But this is not all. The cooperation must go much further. The state has a vast store of wealth in its water power. There is a mile of drop and more in the waters of eastern Idaho and where they leave its western borders. This spells power and irrigation. The teaching of the necessity of the preservation of the forest cover must extend from the School to every citizen of the state. The catching and holding of the snow and ice, the beneficial use of all waters, and the wastage of none became a part of the program. The relation of the conservation of the forests whether made up of lumber trees or chaparral, brush and weeds, to the livestock industry throws a responsibility on the School of Forestry which must extend far beyond the walls of the class room. Economical methods of production and the prevention of wastage heretofore utterly neglected became a duty of the School.

The forest is the home of fish and fowl and the hiding place of game and fur bearing animals, and besides all this the forests of Idaho, with its wild picturesqueness, its mountains, its gorges,

(Continued on page 49)

FRANCIS GARNER MILLER

IT is with inexpressible sorrow that we have announced to Dean Miller's boys that his office chair is empty. We, his students, were his life's work, and it is with more than common depth of feeling that we realize our loss. The door of his office was always open, and he was never too busy to come forward to greet us with that warm handclasp of welcome.

Dean Miller was born at Lanark, Illinois, June 2, 1866, the son of Isaiah and Isabel Jane Miller. In 1893 he was graduated from the Iowa State Teachers' College, and served as superintendent of public schools in Iowa from 1893 to 1899. He was graduated from the University of Iowa in 1900. He received the Bachelor of Science degree from Iowa State College in 1901, and the degree of Master of Forestry from Yale University in 1903. He married Evelyn Depew Miller September 15, 1906, in Kansas City, Missouri. From 1903 to 1907 he served as professor of forestry at the University of Nebraska, during which time he was also associated with the Forest Service of the United States Department of Agriculture.

In 1907 he organized the College of Forestry of the University of Washington at Seattle, and retained the deanship until 1912, when he entered a business enterprise. In recognition of his services at the University of Washington, an Elm tree was planted on the campus and suitably dedicated by the University of Washington faculty and students in June, 1912.

CAME TO IDAHO IN 1917

He was induced to return to forestry in 1915, when he became head of the forestry department of the State College of Washington, Pullman, where he remained until 1917. In the fall of that year (1917) he became dean of the School of Forestry, University of Idaho, when the department was organized as a separate division of the University.

Dean Miller was very prominent in professional forestry circles and belonged to many forestry and scientific associations. He was a fellow in the American Association for the Advancement of Science; a member of Sigma Xi, national science

group; Xi Sigma Pi, honorary forestry; and Alpha Zeta, honorary agriculture. He was also a member of Delta Chi, social fraternity, and of the American Association of University Professors. He was active in the Society of American Foresters and in the American Forestry Association. As chairman of the Board of Trustees of the Northwest Scientific Association, he had recently completed a most thorough survey of the research needs of the Inland Empire. He

served continuously on the Idaho State Cooperative Board of Forestry since its inception and has been a prominent contributor to various technical journals on forestry topics. In 1929 Dean Miller was appointed representative for the United States by the American-Canadian International Joint Commission to investigate damage to timber and farm crops in northeastern Washington caused by fumes from Canadian smelter mills.

During 1932 he was given his sabbatical leave of absence from the University and with Mrs. Miller traveled abroad, where Dean Miller made a detailed and intensive study of European forestry practices, bringing back information invaluable to the Idaho School of Forestry and the forestry profession in general. He has been listed in "Who's Who in America" since 1905, and

in "American Men of Science" since shortly thereafter.

Dean Miller was a devoted and active Christian. His rugged health was exemplified in that for over 43 years he never missed an appointment on account of illness. Persistent devotion to duty, taxing his system to carry on, resulted in a weakened heart, and aggravated by a severe cold contracted late in February, Dean Miller's earthly career was closed the morning of March 8, 1934, at the age of sixty-seven years. He met his classes up to the day before he consented to go to a hospital for a brief rest beginning February 28. The last few weeks in his office he was especially busy in bringing to a successful consummation certain steps leading to the consolidation and administration of the new school forest mentioned elsewhere in this publication.

UNIVERSITY HOLDS SERVICES

An impressive memorial service was held in



Francis Garner Miller

1866 to 1934

the University Auditorium, Friday afternoon, March 9, at which, very fittingly, the members of the senior class in forest management were the active pallbearers. The deans of the various divisions of the University were the honorary pallbearers. Interment was in Washelli Cemetery, Seattle, the following afternoon. He is survived by Mrs. Miller, one brother and six sisters.

Dean Miller's complete unselfishness, absolute honesty, and the confidence he placed in any man working with him are ideals that will remain with us always. His success may be attributed in no small measure to that capacity for taking infinite pains that so characterized his work, and to his uncommon insight into his own problems and those of his associates.

The profession of forestry has lost one of its most able members; the State of Idaho, a man who knew its forestry needs; the School of Forestry the man who raised it to national prominence; and its alumni and students, the most patient teacher, the wisest counsellor, the truest friend that any body of young men ever had. He was ever alert to the future of his boys, and aided them often, unbeknown to the individuals concerned. May we strive to carry forward his principles of forestry and his ideals of living.

MANY TRIBUTES SENT IN

Messages of condolence have been received from all over the United States, from colleagues in the profession, from leaders in the lumber industry, from alumni and students, and from parents of his "boys." Among these are tributes from: James R. Angell, President of Yale University; F. A. Silcox, United States Forester; Henry S. Graves, Dean of the Yale University School of Forestry; Dr. E. A. Bryan, President Emeritus of the State College of Washington; Dean E. A. Howes of the University of Alberta, Canada; R. H. Rutledge, Regional Forester, Ogden, Utah; Dean Hugo Winkenwerder, College of Forestry, and Acting President of the University of Washington, Seattle; Dean George W. Peavy, College of Forestry, and Acting President of the Oregon State College; George M. Cornwall, Editor of "The Timberman," Portland; Dr. Henry Schmitz, Head of the Division of

Forestry of the University of Minnesota; C. Edward Behre, Director of the Northeastern Forest Experiment Station, New Haven, Connecticut; Charles Lathrop Pack, President American Forestry Association, Washington, D. C.; Major Eyan W. Kelley, Regional Forester, Missoula, Montana; Huntington Taylor, General Manager, Crater Lake Lumber Company, Sprague River, Oregon, and former regent of University of Idaho; Dean Samuel N. Spring, New York State College of Forestry, Syracuse, New York; and F. N. McGrath, of the International Joint Commission, Ottawa, Canada.

Resolutions conveying tributes were received from: North Idaho Forestry Association, Lewiston, Idaho; North Idaho Division Western Pine Association, Coeur d'Alene, Idaho; Inter-mountain Section of the Society of American Foresters; Forest Products Laboratory, Madison, Wisconsin; Lake States Forest Experiment Station, St. Paul, Minnesota; Xi Sigma Pi National Council; University of Washington Faculty; and Northern Rocky Mountain Section, Society of American Foresters.

Following are some of the comments made regarding the loss of Dean Miller:

"I have always admired his fine personality and character. Professionally, he stood among the ablest and wisest of foresters. His departure leaves a gap in our ranks which will not be filled."

"Dean Miller was a pioneer in the field of forestry. I have attended many troubled meetings where he was present and his quiet, well thought-out conclusions were usually the ones that prevailed. He has had a long life of service to young men. All his boys look back to him with great love and respect. He has been a force for good."

"Dean Miller was a very outstanding man and so modest that many people did not realize the real work which he had done for the University of Idaho, and the standing which he had. Also, as a man, he had a very keen and subtle sense of humor, which was very much out of the ordinary. I was extremely fond of him personally,

(Continued on page 39)



DEAN MILLER

True, his office chair is empty
And his gentle voice is still,
But a footstep's in the forest
And a murmur's on the hill—
Men may bow their heads in sorrow
At his passing, and the trees
Dip their softly sighing branches,
Whisper sadly in the breeze—
But "his boys" will lift their faces,
Be the woodland green or razed,
And march bravely with his spirit
Up along the trail he blazed.

Stanley Foss Bartlett.



THE GREAT FIRE OF IDAHO

W. G. WEIGLE*

Superintendent of State Parks for the State of Washington

THE year 1910 will go down in Idaho forest fire history as being the most disastrous experienced to date with respect to loss of human life and timber. In early spring of that year forest fires of ordinary consequence began burning in various parts of northern Idaho and continued throughout the early summer but almost always under control, until on Saturday and Sunday, August 20 and 21, when they developed into one huge conflagration of more than a million acres in extent raging in northern Idaho and a portion of western Montana and costing the lives of 81 human beings, 30 horses, unknown numbers of wild animals, birds, and fish, as well as destroying approximately two billion feet of Idaho's fine timber stands.

All that remains to mark this disaster besides the thousands of acres of fire swept land is the memorial burial ground of the men who gave up their lives combating the flames of the great fire which finally caused their death. A large marble monument bearing a suitably engraved plaque stands as a silent sentinel in the center of a circle of tombstones which designate the individual graves of the gallant fire fighters. This burial ground is located at St. Maries, Idaho, and was established by the United States government in 1924.

From early spring of this fatal year of 1910, northern Idaho had experienced one of the driest seasons known to the pioneers of that region. With the exception of a few light showers, no rain had fallen since early in April and, instead of being calm, high winds prevailed throughout the early summer, thus drying out the forests more than usual.

Even in May forest fires began burning on the lower slopes, which was two months in advance of the usual dry season, and the increase in the number of fires through June was large but the forest rangers with small amount of help were able to extinguish or keep under control all the fires up to the latter part of July. During July, however, the fires became so numerous that it was difficult to properly man them even after they were placed under control.

ELECTRIC STORM AIDS SPREAD

A severe electric storm, unaccompanied by rain, passed over the Coeur d'Alene forest area the evening of July 26. During the three days following this storm, 52 lightning fires were extinguished and many others discovered but which could not be reached in time to keep them from

*Mr. Weigle served the Federal Government for many years in the U. S. Forest Service. After graduating from the School of Forestry, Yale University, in 1904, he served as Assistant Chief of Forest Management at Washington D. C. in 1907 and 1908. He became Supervisor of the Coeur d'Alene National Forest (including the present St. Joe) in Idaho from 1908 to 1911, and was Superintendent of the Alaska National Forest, for the period 1911 to 1919. From this date until 1933 he was Supervisor of the Snoqualmie National Forest, Washington. Mr. Weigle retired from the Forest Service March 1, 1933, at which time he took up his present work.

spreading. As a result, 22 large fires had developed by August first on the Coeur d'Alene Forest alone, and by August 15 there were slightly over 1800 men scattered over 100 miles of fire line on these fires, including two companies of federal troops stationed near Wallace, Idaho.

There were no roads and few trails and telephone lines for communication with the fire lines were practically nil. To take the place of telephones, runners were necessary to keep the supervisor's office advised as to the progress of the fires and needs of the crews. Many of the crews were 25 to 60 miles from the nearest supply station and to feed this large number of men scattered along the slopes of rugged mountains with only a very small supply of equipment and pack horses available was more of a job than the uninitiated might think. Pack stock was called in from adjacent regions and warehouses were kept open all night so that the animals could be loaded and on their way without delay. By August 18 we had control lines around practically all big fires on the Coeur d'Alene National Forest and conditions looked as though we would be able to hold these lines. And this would have been the case with usual weather conditions, but the days of August 19, 20 and 21 were ones of exceptionally low humidity and consequently very favorable for forest fires.

The morning of August 20 a very strong, dry wind blowing from the southwest, laden with fine particles of soil from the hot wheat fields of southern Washington, carried burning bark for long distances, thus starting many new fires all over the forest. The nearest fire was five miles in a straight line from Wallace, yet the high wind carried burning bark to the town, setting awnings on fire. By afternoon this wind reached hurricane proportions, blowing down thousands of acres of timber, piling the trees like jack straws so that fire lines were useless and men had to seek protection wherever it was to be found. Many large trees were literally picked up roots and all and carried from 50 to 100 feet. The experiences of the fire fighters and others endeavoring to combat and to escape from the flames of this raging furnace and in attempting the rescue of comrades caught in the path of the flames cannot be passed over lightly.

RANGER PULASKI A HERO

One of the best all around woodsmen I have ever met was Ranger Pulaski who had a crew of about 100 men stationed eight miles south of Wallace. Pulaski with 40 of his men on one position of the fire suddenly discovered he was cut off from the rest of the crew and that he soon might be surrounded by flames. Pulaski realized that his men had to get out of that place quickly or be burned to death. Conditions looked favorable in the direction of Wallace, so they started for the town. They would have been able to have kept ahead of the fire following them, but they ran into a new fire which had started ahead of them.

Their avenue of escape toward Wallace was cut off by this new fire. Fortunately Pulaski was thoroughly acquainted with the country so knew of the "War Eagle" prospect tunnel which was about three miles south of Wallace. He believed his men would be saved if this tunnel could be reached. He started for the tunnel and, although the men had to pass through the fire in numerous places, they protected their faces with wet coats and blankets. The tunnel was finally reached but

This retarded the fire sufficiently to prevent the ground from caving in to close up the mouth of the tunnel. The smoke and heat in the tunnel were becoming unbearable. Pulaski ordered the men to lie down with faces to the ground because there was least smoke there. One man attempted to rush out of the tunnel, which would have meant almost instant death. Pulaski saved his life by commanding him at the point of a revolver to lie down. Pulaski continued to throw water



A Typical Forest Fire in the Process of "Boiling Up."

the fire had also started to burn around the mouth of the tunnel. One man who lagged behind was caught by the fire before he reached the tunnel and was burned to death. The tunnel, which was about 100 feet long, had sufficient space for the 40 men and two horses. The terrific fire, however, soon drew the cold air out of the tunnel and the smoke and heated air lacking the necessary oxygen rushed in to take its place.

Pulaski tried to prevent this circulation and to protect the men by hanging wet blankets at the mouth of the tunnel but the terrific heat soon burned the blankets. The timbers of the tunnel then caught fire. Pulaski carried water in his hat from a small stream on the floor of the tunnel to throw on the burning mine timbers.

on the timbers until he fell over exhausted, nearly suffocated and badly burned. One man who had kept his face on the ground all the time finally regained consciousness after about three hours, and crawled out of the tunnel over what he thought to be the dead bodies of the other men. By this time the worst of the fire was over. He staggered into Wallace and reported the location of the men and stated that he was the only one of the 40 who had survived.

This man reached Wallace, which was then on fire, about 3:00 a. m. and reported to me at once. I immediately organized a rescue party which set out for the tunnel, the fire by this time having burned over the whole valley and died down, so that it was not difficult to reach the

place. Not all of the men had perished, however. When the rescue party arrived, they found a few of the men had regained consciousness. Others soon recovered when carried out into the air. Five however were dead. All survivors were taken to the Wallace hospital, where most of them recovered in a short time, while some remained in the hospital for several weeks. The two horses that had been taken into the tunnel were so badly burned that they were shot by the rescue party.

The rest of Pulaski's original crew of 100 men went up a steep mountain peak above the heavy timber and were safe. They had the opportunity of watching below them one of the most spectacular displays of fire that ever took place.

RANGER BELL SHOWS PLUCK

Another crew of 50 men under Ranger Bell was fighting the fire on Big Creek, about 17 miles south of Wallace. When Bell learned that he and his men were entirely surrounded by the flaming forest, he gathered his men into the Beauchamp homestead, which consisted of a cabin and about one-half acre of cleared land in the midst of the heavy timber. While he knew this was a poor place, it was the best that could be had. Before the fire reached the little cabin, however, three of his men were killed by a large white pine tree which blew down. The wall of roaring flames closed in on the little homestead, destroying the cabin and burning to death the homesteader and seven of Bell's crew. The remainder of the crew got into the creek and lay with their faces buried in the water, while the hair burned off the back of their heads and burned to a crisp the skin on their heads and necks. As their clothing caught on fire they wriggled into the shallow water and extinguished the fire. At the same time that they were being sizzled by the fire, they were being mentally and physically tortured by large numbers of burning trees falling crisscross over the stream where they were lying, and only the stream's banks although very low prevented the men from being crushed to death.

The forest trails were quickly closed by thousands of fallen trees but one of Bell's men, who was least injured, worked his way over hot ashes and fallen timbers for 17 miles into Wallace and reported conditions. We immediately secured two doctors and a crew of men who shouldered packs of medical supplies, blankets and provisions and made their way to the burned men. A day and night crew were immediately set to work cutting out the trail leading from Wallace to Big Creek. This job was completed in four days and the injured men were then brought to the hospital on horses.

HOLLINGSHEAD SAVES MOST OF HIS CREW

Ranger Hollingshead also had a crew of 60 men on Big Creek about 22 miles southwest of Wallace. On the afternoon of August 20, new fires were starting all around him and he gathered his men together and told them that it was time they were getting into a safer place and that it seemed better for them to travel through the recently burned area south to the St. Joe River than to go north into the green timber on account of the possibility of fire spreading over the un-

burned region north of them. Forty-one of his men accepted his advice and followed him through the burned area. While there was still great danger from the fires and falling snags, they arrived safely at the St. Joe River the next morning. They suffered badly from burned feet and were nearly dead from exhaustion. The 19 men who refused to follow the ranger's instructions went north to what was locally known as the Dittman cabin, where, in the midst of heavy timber, there was a small cleared area around the cabin. Here they decided to make their stand as there was a wall of flames in every direction. They carried tubs and pails of water into the cabin with which they hoped to keep the cabin from burning. When the fire neared the cabin, the heat became so intense the men were compelled to go into the building, which soon caught fire and the small amount of water which they had stored was of little value. The men remained in the cabin until the burning roof fell in, when they rushed out hoping to find some means of escape, but 18 out of the 19 perished within 100 feet of the cabin, where their bodies were so severely burned that they could not be recognized. When the bodies were found a few days later, the 18 men, five horses and two black bears were all close together.

The nineteenth man happened to find a weak place in the wall of flames and made a miraculous escape. He stated that he stumbled and fell right into the flames but somehow rolled through. After getting out of the fire, he rolled on the ground to extinguish his burning clothing. Without anything to eat, he wandered through the burned area in a southerly direction for three days, coming out near St. Joe, Idaho, more nearly dead than alive. His appearance after spending six weeks in the St. Joe hospital indicated that practically all of the skin had been burned off his hands and face.

RANGER DEBITT RESCUES MEN WHO HEED HIM

A crew of 100 men working on Setzer Creek, north of the St. Joe River, was working under Ranger Debitt. Debitt warned them of the great danger and ordered them to go out to the St. Joe River. All but 28 of the men went out and were saved. The 28 men who remained were all burned into an unrecognizable mass and were later temporarily burned where they fell.

RANGER ROCK BACKFIRES TO SAVE HIS CREW

When Ranger Rock discovered he and his crew of 125 men stationed between Wallace and the St. Joe River were being surrounded by the fire, he led his men to what he considered a fairly safe place then backfired, burning over a large area around them. When the main fire approached, the fire again passed over the area that had been backfired, but the first fire had taken much of the fuel, therefore the second fire was not sufficiently severe to do great harm. All were saved but one man, who shot himself presumably on account of an insane fear of burning to death.

RANGERS DANIELSON AND MYERS SAVE THEIR MEN

Backfiring was also resorted to by Rangers Danielson and Myers in an effort to save their crew which was fighting the fire near the Idaho-Montana line about 10 miles east of Wallace.

However, when the main fire approached, it came with such force that it swept right over the recently burned area and soon reached the men. They had blankets and quilts with them which they threw over their heads and which more or less protected them from the flames for the instant, but the quilts soon caught fire and burned. One of the men had two woolen blankets which he separated and used to cover the whole crew, which consisted of 18 men. These woolen blankets served as sufficient protection to save their lives, with the exception of one who had evidently inhaled the flames and who fell dead on the spot where they had made their desperate stand. These men were so badly injured that they were carried out to the Northern Pacific railroad on stretchers. A special train awaited them and carried them to where a large trestle had burned out. They were carried around the trestle to another special train which brought

the women and children could be moved on short notice.

About 4:00 o'clock that afternoon I went up Placer Creek to gain first hand information on the progress of the fire, so that I might advise the railroad officials as to a course of action. When I got about five miles up the canyon, I noticed the fire had taken a new life and was burning at a terrific rate. Great columns of black pine smoke above the tops of the trees would explode into flame and send a swirling, swishing column of fire hundreds of feet into the air. A new fire was now raging on the hill close to Wallace, which indicated that the town was in great danger. I started down the canyon to notify the town that it was time for the women and children to leave. About three miles from town I met a man with a two-horse carriage who was driving up the canyon to get his family away from their little homestead about a mile



MEMORIAL BURIAL GROUND

The memorial cemetery at St. Maries has always been maintained in excellent condition. At the time the above picture was taken (May, 1933) the grounds were being landscaped. The government has recently enlarged the area and now uses this as a burial ground for fire fighters and others who have lost their lives while in the employ of the Forest Service since 1910.

them to the hospital at Wallace. Although they were all very badly burned, their chief distress was in their lungs. They all finally recovered.

MINE TUNNELS SAVE MEN

A large crew of men fighting that section of the fire near the Bullion mine on the Idaho-Montana line between Wallace and Saltese sought shelter from the roaring furnace in one of the tunnels of this abandoned mine. Those of the men who went into the tunnel sufficiently far to get beyond a ventilating shaft had little difficulty in surviving the fire, but the remainder of the crew, consisting of eight men, who failed to pass the ventilating shaft were all suffocated.

Other large crews under Deputy Supervisor Haines and Rangers Allen, Derrick, Kottkey, Fearn and Halm protected themselves through this terrible fire by getting into the river or by backfiring.

The O. W. R. & N. railway officials, at the request of the Wallace citizens and on advice of the Forest Service, kept a train in readiness all afternoon of August 20 so that at a given signal

farther up the stream. The man's progress was stopped by trees that had recently been blown across the road. He was ill and scarcely able to walk, therefore implored me to help him save his family. On account of the fallen timber I had left my horse on the Wallace side, so I ran back to the homestead, hoping to bring his family down to him. But when I reached the place I found several of my men had sought shelter there, and although the barn had already been burned, they were pouring water on the house. I knew from this and with the cleared space about the house that his family was safe, so I immediately returned without them.

Before I could reach the place where I had left the man the fire swooped down the mountain with a roar that could be heard for miles. Great tongues of flames crossing the road cut me off from the man and also from my horse. Being well acquainted with the region, I knew of a small prospect tunnel about a half mile up the canyon from where the fire had crossed the

(Continued on page 45)

TOWARD A UNIVERSITY FOREST ON MOSCOW MOUNTAIN

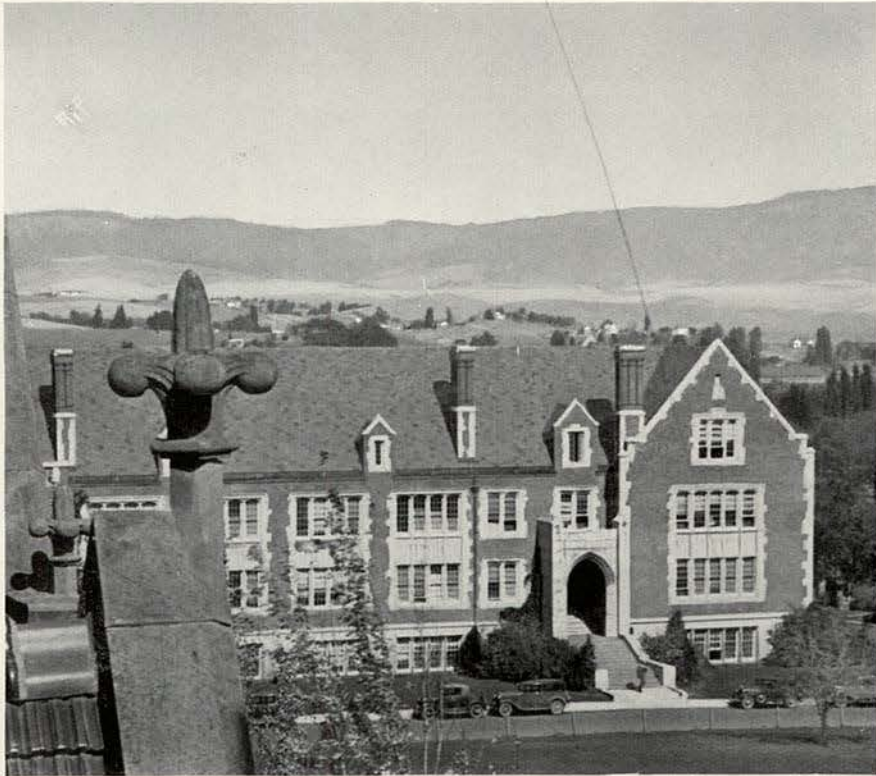
DR. M. G. NEALE, President
University of Idaho

WITH the approval of the United States Senate, House Bill No. 7425 goes to the President for his signature. When the bill is signed by the President,* the first step toward the establishment of a permanent and adequate experimental forest for the School of Forestry of the University of Idaho will be completed. This bill was introduced in the House of Representatives by the Honorable Compton I. White, congressman from the First District of Idaho, and was pushed by him with unusual zeal and energy.

the State of Idaho have talked of the possibilities of making the Moscow Mountain area into a national forest. These people have thought of the recreational possibilities of this region, of its value as a refuge for wild life, and of the purposes it would serve if properly maintained as a source of timber supply for this section of the State.

DEAN MILLER HOPED FOR FOREST LANDS

The late Dean Miller had in mind from the



Science Hall, University of Idaho Campus, with the Future University Forest in the background

The first effect of this bill is to establish a national forest in the Moscow Mountain area, running from a point approximately six miles due north of the eastern boundary of the town of Moscow to within four miles of Bovill. The reserve is approximately 24 miles in length and more than seven miles in width in its widest place. It includes approximately 63,600 acres of land. The accompanying photograph shows a view of the western end of this reserve from the Administration Building.

Several people formerly connected with the University and many citizens of this section of

very beginning of his period of service as dean of the School of Forestry the use of a large tract of land for instructional and experimental purposes. In his first formal report covering the biennium 1917-1918, he made the following recommendation:

"As soon as it can be brought about, a portion of the University timber lands should be set aside for the use of the School as a demonstration forest, where experiments in the treatment and care of forest lands could be conducted. Such a forest would stand in the same relation to forestry that the agricultural experiment station stands to agriculture, and in time would furnish reliable data

*The President signed the bill on April 30, 1934.

for the solution of the various problems met with in perpetuating timber production."

It was six years, however, before the first step was taken in the direction of securing this land. This step came through the renting of a section which had been granted to the University by the Federal Government. Progress with this tract of land was, however, very slow and in 1926 Dean Miller said in his report: "No funds have yet been available for the improvement of the demonstration forest and work to this end should be started as soon as possible."

By 1929 he felt that the rented section of University land on Moscow Mountain could not be adequate for the needs of the rapidly growing School of Forestry and for the wider scope of work on behalf of forestry which he felt needed to be undertaken. In his report for 1928 he said "More experimental forest areas are essential."

POTLATCH FORESTS GRANT LANDS

In the year 1930 arrangements were completed with the U. S. Forest Service for the use of a tract containing about 5,000 acres in the Palouse Division of the St. Joe National Forest. This tract provided good facilities for field laboratory and outdoor research in forestry. It is approximately 42 miles from the University. Although granted an official permit to use this forest for experimental purposes, Dean Miller felt that it could not serve the purposes which could be served by a tract of land owned by the University. It was ideal for the study of certain field problems, but the distance from the University made it impossible to make full use of the land for instructional purposes.

A further step in the direction of the type of demonstration and experimental forest which he had in mind was made possible by the grant to the University in 1932 of 3,646 acres of land by the Potlatch Forests, Incorporated. The location of this land is shown on the accompanying map. The acquisition of this land stimulated Dean Miller to greater interest than he had ever had before in the ultimate allotment of all the forest land in the Moscow Mountain Area to serve as a laboratory for the School of Forestry. The U. S. Forest Service gave him most excellent cooperation in the development of plans for such a forest and as he worked on the plans, he came to have a larger conception than he had ever had before of what such a tract of land would do for the University and the State.*

He saw it as a place where people of the State might see the advantages of a definite policy of sustained yield. In recent years he saw all the more clearly how the State might gain from a demonstration of the advantages that would come from a consolidation of all the forest properties in the State into units suitable for a scientific and business-like type of forest administration.

ENTIRE STATE TO BENEFIT

When he talked of the advantages that could come to the people of the State through a solution of the forestry problems which might be

worked out in this area, he showed a type of enthusiasm that amounted almost to excitement. He could see in his mind how the establishment of a University forest would help the School of Forestry of the University of Idaho to grow into one of the most effective institutions for the study of forestry in the United States; and believing as he did in the contribution which the forests of Idaho might make to the economic welfare of the State, he looked on the establishment of this forest as a matter of supreme importance.

The bill which has just become a law does not immediately establish a University forest. There will be a period of years during which the U. S. Forest Service will try to acquire the land now owned by private parties. After this land is acquired, it will be necessary for the Idaho legislature to enact the legislation to make the area into a University forest. The following summary shows the whole procedure:

First: Authorization from Congress to give any lands now owned by the federal government within the area a national forest status. Now accomplished.

Second: The extension of the forest exchange act on March 20, 1922 to lands within the area other than those now owned by the federal government, which would mean that those in private ownership may be exchanged for an equal value of national forest land or timber in the State of Idaho. The bill just passed provides for this exchange.

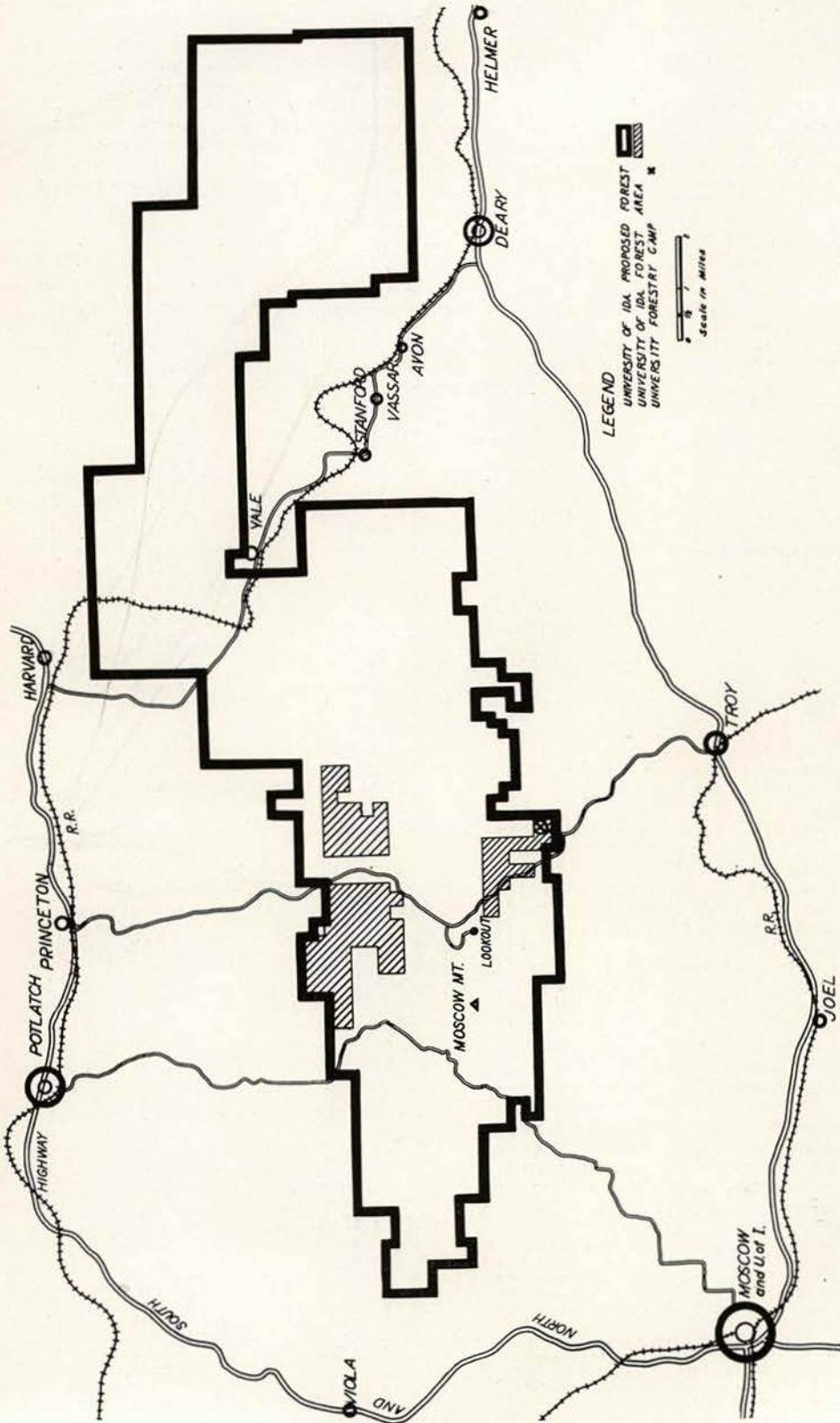
Third: Section 2 of the bill enables the State of Idaho, under appropriate legislation, to exchange timber lands now held by the State for any of the lands described in Section One after the lands have been acquired by the federal government. When once these lands have been acquired by the State of Idaho they may be allocated to the School of Forestry of the University by legislative enactment.

Just a few days before Dean Miller's death, a telegram arrived from Washington indicating that the bill which would provide for the establishment of the demonstration and experimental forest of which he had dreamed had been put into satisfactory form and would pass the Public Lands Committee unanimously. He had been anxiously awaiting this news during the early part of his illness. Unfortunately he never regained consciousness after the telegram came so that he could be told that the federal legislation he desired was practically assured.

FOREST A MILLER MEMORIAL

The passage of this legislation marks the practical fulfillment of a dream which Dean Miller had kept in mind for 17 years. He lived long enough to do all that was necessary to make his dream a reality. Because of his interest in this forest area and the uses to which it might be put, it has been suggested by the alumni and the student body of the School of Forestry that when this area is definitely established as a demonstration and experimental tract for the School of Forestry, it be given the name "Francis Garner Miller Forest." Those who knew him best would say that he would have preferred this monument above all others.

*A bill for the establishment of this forest was introduced in Congress by the Hon. Burton L. French on Jan. 13, 1933. This bill was favorably reported by the committee but in the confusion of that session of Congress it did not come to a vote.



THE FUTURE UNIVERSITY OF IDAHO FOREST

When all the action contemplated by House Bill 7425 is taken, the University of Idaho School of Forestry will have an ideal experimental, demonstrational, and instructional tract containing almost 100 square miles. In the area are found all of the timber species of commercial importance to Idaho's vast forest industry. It is probable that no other forestry school in the world will have within such a short distance of its campus such an ideal laboratory forest.

The following description of the area was furnished by Dean Miller a short time before his death:

The specific lands of this forest comprising 63,655 acres are listed in the proposed bill, a copy of which is attached.

The Palouse River, of whose drainage about one-seventh is in this area, furnishes water for several irrigation projects in Franklin and Whitman counties, Washington, the acreage of which is not available. Lying at the headwaters of the Columbia, this area exerts proportionate effect on stabilization of stream flow.

LAND CLASSIFICATION

<i>Class of Land</i>	<i>Acres</i>
Timber land bearing commercial stands	15,256
Timber land, cutover, with young growth	39,017
Timber land, cutover, with poor or no growth	2,362
Burned areas	6,821
Grassland	120
Cultivated lands	79
Total	63,655

APPROXIMATE DISTRIBUTION OF AREA BY TYPES

<i>Type</i>	<i>Acres</i>
White pine	14,420
Ponderosa pine	18,770
Larch-fir	28,246
Douglas-fir	1,390
Cedar-white fir	630
Grass and cultivated lands	199
Total	63,655

DISTRIBUTION OF OWNERSHIP*

<i>Owner</i>	<i>Acres</i>
State of Idaho	8,025
University of Idaho	3,646
United States	1,949
Forest Development Co.	5,431
Potlatch Lumber Co.	80
Potlatch Lumber Co. (Reforest)	7,514
Potlatch Forests, Inc.	11,369
Milwaukee Land Co.	2,733
Inland Forests Products Co.	1,240
Northern Pacific R. R. Co.	640
Latah County	360
Small Owners	20,668
Total	63,655

PHYSICAL FEATURES

Elevations of the land run from 2,600 to 5,000 feet above sea level. Slopes 10 to 70%, mostly less than 40%. The soil is fresh clay loam of moderate depth with clay sub-soil. The annual precipitation is 34 inches. Temperatures range from -20° to 90° F. The average frost-free period is from June 20 to September 10.

THE FOREST

Physically, the area is very favorable for

tree growth. Ponderosa pine at the lower limits of forest soils gives place to white pine and cedar along creeks on north and east aspects, and elsewhere, mainly Douglas fir and larch. The entire area is commercially accessible and much of it is already logged over. The local utilization of wood products for fuel and farm needs is feasible and the source is of local importance. The forest growth is of importance also for conserving water and fixing the soil. Reproduction and second growth are well distributed over the whole area, coming in well even on several large burns resulting from careless slash disposal following logging.

OTHER USES

Probably not more than a few hundred acres in the whole area would be feasible of cultivation. These tillable areas are generally in small patches and would not need irrigation. There are no irrigation projects within the area.

There is very little of permanent grazing value. A few head of stock drift in from near-by ranches and 2,000 head of sheep graze part season, but reproduction is steadily crowding out the forage for stock. There are no known mineral values present. Practically the only subordinate use is for recreation and hunting.

NEAR-BY HAMLETS

There are six small hamlets, with an aggregate population of less than 1,500 people in proximity of the area, all largely dependent on the area for conveniently obtaining fuel and other wood products.

ACCESSIBILITY

The area is very accessible. The Washington, Idaho and Montana Railway runs very near or through it. There are numerous old logging roads and old railroad logging grades. Trails are found in all principal drainages.

PUBLIC SENTIMENT

Public sentiment is strong for some kind of stable control for the area, and is favorable either to making it a University Forest for the use of its School of Forestry, or to its inclusion within the national forest system. If added to the national forest system the area would be organized along with the near-by St. Joe National Forest land and protective improvements brought to standard. If made into a University Forest, it could be advantageously administered by the School of Forestry.

Revenue possibilities of any material degree lie mainly in the coming timber crop, but current possibilities exist for cordwood, fence material, and similar products, a small amount of grazing temporarily, and occupancy permits incidental to recreation.

Special consideration is at this time being given to bringing under some stable forestry administration this part of the forest lands in northern Idaho because the School of Forestry at the University desires near-by a suitable area for its use for experimental, train-

(Continued on page 46)

*Since the foregoing report was made the University of Idaho lands have increased by 160 acres and lands credited to the United States have increased materially, due to reductions in other totals.

DEVELOPING THE MOSCOW MOUNTAIN EXPERIMENTAL FOREST

FLOYD L. OTTER, '29

Instructor in Forestry, in charge of the Moscow Mountain Experimental Forest, University of Idaho

A YEAR ago Dean Miller announced to the readers of *The Idaho Forester* that the School of Forestry had come into possession of a new school forest, a donation from The Forest Development Company, of Lewiston, Idaho. It consisted at that time of 3,646 acres of undeveloped forest land situated five miles from any surfaced road and was almost without organized

that would have been predicted at the time the forest was acquired.

Its value for instructional purposes and as a potential source of revenue are already very apparent. A hard-surfaced road into the forest has made it possible to conduct many classes in silviculture, range management, forest engineering, cruising, pathology, fire-protection, forest



Aerial photograph of a part of the Big Meadow Creek Drainage on the Moscow Mountain Experimental Forest. Inserts: Upper left, a veteran western red cedar on the Big Meadow Creek Division; lower left, planting on 1931 burn with camp buildings in the background; right, the camp last winter.

protection from fire. Today, thanks to the policies of sound forest management instituted by Dean Miller and to the Emergency Conservation Work program, this land is well on the way to becoming the most accessible and best-protected forest in this section of the State, besides being the site of valuable experiments in timber cutting, stand improvement, and reforestation. The progress that has been made in its development during the first year and a half under forest school management has far exceeded anything

planting, forest administration, and several special student problems within its boundaries. Accessibility is also increasing the revenue from the forest. About 500 cords of wood salvaged from dead timber have been sold within the last year as a hazard-reduction project. Grazing receipts this year should be enough to pay the protection charges.

THE CCC DOES DEVELOPMENT WORK

The credit for the strides that have been made

in the last six months toward completion of the physical plant of the forest is due largely to the Civilian Conservation Corps and to the cooperation given by State Forester A. W. Middleton in directing the emergency conservation work. Credit is also due officials of the U. S. Forest Service for their interest and cooperation. It was in November 1933 that Camp S-260 of the Civilian Conservation Corps was established on Big Meadow Creek, four miles northwest of Troy, Idaho, and 200 men, all residents of northern Idaho, began work on the Moscow Mountain Experimental Forest and on State lands in the vicinity. The camp itself, a photograph of which accompanies this article, consists of 12 large frame buildings. A deep well and a $\frac{3}{4}$ -mile gravity water system with large cisterns insure an adequate and permanent water supply. A dam across Big Meadow Creek to provide a swimming pond for the camp is planned.

The camp was built on privately-owned land adjoining the forest, but this land has since been purchased by the University and is now a part of the school forest. When the improvements are no longer needed by the Civilian Conservation Corps they will be acquired by the University for field trip and summer use by the School of Forestry. A map showing the location of the CCC camp and the experimental forest accompanies Dr. M. G. Neale's article, "Toward a University Forest on Moscow Mountain," appearing in this publication.

Dr. Neale has taken a keen interest in the development of the experimental forest ever since the Forest Development Company's land was offered. He has made himself familiar with the whole Moscow Mountain country by frequent trips over its roads and trails, and it was his efforts and those of Mr. Middleton that made this first purchase possible. The success of the legislation which authorizes the blocking up of the Moscow Mountain country into a University forest is also due in no small measure to him. The forest school has reason to be grateful for the active interest Dr. Neale has taken in the inception and development of this major project.

Plans for the development of the forest and for the opening up and protection of surrounding lands were prepared during the summer and fall before the camp was established. They were based on surveys and studies made by members of the forest school staff. It was planned first to provide adequate protection for the area by providing suitable detection facilities and making all parts accessible, and second, to begin intensive experimental work on specially selected areas. As revised from time to time, the plans have served as a general guide to the work of the camp, and excellent progress has been made toward the completion of the projects. The camp, originally authorized only as a winter camp has been approved for the summer months also, and the work is proceeding without interruption.

Accomplishments of the first six months include, besides the surfaced road already mentioned which makes the forest a matter of only 40 minutes from the University campus, the construction of a new forest road to the top of the east peak of Moscow Mountain. The dream of

driving to the top of the Moscow Mountain range in an automobile long treasured by northern Idaho residents can at last be realized. On this east peak a modern lookout house on a 50-foot tower has been erected by the camp. This lookout serves the forest land north of Troy and Deary and that around Harvard besides the Moscow Mountain country. Seven miles of new telephone line connect this lookout with the telephone system at Troy, and a forest road and telephone line to connect it with the St. Joe National Forest Ranger Station at Princeton are under construction.

UNIVERSITY LANDS IMPROVED

The special plans for development of the land which the University now owns in the Moscow Mountain country can be described in two parts corresponding to the two divisions of the Forest. The Hatter Creek or northern division which is the larger of the two, comprising 3,046 acres, was logged between 1926 and 1929. Nearly all types of cutting from clearcutting to a light selective logging are well represented, besides extensive areas of young growth which were too small to log. All of the common timber types of Northern Idaho except those containing hemlock and spruce are represented. It is planned to develop the forest more fully by roads and trails and to protect it from fire while it is maturing a second crop, and to institute experiments and studies of an administrative character. At present such problems as mortality in residual stands, the effects of slash disposal, and the damage done by rodents, rabbits, and grazing animals to reproduction can be studied and are already underway as student problems. The area will also be extremely valuable as a trial ground for methods of improving natural second growth stands. An intensive timber and site survey and some large scale stand improvement jobs will be inaugurated after the spring planting season is over. Truck trails to open up this area are under construction.

The Big Meadow Creek, or southern division, upon which the CCC camp is located, contains a still greater variety of forest types than the Hatter Creek division and they are concentrated on a smaller area. Stands vary in age class from mature timber to seedling stands which have come in after the destructive 1931 fire. The types vary from white pine-mixed to ponderosa pine and Douglas fir. The mixed sapling type composed mainly of larch and cedar 40 to 60 years old predominates. Because of these conditions and its greater accessibility, the Big Meadow Creek division, which, including the recent purchase, contains 760 acres, has been chosen as the first, and so far the only, intensive experimental area. Detailed plans have been made for its development. The projects are of two types—construction and cultural. Construction projects include the building of truck trails and foot trails, the fencing of most of the tract, the establishment of property and compartment boundaries, the cleanup of firebreak strips in the fire-killed timber, and the removal of dead timber from areas to be planted. Cultural projects are those involving reforestation and stand improvement. All of these projects have been started and the accomplishments in construction projects from November, 1933 to April, 1934 on this division

include the construction of three miles of truck trails, and six miles of first-class horse and foot trails, the establishment of eight miles of boundary lines with transit and chain, the clearing of a dense stand of dead timber from 180 acres.

Cultural projects include seeding and planting, hazard removal, thinning, and sanitation work. Strips through green timber serve a dual purpose as firebreak strips and as extensive experiments in stand improvement. They also include establishment of standard permanent plots in thinning and other types of stand improvement, and in reproduction cuttings. Approximately 20 acres were planted and seeded in February and April of 1934, with stock from the School of Forestry nursery and with seed collected by the camp. The forestation included 10 species of conifers and 16 of hardwoods. The main planting job was in April when 40,000 ponderosa pine, Englemann spruce and Douglas fir were planted on 50 acres near the camp. A small nursery, so situated that it can be enlarged to any size desired, is in operation near the camp. The camp water system is able to supply ample water for the seedlings and transplants at all times.

The stand improvement work not intensively experimental in nature is represented by several acres of thinnings, liberation cuttings and removal of fire, insect, and disease hazards. Seven standard permanent sample plots in stand improvement have been established and many more in reforestation as a beginning of the intensive experimental work on the forest. The care with which these plots have been established and all records taken and worked up, indicates that it is possible under certain conditions to do work fully as exacting with CCC crews as with men hired especially for experimental work. The results in this class of work are due in no small

measure to the type of foremen which the State Forester was able to secure for the technical work.

IDAHO FORESTERS SUPERVISE THE WORK

The emergency conservation work of the Moscow Mountain Experimental Forest, as on state and privately-owned lands within the state is under the direction of the State Forester. The School of Forestry cooperates to the extent of making plans for the work on University lands and vicinity and furnishing technical information and supervision when it is requested.

To supervise the cultural projects on the forest, Corland James, '33, was selected as technical foreman. He had had previous experience in stand improvement on the Weiser National Forest, Idaho, and with the Northern Rocky Mountain Forest and Range Experiment Station. Mr. James was in charge of the work until he returned to the experiment station as forest technician in March. On April 1, John Cook, ex-'33, took over the position. Both of these men have directed the work to the complete satisfaction of their superior officers while carrying out the projects of the School of Forestry.

From the windows of Morrill Hall, forestry students can see the lookout tower which overlooks their school forest. Already changes have taken place around the base of that peak that neither the Forest Development Company when they offered the forest to the University, nor the Regents of the University when they accepted it, could have foreseen. Ample fire-protection improvements are being provided. Every part of the forest is being made easily accessible, and considerable progress is being made in the intensive experimental work. What the next few years will bring forth cannot be predicted, but a beginning has been made.

THE FORESTERS' ANNUAL BONFIRE

CHAS. BROWN, '36

A quiet warm night, Wednesday, October 4, with a bright full moon, a group of happy young foresters gathered around a large open fire-place to form a perfect setting for the annual foresters' get-together on Price Green in the Charles Houston Shattuck Arboretum on the campus. The Foresters' Bonfire this year proved to be one of the most entertaining of these annual events that most of us have witnessed. The turnout was "unanimous." The occasion afforded an opportunity for a warm welcome to one of our largest freshmen classes and the chance for them to become acquainted with the faculty and undergraduates of the forestry school.

Maurice March, president of the Associated Foresters, ably prepared an entertaining program for the evening which consisted of clever introductions of the faculty to the new students and summer experiences related by student foresters, interspersed by a number of solos from Herman Daugh on his "Stomach Steinway." Near the close of this enjoyable evening, ten gallons of coffee, 20 dozen doughnuts, and five gallons of ice cream were passed out to the hungry foresters.

UNIVERSITY HAS HISTORICAL PEN

The pen with which President Franklin D. Roosevelt signed House Bill Number 7425 April 30, 1934, mentioned in Dr. M. G. Neale's article entitled "Toward a University Forest on Moscow Mountain," was presented to the University of Idaho, and occupies a conspicuous place in the University Museum.

While the pen does not differ materially from an ordinary office pen, yet one can hardly comprehend what it has accomplished for the University of Idaho. The historical significance attached cannot be overlooked, and the pen will always be treasured by Idaho foresters.

IDAHO GRADUATE ON ROADSIDE BEAUTIFICATION

The Idaho State Highway Department has begun an extensive program of roadside beautification. In certain treeless sections of the state planting projects involving thousands of trees are undertaken while in the wooded sections, the areas bordering the main highways are carefully thinned to create picnic spots and vistas and to eliminate any fire hazards. Jack Hume, '31, began his services directing this work early this spring.

FORESTRY IN RELATION TO GAME CONSERVATION

MAJOR E. A. GOLDMAN

Senior Biologist, Biological Survey, U. S. Department of Agriculture

EFFICIENT forest management calls for consideration of objectives of widely differing character, under widely varying conditions. Many professional foresters, formerly concerned primarily with timber production, are becoming appreciative of the fact that game is as essentially a product of forest lands as is timber, and that the forest fauna constitutes a national resource capable of great development. In some states, as Pennsylvania and New York, the annual expenditures of hunters in indulging their sport reaches hundreds of thousands of dollars; and

numerous wherever conditions were suitable. The smaller game animals, as the hares, rabbits, and squirrels, and the forest game birds—wild turkeys and grouse were widely distributed.

PLAINS ANIMALS DRIVEN TO FORESTS

Previous to the arrival of the settlers the scattered Indian population, without effective tools, and hunting mainly with bows and arrows, was negligible in effect upon either the game or the forest. When the white man arrived, however, with his superior equipment the picture changed.



The Forested Watersheds Maintain the Water Level of Trout Streams

in addition, the game has everywhere an esthetic and educational value that is incalculable.

In order to gain a clear concept of the relation of forestry to game conservation in the United States it is necessary to review the changes that have taken place since the country was settled. At the time of the discovery of North America, large game in abundance ranged nearly throughout the length and breadth of the continent. Great herds of grass-feeding animals—buffalo, antelope, elk, and mountain sheep—occupied the open plains or high mountains of the West. Deer of several kinds, browsing largely on the tender leaves or shrubs and craving shelter, lived in the forests everywhere, except in the far north. Moose also were forest animals, and bears were

With the clearing of the forest for farms, with the occupation of grasslands for agricultural purposes, or for the grazing of domestic stock, the general aspect of much of the country was transformed. As civilization and general land occupation proceeded westward across the continent, the greater part of the plains animals disappeared or resorted to the forests, which are the great reservoirs of most of our remaining game.

In the eastern United States the forest was regarded by the pioneers mainly as an obstruction to be removed in preparing the land for occupation, especially for the growing of agricultural crops. Along with the clearing of the forest, the game, notably the deer, and some of the fur-bearing animals that played an important

part in pioneer development, disappeared or were greatly reduced in numbers as they were hunted and trapped without stint. With the decline of the deer, the larger predatory animals—mountain lions and wolves—that preyed upon them became extinct nearly throughout the region.

Much of the forested land, however, was too mountainous or rocky for agricultural purposes. The large, mature timber was gradually cut as lumber, for use in construction of many kinds. The logging process, taking about all of the merchantable timber, was extended successively from area to area nearly throughout the forested regions of the East over a long period, extending down to the present time. In the original forest, the older trees, largely hemlock, white pine, and mature hardwoods, heavily shaded the ground. The result of the shading was a thin stand of small trees, berry-producing shrubs, and other vegetation that afforded tender browse within easy reach of deer, and fruit for bears and other wild life. The removal of the forest canopy, however, brought a great change. The dense growth springing up afforded far more food and cover. The larger predatory animals were eliminated as we have seen. The forest setting has thus been prepared for the restoration of deer, bears, rabbits, and wild turkeys, in such sections as the Appalachian Mountain region for example, on a scale far exceeding the game populations of the same areas in former times. The phenomenal success of forest-game restoration in cut-over areas in Pennsylvania, New York, Michigan, and other States is indicative of what could be done in similar sections in many Eastern States.

CONDITIONS IN THE WEST

In the Western States the conditions differ materially, but the general principles bearing upon the relation of game conservation to forestry are the same. The species of game and of trees that make up the forest complex vary greatly, and for management purposes each region should be treated as a separate unit.

Antelope have increased rapidly under protection in recent years on certain parts of the public domain, but in most Western States the game of the open country has disappeared or has taken refuge in the national forests or national parks, where human occupation is not intensive. Elk and mule deer are forced down by the winter snows in the higher mountains along the backbone of the continent and formerly these animals migrated far out to winter on the surrounding plains, where the snow was light and feed abundant. The winter ranges they once knew, however, are now utilized as farms or for the grazing of domestic stock, and the game must remain at the higher elevations, exposed to the danger of starvation.

The regular grazing of domestic stock is not permitted in the national parks, but in many of the western national forests cattle and sheep grazing is a major industry, involving in the aggregate many millions of dollars. It is carried on under an allotment system and under regulations designed to prevent an over-utilization that would be harmful to forest reproduction, to avoid undue competition with game, and to prevent range deterioration through the destruction of

the more palatable plants, and to avoid soil erosion. As the game of the plains disappeared or was pushed back into the more mountainous, forested sections, and a great livestock industry was developed, the larger predatory animals tended to follow, and their inroads presented a serious problem. The bearing of predatory animals and of domestic stock upon game conservation in relation to forestry may seem rather remote, but in reality both are factors of major importance.

COYOTE ADAPTS ITSELF

By far the most important predatory animal is the coyote, which, owing to its size, great numbers, and extraordinary adaptability, is a serious menace to livestock and to game. The wild member of the dog family, indigenous to the more open country of the western half of the United States, has demonstrated a remarkable ability to accommodate itself to the modified conditions brought about by civilized man. In many forested areas, such as the northwest coast region and the higher mountains, it was formerly absent where now it has become a regular resident; and it has pushed northward through Yukon Territory and Alaska to Point Barrow. Two factors have combined to favor the coyote in its invasion of new territory. One of these is the partial clearing of former densely forested areas, which has rendered them more similar to the animal's ancestral habitat. The other is the wide spread introduction of domestic sheep, which has afforded easy prey. Coyotes are secretive and foxlike in general habits and have already proved troublesome where introduced in the eastern states. It seems not improbable that unless effective measures are taken to prevent introduction and to check their advance, they may gradually infiltrate the whole country.

Stock and game compete for forage to an extent that has not been generally appreciated, and when in excessive numbers each is capable of serious injury to forest reproduction. The problem of the forester, therefore, is to formulate and carry out a suitable program of management for forest resources that represent more or less conflicting interests.

In the development of forest resources even small game, such as the various kinds of hares, rabbits, and squirrels, may assume considerable importance. These animals, especially the varying hares, are subject to cyclic fluctuations, and where over-abundant may become more or less injurious to forest reproduction.

In some national forests the game has been exterminated, and favorable conditions await its reintroduction; in others too great an increase of game becomes a menace, not only to the forest but to the maintenance of the game itself in reasonable numbers.

LOGGING PROVES BENEFICIAL

As already indicated, the suitability or carrying capacity of a forested area for game depends largely upon the stage of forest succession. The same remark is generally applicable to the grazing of domestic stock. As younger timber stands contain far more small growth available as forage than those approaching maturity, it follows that logging or thinning operations are usually ben-

(Continued on page 48)

THE SCHOOL OF FORESTRY--A QUARTER CENTURY OF PROGRESS

ERNEST E. HUBERT
Acting Dean

TWENTY-FIVE years ago when Morrill Hall and a portion of the old Administration Building were the only college buildings on the campus, other than the "Gym" which housed the President's office, a tall, energetic and sincere educator traveled three thousand miles to accept the position of first Head of the Department of Forestry. Charles Houston Shattuck, Ph.D., fresh from Clemson College, where he had been professor of botany and forestry, arrived on the dusty, sear and nearly treeless campus on September 1, 1909. Beginning with one professor, eleven students, a lecture room and a laboratory room on the third floor of Morrill Hall, the Department of Forestry of the University of Idaho grew steadily and in August, 1917, the School of Forestry was organized as an independent division similar to the other divisions of the University. It is interesting to note that from 1909 to 1913 the Department of Forestry was under the College of Agriculture, and agricultural forestry courses were offered, and later, in 1913 the Department was transferred to the College of Letters and Science.

The period from 1909 to 1917 was one of pioneer development; first instructors, first students, first courses, and the introduction of educational forestry to the State of Idaho. During this period, Dr. Shattuck, through his enthusiasm, energy and vision, was able to pilot the infant school through the rough waters of a new enterprise. His unflinching efforts laid the foundations upon which the present School of Forestry was built, his first students become leaders in the life of the State and he established on a large scale a planting project which later was named in his honor. When Dr. Shattuck, in those days of doubt and uncertainty, asked the Board of Regents for the use of the steep, thistle-covered hillside upon which to test the growth of many varieties of trees, he was agreeably surprised to have the fifteen acres turned over to him for the Arboretum. The trials and tribulations incident to establishing this grove of trees are well pictured in Dr. Shattuck's account of these early struggles shared with C. L. Price, the nurseryman. The Arboretum and nursery today, after twenty-five years of development, cover nearly forty acres of ground upon which thousands of trees are raised each year for the use of Idaho's citizens. The plan of growing and distributing forest trees at cost is attributed to Dr. Shattuck and was put into operation in the spring of 1910.

SCHOOL OF FORESTRY ORGANIZED IN 1917

Dr. Shattuck resigned in 1917 and Francis Garner Miller, M.F., who had a splendid educational and forestry background, became dean of the newly organized School of Forestry. Needed curriculum changes were made at this time in order to keep pace with the growth of forestry and of the School. The effect of the World War now became apparent and from an enrollment of

ten regular and six ranger school students in 1917-18 the number increased to a total of forty students. From year to year the enrollment increased steadily, assuming a cosmopolitan character as well, until in more recent years an enrollment of one hundred students represents the average yearly attendance.

The period between 1917 and 1934 was replete with far-reaching changes and developments all guided by the devoted and painstaking energy of the man who served the School of Forestry so well for over seventeen years. During this period the staff of the School increased from four to a present total of seven instructors, and the space occupied by the School had increased until it now occupies twenty rooms in the third and fourth floors of Morrill Hall, a greenhouse and has in addition a separate wood conversion building housing the wood chemistry and wood preservation and seasoning laboratories. Filling a need which called for a special type of forestry training, a three-year Ranger School was established in 1911 and continued until 1928 with the exception of the year 1913-'14. In 1920 it was reduced to a one-year course. Later it was further reduced to a three-months' course and finally discontinued in 1928.

During this period Dean Miller continued to develop the favorable recognition of the great lumber industry of the region and the years between 1919 and 1934 showed a steady expansion of the work in forest products in both instructional and research activities. The forest nursery was expanded to include twenty-seven additional acres and important improvements were made in the Arboretum; such as the establishment and naming of Price Green in honor of C. L. Price and the inception of a George Washington memorial by Epsilon Chapter of Xi Sigma Pi. On June 12, 1933, the Arboretum, on the suggestion of Dean Miller and by official action of the Board of Regents, was named Charles Houston Shattuck Arboretum in honor of its founder.

SCHOOL ASSISTS STATE

It was during this period also that the School, through Dean Miller's efforts, played an important part in formulating and fostering the well-known and timely forest fire protection laws of the State. The work of the School, at this time, was organized under three main curricula, each covering four years of work and known as General Forestry, Logging Engineering, and Range Management. A five-year course was later added to the Master's degree in forestry. In 1929 a two-year curriculum in forestry was organized at the Southern Branch of the University of Idaho located at Pocatello. This has made it possible for students who live in the southern part of the state to take the freshman and sophomore work in forestry at Pocatello and finish the last two years at the University at Moscow. Since 1931, Charles M. Genuaux, M.S. For. '29, has been in

charge of the forestry courses given at the Southern Branch.

A review of the graduate work carried out at the School during this period shows a healthy and steady development. The first student to secure a Master's degree in forestry at Idaho was C. E. Favre, receiving this degree in 1915. The second graduate student, P. D. Sharma, received his master's in 1922. Between 1915 and 1934 a total of 24 foresters have received this degree.

During this period an Extension Forester was placed in the field, covering all sections of the State and devoting all of his time to the farm forestry problems. This was made possible by the cooperation of the federal government through the Clarke-McNary Act and the College of Agriculture.

Adequate out-door laboratories have always been paramount facilities of the School of Forestry and for many years a tract of timber land on Moscow Mountain comprising 640 acres was used for various field laboratories. This practice forest area was augmented in 1932 by a special use permit from the U. S. Forest Service covering 5,300 acres of excellent timber land in the Palouse division of the St. Joe National Forest. In 1933 a gift of timber land from the Forest Development Co. of Lewiston, Idaho, added 3646 acres of very desirable forest land to the School forest. This formed an excellent nucleus for an Experimental Forest of nearly 64,000 acres which Dean Miller had carefully planned and to which President M. G. Neale gave his energetic support. A bill, introduced by Compton I. White, and passed by Congress in 1934 permits the inclusion of these lands in the status of National Forests as a preliminary step toward State ownership of this timbered area and the eventual possession by the University of Idaho School of Forestry as an Experimental Forest. In March, 1934, through Dr. Neale's efforts, an additional 160 acres of timber land was purchased by the University in order to acquire the camp site of the State operated C.C.C. Camp S-260 which was established in the fall of 1933. Operating throughout the winter this camp constructed roads and trails, telephone lines, firebreaks, and set up a modern lookout tower on an east Moscow Mountain peak. Through the cooperation of the School of Forestry faculty, experimental plots, plantings and numerous other cultural projects were carried out on the Moscow Mountain Experimental Forest area.

LUMBERMEN COOPERATE

During the quarter century of the School's existence there has ever been a steady effort to place before the people of Idaho the necessary information regarding the importance of the forests and the part they play in the economic and recreational life of the State. Public service work of this type has brought about the forest policies which are now of such great value to the state and to the guardians of its vast timber resources. Lumbermen, civic and business organizations, public schools, state organizations and various federal units such as the Forest Service and Blister Rust Control agencies have always given their full support to all the public relations projects which the School has fostered.

It is interesting to find that, way back in 1909 when the School was emerging into academic sunlight, the first Idaho lumberman to call on Dr. Shattuck was the man then in charge of the land sales development of the Potlatch Lumber Company—W. D. Humiston. For many years, until he left the State, Mr. Humiston was a leader in forestry legislation and played a helpful and progressive part in cooperating with the School of Forestry. In 1911 the lumbermen of the State made an effort to obtain a new building for the forestry school. The plan provided for half of the cost to be borne by the lumbermen and the other half by the State of Idaho. These excellently drawn plans are patiently resting on a storeroom shelf awaiting the day when the School of Forestry may have a home of its own.

In the early forestry activities which centered around the School of Forestry such men as Ben E. Bush, '03, former State Forester, and C. K. McHarg, Jr., of the U. S. Forest Service were particularly active and helpful in supporting the School and its work. My record would be incomplete if I failed to mention another splendid friend of forestry, Dr. E. A. Bryan, former Commissioner of Education, who was instrumental in calling Dean Miller to the Idaho School of Forestry. It is eminently fitting that this volume of *The Idaho Forester* be dedicated to Dr. Bryan. During the past twenty-five years, members of the School of Forestry have produced a long list of worthwhile technical and professional articles pertaining to forestry. Work in forest economics, silviculture, management, farm forestry, fire control, range management, wood preservation, forest pathology, wood products, and wood conversion is well represented in the reports and printed articles issued by them. The policy of placing the School staff on a twelve month basis, thus providing time during the summer months for field and laboratory research work, was put into effect in 1921 and did much to stimulate research activities.

SCHOOL DEVELOPING FOREST UTILIZATION

The service rendered the State through the research program of the School, though difficult to measure is far reaching and of great value. Surveys and studies were made as a foundation for many of the important forest policies now in operation in the State and the private owner of timber as well as the public owner has benefited by these investigations as well as those conducted in the laboratories. A wood conversion laboratory with a highly trained investigator at its head, a forest pathology laboratory with added accommodations for several full time federal men studying blister rust problems and an experimental forest with many acres available for field investigation are a few of the major research developments within the past quarter century.

The years between 1917 and 1934 might well be termed the constructive period during which constructive forestry practices were promulgated and active progress was made in the development of various branches of instruction. It viewed also the splendid plan for the establishment of an Experimental Forest, the realization of a wood conversion laboratory in 1932 and the development of forest research, the expansion of

(Continued on page 43)

NOTES ON THE ORIGIN OF AMERICAN FORESTS

T. R. ASHLEE
College of Agriculture

F. B. LANEY
School of Mines and Geology, University of Idaho

THE present dominant North American tree genera were first known to the circumpolar regions in Upper Cretaceous time. The most extensive deposits of these plants are found in West Greenland, Alaska, Northern Europe, Northeast Asia, and a few in the Dominion of Canada along the fiftieth parallel of latitude. From the plants of this Age at Atane, Greenland, there have been described 184 species which according to Berry* include: 31 ferns, 1 Equisetum, 1 Selaginella, 1 Marsilia, 12 cycads, 2 ginkgos, 25 conifers, 4 monocotyledons, 94 dicotyledons, and 14 of uncertain affinities.

Dominant conifers of these floras consisted of species of *Sequoia*, *Glyptostrobus* and *Taxodium*. Pines were represented by the generalized fossil genus *Pinites* which is regarded as ancestral to modern pines and firs.

Angiospermous trees were strongly represented by *Magnolia*, *Platanus*, *Populus*, *Quercus*, *Alnus*, *Betula*, *Persea*, *Ulmus*, *Hicoria*, and primitive *Liriodendrons*, together with many other genera which do not occur in North America today.

ROCKY MOUNTAINS FORM BARRIER

This flora, in general, extended its range throughout North America and Eurasia previous to the Rocky Mountain revolution which occurred at the end of the Cretaceous period. It is likely, however, that the flora of North America was partly differentiated into eastern and western types by great epeiric sea which extended northwest from the Gulf of Mexico, joining the Arctic Ocean near the gulf of the Mackenzie River. This was a physical barrier to migration rather than climate. With the extinction of the great sea and the elevation of the Rocky Mountains in its place, the segregation became complete. After this time a separate history of forest development took place east and west of the Rockies. The Rocky Mountains formed a climatic and physical barrier to migration and brought about the initial dessication of the region east of the Rockies. Immediately east of the Rocky Mountains a great development of herbaceous plants had taken place ever since the Rocky Mountain revolution and the Cretaceous mesophytic forest was exterminated in the plains. This forest was finally driven south and east and enjoyed uninterrupted development till the Pliocene. It was bounded on the north and northwest by a coniferous forest which was the result of climatic segregation of the mesophytic and xerophytic elements of the mixed angiospermous and coniferous forests. The relative position of these forests has been the same ever since, no matter what changes have taken place.

The southeastern forests of the United States are substantially relic mid-Tertiary forests.

The retreats before the ice of the Pleistocene

and the advances north during milder interglacial periods were orderly advances and retreats.

The forest flora of Florida differs from the south forest flora in that it has strong West Indian elements, particularly the southern part. *Pinus cubensis* and *Oriodoxia regia* are the most striking species common to Florida and the West Indies. In addition, the only Cycads (*Zamia sp.*) found in the United States are found in this region, and species of *Agave*, *Cacti* and a *Yucca* point to a certain degree to Mexican relationship.

HARDWOODS FOUND ON BETTER SOILS

The forests of eastern United States and Canada are of two types, the conifers predominate on poor soils and approach the sub-arctic in character. The deciduous trees such as sugar maple, paper birch and beeches predominate over the conifers where better soil conditions prevail.

The main coastal forest flora is predominantly northern coniferous, the deciduous element being birches and poplars. The New England forests are principally deciduous in character and consist of species of oak, elm, walnut, hickory and chestnut (before the blight) and white pine; and several southern species here reach their northern limit; these are such trees and shrubs as *Liquidambar*, *Magnolia* and tulip-tree. The New England forests were derived, for the greater part, from the southern hardwood forests, the climate being the limiting factor as to the number of constituent species. The same is true of the oak-hickory forest, which bound the regions of the southern hardwoods to the West. The predominant coniferous forests of northern Michigan, Wisconsin and Minnesota gradually merge into the predominant deciduous forests to the south. All these old associations are a contrast with the oak-pine formations of the Atlantic coastal plain and western North Carolina. Here the geologically new lands became covered with a coniferous forest, the oaks being invaders from the southern hardwood forests. The southeastern pine forests also occupying geologically new lands have not yet had sufficient time for deciduous tree to become an important element in their ecology.

BURNING CAUSE OF PRAIRIES

The forest trees of the oak-hickory forests of the western boundary of the southern hardwood extend far up the river valleys and, as the rainfall is sufficient over much of the eastern prairies for the growth of these trees, it is believed probable that the aboriginal practice of burning to furnish feed for the bison is the actual cause of the eastern prairies being non-forest areas. There is also evidence that this applies to Manitoba. The western prairies are too dry and cold for tree growth, but along the streams, species of *Populus* and *Salix* find a foothold. The prairie flora is a very rich herbaceous one and its ini-

*Berry, Edw. W., Past Climates of the North Polar Region, Smithsonian Miscellaneous Collections, Vol. 82, No. 6, p. 8 (1930).

tial development dates from the Rocky Mountain revolution. This flora has migrated back and forth during climatic changes but has not had competition with forest trees, for soon afterward the Rockies were elevated.

The forest trees of the Rocky Mountains are predominantly coniferous; this is to be expected by reason of the latitude and altitude. It is probable that conifers have been important, if not dominant, since mid-Tertiary time in this region, except of course, in the northern parts, during the Pleistocene. The herbaceous elements are interesting in contrast with European alpine flora; there the genera *Primula*, *Campanula*, and *Gentiana* are much in evidence. The Rocky Mountain herbaceous genera most developed are *Castilleja*, *Pentstemon*, *Mimulus*, *Aster* and *Solidago*. A number of the northern Rocky Mountain conifers are also Pacific Coast species. The Douglas fir, it is true, is considered by some to be of two species, the coast form and the Rocky Mountain form. *Pinus contorta* is also considered by many to be represented in the Rockies by *Pinus contorta* and a variety—*Murrayana*. This is only what can be expected since both the coniferous forests of the Rockies and Cascades were derived as altitudinal segregates from the mixed Miocene forests. The Cascadian revolution began in the middle Miocene and culminated at the beginning of the Pliocene. The earliest Cascades had been worn down before the early Tertiary. With the elevation of the Cascades and the re-elevation of the Coast Range of California, desiccation commenced in the intermountain region and has continued ever since. The higher rainfall of the colder valleys of northern Idaho and northeastern Washington, together with the higher altitudes enable the northern type of forests to survive.

PONDEROSA PINE SEMI-ARID

The arid climate of the great basin is mainly due to its almost complete encirclement by mountains. This has probably been the driest area in the United States since near the close of Jurassic time when the Nevadan disturbance took place, resulting in the elevation of a Pacific mountain system consisting of the Sierra Nevadas, Coast Ranges of British Columbia and California, the first Cascades and the Klamath Mountains. The desert flora of southern California and Arizona is largely of Mexican origin. The climate of the Great Basin seems to be too severe for this Mexican flora to extend greatly its present range. *Pinus ponderosa* appears to have originated on the eastern slopes of the Sierras and is apparently increasing its hold in the semi-arid regions north and northeast.

ATLANTIC COAST SHOWS GREATER GLACIATION

The climatic conditions of the Pacific Coast are remarkably uniform compared with the continental climates of most of North America. This is principally due to the lofty mountain chains protecting the coastal lands from temperature fluctuations east of the mountains. Away from the immediate coast the temperature and rainfall is much influenced by topography. The mountains are the regions of greatest rainfall and it is here that the greatest forests are developed. From the Puget Sound to southeastern Alaska dense and lofty coniferous forests are characteristic and

the individual trees attain the greatest height of any on the American continent except the Sequoias to the south. Glaciation during the Pleistocene was not so heavy on the Pacific as on the Atlantic coast and probably a much stronger forest survived to reforest the glaciated coast of British Columbia. Southeastern Alaska was not glaciated, but it is an open question whether any important constituent species of the Douglas fir formation survived in the area. Along the coast of northern California the characteristic trees of the Douglas fir formation are to a great extent replaced by the dominant redwood (*Sequoia sempervirens*). California offers so many problems in the field of geographical botany owing to its geological history and topography that it will be many years before much of it can be fully explained. The Sequoias and associated plants are mid-Tertiary survivals and *Pasania* (*Quercus*) densiflora has Himalayan and Indo-Malayan affiliations.

MANY FOSSILS FOUND IN IDAHO

The Idaho forests are such a contrast to the Miocene forests of this region, that it is perhaps as well to note more particularly the changes in plant life that have taken place since mid-Tertiary time. The fossil evidence is that by the middle and upper Miocene the greater part of Idaho and adjacent Washington and Oregon was covered with mixed mesophytic forests, characterized by great diversity of ligneous genera.

Of these genera, recorded on fossils, the most striking have long since ceased to exist in the intermountain region. The two most interesting genera no longer represented are *Taxodium* and *Sequoia*. The fossil tree, *Taxodium dubium*, might well be identical with the existing *distichum* of the marshes of the southeastern region of the United States. *Sequoia langsdorfi*, the commonest fossil *Sequoia*, very closely resembles *Sequoia sempervirens* of the California and southern Oregon coastal region. Some other genera credited to the Miocene forests were *Castanea*, *Cassia*, *Calastus*, *Cercidium*, *Fagus*, *Ginkgo*, *Juglans*, *Larus*, *Liquidambar*, *Liriodendron*, *Nyssa*, *Pinus*, *Platanus*, *Populus*, *Quercus* (very strongly represented), *Rhus*, *Salix*, *Sophora*, *Tilia*, *Tsuga*, *Ulmus* and a number of others. As already noted, the Cascadian Revolution culminated by the beginning of the Pliocene; thus, by this time, marked changes must have taken place in the character of Idaho forests. The culminating effects of mountain elevation on plant life takes place long after the accomplished fact of the elevation. Sudden widespread catastrophe is exceedingly rare or unknown in the geologic record. It is probable that by the end of the Pliocene the forests of Idaho were characterized by a large coniferous element because the Pinaceae most readily adopt themselves to changes toward the zerophytic, no matter whether the dry conditions are due to paucity of rainfall or frozen soil water.

FORESTS FOLLOWED ICE RECESSION

The higher elevations were probably predominantly coniferous, the middle elevations probably had considerable admixture of oaks, and the valleys of lower elevations undoubtedly retained

(Continued on page 44)

MOISTURE CONTENT

HAROLD Z. WHITE, '26

In Charge Dry Kilns, Potlatch Forests, Inc., Lewiston, Idaho

ONE of the most vexing problems confronting the lumber industry today is the question of proper moisture content for lumber. Variations in climatic conditions, seasonal changes, lumber grades and sizes, storage facilities, usage, species, drying practices, and many other elements encountered in the manufacture and sale of lumber have their influence on the question of proper moisture content. Naturally certain of these elements are more important or more pronounced than others, but basically lumber should be dried to a moisture content best suited to the use for which the lumber is intended. However, from a manufacturer's standpoint, these other elements have to be considered as well.

Many years ago when the lumber business was, so to speak, in its "hey-day," little if any attention was paid to moisture content as an important factor in lumber manufacture. Lumber was an absolute necessity to the American home, and was taken as it could be gotten. Also there were few long shipments to be made and weight was not so important. Later on when the center of the lumbering industry was transferred to the Pacific Coast, the moisture content of the lumber became a more important factor. The long railroad hauls necessary to reach the center of consumption prohibited the shipment of green lumber. The process of seasoning the lumber in air-drying yards became an important step in the manufacturing process, and artificial methods were introduced and developed to still further reduce the weight and improve the quality of the product.

In more recent years many substitutes for lumber have been developed, and competition for business has become so keen that it is necessary for the lumber manufacturer to take recognition of every possible point in the manufacturing process. Demands are becoming more numerous all the time for lumber of a specified and a guaranteed moisture content. Some of these requests, such as those requesting a moisture content of five per cent and lower, are ridiculous, because the lumber cannot be maintained at that low a moisture content unless kept under a condition of controlled temperature and humidity. The average moisture content which lumber will reach over a period of time, varies to a considerable extent in different parts of the country.

In a strip along the coast of Southern California, and in the Gulf regions from North Carolina, south and west through about half of Texas, and throughout the Mississippi River valley, lumber will equalize itself in moisture content at about fourteen per cent. In the extremely arid regions of the Southwest including eastern California, Nevada, a portion of southern Oregon, southern Idaho, most of Utah, and in the western two-thirds of Arizona, lumber will equalize itself at around eight per cent moisture content. In the remaining portion of the United States, 12 per cent is given as the figure of equalization. In view of these facts and figures, obviously it

is impossible and impractical for the manufacturer to dry his lumber to a guaranteed moisture content, suitable for all classes of customers. Nevertheless it is necessary that some method be established whereby the more reasonable of these demands can be met satisfactorily.

After a more or less lengthy compilation of figures and data collected over a period of years, it has been proven quite definitely that it is useless to dry lumber to such a low moisture content as is sometimes requested. In this particular climate, lumber, after being dried in kilns to any specified moisture content, and then placed in the ordinary type of storage shed, will either lose or gain in moisture content, depending on the time of the year. The minimum of moisture content is reached in the month of August, and then a gradual increase is apparent until the month of February, at which time the maximum is reached. Then a gradual decrease is apparent until August is reached, and the process is repeated as long as the lumber is left in storage. This increase or decrease between different seasons of the year is about five per cent for all classes of lumber. This trend of absorption and loss of moisture from the lumber in storage has been determined from the study and observation of the shipping weights from over one thousand cars, and was checked by the tabulation of some three thousand actual individual moisture content tests.

Quite naturally such a condition of absorption or loss of moisture makes it next to impossible for a manufacturer to guarantee a specific moisture content. It is reasonable to assume that similar storage conditions will be found at the majority of retail lumber yards, and in many cases subject to an even greater variation in climatic conditions. It becomes quite apparent, then, that some method of controlling the temperature and humidity of lumber storage sheds, both at the point of production, and in the retail yards, is an absolute necessity to the proper solution of this problem of correct moisture content.

"HERE WE HAVE IDAHO"

The picture appearing on page one is a typical scene on the University of Idaho campus and shows one of the buildings in which forestry students attend certain classes. The trees appearing in the foreground are known as the "Presidential Trees." October 4, 1911, President William Howard Taft planted the one in the center of the picture. It is a Port Orford Cedar. The Colorado Blue Spruce growing at the side and a little beyond the Taft Tree is the Roosevelt Tree and was planted April 10, 1911 by Theodore Roosevelt. Other famous trees nearby are the "Curtis Tree," an Engelmann Spruce; the "Marshall Tree," a red oak; and several planted in memory of George Washington.

ACTING DEAN APPOINTED

The vacancy created March 8 by the death of Dean F. G. Miller, for 17 years head of the School of Forestry, was filled through the action of the board of regents by the appointment of Dr. E. E. Hubert as acting dean.

Dr. Hubert has been professor of forestry at Idaho since 1925. He was acting dean during the second semester of 1932-33, when the late Dean Miller was on sabbatical leave of absence in Europe. Dr. Hubert is widely known for his work in forest pathology. He has directed most of the research activities conducted in the 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.

Dr. Hubert is a graduate of the University of Montana and the University of Wisconsin. Prior to coming to Idaho he was assistant pathologist, U. S. Forests Products Laboratory, Madison, Wisconsin, and previous to this he was assigned for several years to the forest pathology office of Region One of the U. S. Forest Service, Missoula, Montana. He has been actively engaged in forestry work for the past 22 years and has had occasion to study forestry and lumbering practices in several regions of the United States and in British Columbia. He is the author of

many articles on forestry and in 1932, published his textbook on forest pathology, which is now widely used.



Dr. E. E. Hubert

New Instructor On Forestry Staff

A year ago last September, when Floyd Otter, instructor in forestry, obtained a leave of absence for advanced study at the School of Forestry and Conservation, Ann Arbor, Michigan, Dr. W. D. Miller was called to take his place. Dr. Miller is an Oregonian by birth. From 1917 to 1919 he served in the American Expeditionary Force, and had a chance to observe some forestry across the water. He received his B.A. degree from Reed College, Oregon in 1923; and attended the University of Montana the school year of 1927 and 1928. He then attended the Yale School of Forestry, where he obtained his M.F. degree in 1930. Two years later he obtained the Ph.D. degree.

While attending Yale he spent his summers in forest practice. The summers of 1929 and 1931 Dr. Miller spent in the Yale Forest at Keene, New Hampshire. In the summer of 1930 he was located at the Northern Rocky Mountain Forest Experiment Station, Priest River, Idaho. The first half of the 1933 field season he was employed by the forestry department of the Connecticut Agricultural Experiment Station at New Haven, reporting at Moscow in September. The school year of 1932-33 was his first year at the University of Idaho. From June, 1933 to March, 1934 Dr. Miller served as technician with the Southwestern Forest and Range Experiment Station in Tucson and Flagstaff, Arizona.

After the death of Dean Miller he was called back to the University, and reported here March 19. Dr. Miller is planning to remain on the School of Forestry teaching staff the coming school year, also.



Dr. W. D. Miller

CLASS OF 1934

AUBREY JAMES ARTHURS (*General Forestry*)
Sandpoint High School, Idaho.

RUDOLPH JOHN BENSON (*General Forestry*)
Coeur d'Alene High School, Idaho.

CHARLES ROBERT CRAWFORD (*General Forestry*)
Darlington High School, Idaho.
University of Idaho, Southern Branch.

JACK LAWRENCE FREDERIC (*General Forestry*)
Coeur d'Alene High School, Idaho.

WILLIAM STOWELL GAFFNEY (*General Forestry*)
Weippe High School, Idaho.
Xi Sigma Pi; Associate Forester, 3; Sec.-Treas., 4.

GEORGE LLOYD HAYES (*General Forestry*)
Rigby High School, Idaho.
Brigham Young University, Provo, Utah.
Xi Sigma Pi; Ranger, 3; Forester, 4.
High Honors, 1, 2, 3; Highest Honors, 4.
Senior Forestry Award, 4.

JAMES WILBUR JAY (*General Forestry*)
Central High School, Marysville, Missouri.
N. W. Missouri T. C.

JOHN HUGO KRAEMER (*General Forestry*)
Albany High School, Albany, New York.
Syracuse University.
N. Y. State Ranger School.

LAWRENCE SHARP NEWCOMB (*General Forestry*)
Coeur d'Alene High School, Idaho.
President Associated Foresters, 3.
Chairman Engineers Day, 3.

ROBERT STANLEY OPIE (*General Forestry*)
Butte High School, Butte, Montana.
University of Montana, Missoula.

JOHN WILLIAM PARKER (*General Forestry*)
Garden Valley High School, Idaho.
Ranger, Associated Foresters, 3.
Xi Sigma Pi.

ELLIOTT EUGENE REDMAN (*Range Management*)
Pocatello High School, Idaho.

CLARENCE EDMUND STILWELL (*General Forestry*)
Granger High School, Washington.

WILLIAM LIONEL TOWNS (*General Forestry*)
Central High School, Sioux City, Iowa.



ARTHURS



BENSON



CRAWFORD



FREDERIC



GAFFNEY



HAYES



JAY



KRAEMER



NEWCOMB



OPIE



PARKER



REDMAN



STILWELL



TOWNS

1934 GRADUATE CLASS

STANLEY C. CLARKE

Jefferson High School, Chicago.
University of Illinois, Ph.C. 1912.
University of Idaho, B.S.(For.) 1932.
Xi Sigma Pi, Sigma Xi

Thesis title for the degree, Master of Science in Forestry: "Seasonal Amount of Arabogalactan and its Distribution in Western Larch (*Larix occidentalis*, Nuttall)"

JOHN J. McNAIR

Cloquet High School, Minnesota.
Carleton College, Minnesota, B.A. 1930.
University of Minnesota, M.S. 1932.
Xi Sigma Pi, Sigma Xi

Thesis title for the degree, Master of Science in Forestry: "The Preparation and Properties of Lignin Esters."



Clarke

McNair

CHARLES HOUSTON SHATTUCK ARBORETUM

THE Charles Houston Shattuck Arboretum, named in honor of its founder, who was head of the University of Idaho Department of Forestry from its organization in 1909 until 1917, occupies a very conspicuous site on the Idaho campus and is a valuable part of the School of Forestry field facilities for instruction.

Dr. Shattuck secured the first trees for the arboretum from D. Hill Nursery Company, Dundee, Illinois, and from the Biltmore Forest Nursery, North Carolina, and with the assistance of C. L. Price, nurseryman, whose services he obtained in 1910, completed the actual planting within the next several planting seasons. Forestry students, as their time permitted, also participated in the planting. To insure success of this project Dr. Shattuck was frequently seen carrying buckets of water often great distances to the small trees. The original plantings included over 130 different species and others were added from time to time although the actual number now thriving is less than this owing to the fact that many were unable to withstand the local climatic conditions. Over 10,000 trees were planted in the 12 acres and the experience Dr. Shattuck had in requesting this original "thistle patch" is mentioned in the article entitled "A Quarter Century of Progress." The Arboretum has grown to be a very conspicuous and attractive part of the university landscape and countless favorable comments are made concerning it by campus visitors, especially during football seasons since its variegated colors in the fall form a most picturesque background for McLean Athletic field.

NEW SPECIES INTRODUCED

Dr. Shattuck encouraged the general planting of woodlots, shelterbelts and shade trees especially in the treeless sections of Idaho and his foresight has resulted in many attractive communities. To assist tree planters in obtaining

tree stock he established a nursery in connection with the arboretum from which citizens of the state have long obtained forest and shade trees at Cost of production. Dr. Shattuck is responsible for the introduction of many desirable exotic or non-indigenous species, among which is Scotch pine.

On Campus Day 1932, the School of Forestry students carried on considerable improvement work in the arboretum in the nature of brush disposal, construction of the Price Green fire-place and steps leading down the steep slope from the highway, and preparation of the ground for the Xi Sigma Pi George Washington Memorial Planting. The latter planting is established in the northwest corner of the arboretum next to the athletic fence and each of the nineteen members of Epsilon Chapter of Xi Sigma Pi planted on May 3 of that year, a Colorado blue spruce tree commemorating the George Washington Bi-Centennial.

ARBORETUM OFFICIALLY NAMED

The Associated Foresters by unanimous vote recommended to the Board of Education that the arboretum be named Charles Houston Shattuck Arboretum. Official action so naming the Arboretum took place June 12, 1933, when the University Regents were in session.

The past winter and spring a large amount of Arboretum improvement work in the way of thinnings, pruning, trail construction, and clean-up, etc., was carried on by CWA and FERA. The high road leading from the rear of Ridenbaugh Hall past the "I" tank and back of the Arboretum connecting with the Pullman highway was graded so that considerable traffic now makes use of it. The Charles Houston Shattuck Arboretum has become almost as important a part of the university as its buildings. It is an institution by itself.

THE ASSOCIATED FORESTERS

HENRY ZIMINSKI, '35
Secretary-Treasurer

THE Associated Foresters of the University of Idaho is a club composed of students and faculty members of the School of Forestry. This club was organized a few years after the Forest School was established at the University. The purpose of this club is to promote a closer fellowship among the forestry students by carrying out various activities.

The first event on the program for the year was the bonfire meeting held the evening of October 4 at "Price Green." The faculty members were introduced, and each gave a short, amusing talk about his experiences the past summer. William Towns recounted some events of the

barbecue. At the barbecue, the foresters representing their respective classes compete in foot races, log sawing and chopping, log-rolling, tug o' war, and other events. A grand "feed" climaxes the perfect day.

The Associated Foresters cooperating with the School of Mines and the College of Engineering, conduct Engineers' Day, also described elsewhere in this issue. This is rather an open house for the general public, since various exhibits and demonstrations are prepared.

The Associated Foresters established a forestry student loan fund two years ago with surplus funds then available in the treasury. Three loans



The 1933-34 Associated Foresters

1933 Junior Field Trip. The music was furnished by Herman Daughs and the meeting was brought to a successful close by a generous supply of good eats.

On October 27, the foresters set aside studies, references and examinations. Each with lard on his hair, his ears pinned back and dressed in his Sunday best, escorted his lady-friend to the Associated Foresters' Dance. This year the dance was held at the Blue Bucket Inn where the dance hall was transformed into a forest of cedars and firs.

Our next big event was the annual banquet, described in detail elsewhere in this publication. The banquet has become one of the best functions of the year, for it gives the foresters an evening to rub elbows with prominent professional foresters from various parts of the country, to hear their speeches and to learn many new and timely jokes and stories.

PROGRAM FULL

The last regular event of the year is the bar-

becue. At the barbecue, the foresters representing their respective classes compete in foot races, log sawing and chopping, log-rolling, tug o' war, and other events. A grand "feed" climaxes the perfect day.

During the year we had the opportunity of hearing the following speakers: E. W. Renshaw, '25, of the St. Joe National Forest; W. A. Rockie in charge, soil erosion farm, Pullman, Washington; George M. Cornwall, editor of The Timberman; George F. Baggle, Chief Ranger, Yellowstone Park, Wyoming, and Mrs. Baggle. Mrs. Baggle is known to Idaho foresters as Herma Albertson, a former instructor in botany.

The Associated Foresters' officers for the present school year are:

- | | |
|---------------------------|----------------|
| President | Maurice March |
| Vice-President | William Towns |
| Secretary-Treasurer | Henry Ziminski |
| Ranger | Brennan Davis |

HERE
and
THERE
1933-'34



SECTION I - LOG SCALING



SECTION II LOG SCALING

AND THE NEW TRUCK BOUND FOR LEWISTON MILL



SCALING-LEWISTON SAWMILL



MEASURING TREE HEIGHTS



SCALING-TROY SAWMILL



SOPHOMORES AND SILVICULTURE



SENIORS AND SILVICULTURE-SCHOOL FOREST



DURING XI SIGMA PI LUNCHEON



JUNIORS WIN BARBECUE



SOME OF THE 1933 BARBECUEERS POSE



THE SOPHS ALSO COMPETED



THE 1933 LEWISTON LUMBERING AND SEASONING TRIP



SHINNY ON YOUR OWN SIDE



THE 1934 LEWISTON LUMBERING AND SEASONING TRIP

LUNCH HOUR WITH

XI SIGMA PI

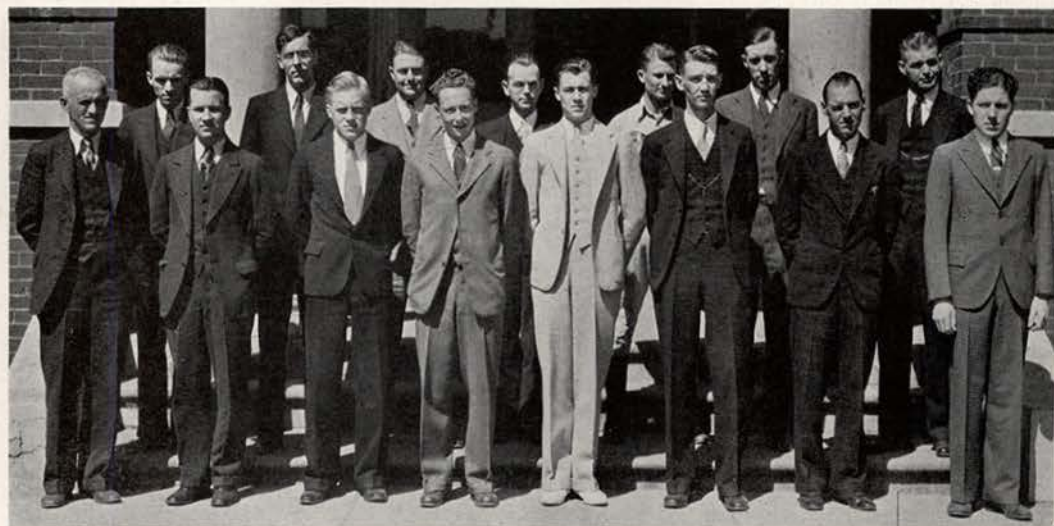
JOHN J. McNAIR, M.S. '34

Ranger, Epsilon Chapter

XI SIGMA PI, national honorary forestry fraternity, was founded at the University of Washington in 1908. It now has chapters at eight of the leading forestry schools in the United States. Epsilon chapter was founded in 1920 and since that time has become one of the most active honorary societies on our campus.

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

and first semester senior years. These candidates are given a weighted grade on the following basis: 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 the payment of one year's membership fees in the Society of American Foresters and a year's subscription to the Journal of Forestry. Since membership in the Society is attainable only through nomination by a Section of the Society and later, election



Reading from left to right, back row—Dr. Edwin C. Jahn, Associate Professor of Forestry; John J. McNair, Graduate student; Liler E. Spence, Instructor in Forestry; Dr. W. D. Miller, Instructor in Forestry; Royale K. Pierson, Blister Rust Investigator; Floyd Otter, Instructor in Forestry; and A. M. Sowder, Assistant Professor of Forestry.

Front row—Stanley C. Clarke, Extension Forester; and the following students: Henry Ziminski, Charles Carlson, Stewart Brown, Wm. Gaffney, G. Lloyd Hayes, Paul Anderson, and John W. Parker.

ternal relations among earnest workers engaged in forest activities.

To reward scholarship among Idaho forestry students, Epsilon 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, Charles A. Wellner; Junior, John W. Parker; Sophomore, Leslie Albee; and Freshman, Charles Brown.

SENIOR AWARD

The Senior award was won this year by G. Lloyd Hayes, Forester of Epsilon Chapter. To be eligible for this award, a graduating senior must have won average grades of not less than 4.5 for his first two years and 5.0 for his junior

and first semester senior years. These candidates are given a weighted grade on the following basis: 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 the payment of one year's membership fees in the Society of American Foresters and a year's subscription to the Journal of Forestry. Since membership in the Society is attainable only through nomination by a Section of the Society and later, election

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This year two meetings a month have been held, one a business meeting and the other a banquet. Speakers at the banquet included G. M. Cornwall, owner and editor of "The Timberman"; C. K. McHarg, Jr., Regional Forest Inspector; W. W. White, Assistant Regional

(Continued on page 46)

QUARTER CENTURY OF SERVICE TO UNIVERSITY

CLEMENT LEE PRICE, forest nurseryman, whose picture is shown on this page, started his twenty-fifth year in the employ of the University of Idaho this spring. His services during this period have been continuously with the School of Forestry or Department of Forestry as it was called prior to 1917. He began his forestry work for the University April 6, 1910, and has watched the School grow into one of the strongest forest schools in the country.

Mr. Price was born at Oblong, Illinois, September 25, 1863, and received his education, which consisted of graduation from high school in that town. He taught school during the next decade in Illinois, Nebraska, Oklahoma and Montana when those states were listed in the frontier country. He married Margaret C. Predmore at Walworth, Nebraska on New Year's Eve, 1889.

Mr. Price came to the State of Idaho October 3, 1899, and located at Wallace, during the mining strike, and occupied himself with truck gardening. In 1903 he moved to Kendrick, where he remained until 1909, being engaged in diversified farming. The fall of this latter year he moved to Moscow where he has since resided. Mr. Price has therefore been an Idahoan for thirty-five years.

FIRST LARGE TREES FROM NEARBY HILLS

Mr. Price personally planted most of the larger trees now thriving on the campus. Many of the large coniferous trees now forming a very important part in the university landscape he obtained from their native haunts on Moscow Mountain. Mr. Price explained that some fair sized evergreens were wanted, so with team and wagon he spent a day in going to the nearby hills, digging trees 3 to 6 feet tall to be used for immediate improvement in the university landscape. The first such group planted are those just west of Morrill Hall.

Mr. Price in recounting the establishment of the present Charles Houston Shattuck Arboretum, states that the area, when released for tree planting, was nothing more than a thistle patch with an occasional scrubby fruit tree. The forest trees were planted in the spring of 1910 and planting continued for the next several years until the entire area was covered, except a portion retained for growing nursery stock.

PRICE GREEN DEDICATED

Price Green, a grass covered foresters meeting square, nestled among the trees in the arboretum,

was dedicated to Mr. Price on May 18, 1932. At the exercises, presided over by the Associated Foresters, the Reverend C. M. Drury of Moscow opened the ceremonies with an invocation, and Liler E. Spence, instructor in forestry, gave the dedicatory address. Dr. E. E. Hubert, in a brief review, stated that the university was highly appreciative of the splendid services Mr. Price has given to the School of Forestry during his long period of service. The exercises were concluded with a beautiful trumpet solo entitled "Trees," played by Charles McConnell, a university student.

This area is the meeting place of many faculty and student university organizations.

Concerning Mr. Price, the late Dean Miller writes as follows in the 1929 Idaho Forester, "The success of the nursery is due in a very large measure to his industry, skill and devotion to an ideal—that of public service."

HEYBURN PARK TO BE DEVELOPED

The Heyburn State Park bordering Coeur d'Alene Lake in Northern Idaho is undergoing a transformation the coming summer. Over a decade ago the late Dean F. G. Miller and Dr. Henry Schmitz, then Idaho professor of forestry, accompanied by several forestry students, made a detailed survey of the recreational resources of Heyburn Park and a complete report was submitted. Jack Hume, '31, who recently was placed in charge of Heyburn Park development along with other similar projects for the State Department of Public Works, states he is using Dean Miller's report as a guide, and the recommendations the report carries are invaluable to him in his work.

Another dream of Dean Miller's is nearing fulfillment.

Mention has been made elsewhere in this edition of The Idaho Forester concerning Dean Miller's dream of a University Forest on Moscow Mountain. Still a third major project which Dean Miller has hoped would be undertaken is that of the development of the recreational resources of the state land in the Payette Lakes region. Dean Miller also drew plans for this project in the early twenties and a CCC camp has been working on this job the summers of 1933 and 1934.

The largest tree of record is a redwood tree in Big Lagoon, Humboldt County, California, which scaled by careful measurement, 361,366 feet of merchantable lumber (Spaulding scale).—Anon.



Clement Lee Price

THE EIGHTEENTH ANNUAL BANQUET

LEON F. NADEAU, '36

THE Society of American Foresters and the Associated Foresters convened at the Moscow Hotel Wednesday evening, March 14, for their eighteenth annual banquet.

One hundred and thirteen plates were set and after all had found places, C. K. McHarg, Jr., Regional Forest Inspector and toastmaster for the banquet, requested that everyone observe a moment of silence in honor and respect to the late Dean Francis Garner Miller. The silence was followed by an invocation read by the Reverend Hamilton West of the Moscow Episcopal Church.

Fruit salads and cube steaks were quickly in order and almost as quickly disordered. After the dinner, cigars were passed and a rather effective smoke screen thrown up. Out of the smoke emerged Miss Dorothy Brown to entertain with two choice vocal selections.

Mr. McHarg next, in harmony with the general feeling, expressed his regret that Dean Miller could not have attended the meeting which he had planned, and voiced the opinion that it would have been the Dean's wish that in his absence the meeting and banquet be carried on as arranged.

In describing his personal contacts with Dean Miller, Mr. McHarg used such terms as "constant friend, sincere counselor and helpful adviser" and added that at no time had he failed to find about the Dean's office an atmosphere of welcome and earnest assistance when meeting an appointment. Regardless of how confusing the problem, with the dean's assistance a solution was generally found. The Dean never rushed into a decision, but always weighed the problem from every angle and arrived at a conclusion only after thinking the problem through carefully step by step. On leaving his office, one was always impressed with a feeling of gratitude and encouragement and with the pleasant assurance that at any other time, should he ask it, he would receive the same helpful cooperation.

Mr. McHarg then introduced Dr. M. G. Neale, President of the University.

Dr. Neale congratulated the foresters on the success of the banquet, and proceeded directly with a very interesting discussion of the Dean's personal characteristics and his profound interest in the welfare of the school and its progress.

To him, Dean Miller was an idealist, a believer in the future who had the combined capacity of visualizing and of assisting in bringing about advances in forestry and other sciences, to the benefit of society as a whole. He believed in forestry, not alone as an occupation, but as a necessity to human existence and advancement. He believed that forestry dealt with one of the most precious products of the earth. It grieved him that the original forests of America have been so unnecessarily destroyed and exploited in the past. From this regret he idealized conservation and reforestation, and toward these objectives worked unceasingly, not for what he would gain, but as a public benefit, both present and future.

Dean Miller's last big undertaking was the task of arranging for the inclusion of 69,000 acres of timber land on Moscow Mountain in the boundary of the St. Joe National Forest and toward this objective he labored persistently to his last day of active service. It is indeed regrettable that the Dean should be called before seeing his labors rewarded. Through his efforts a bill providing for the transaction has been presented to congress, and prospects favoring its approval are such that it might be expected to pass, bringing into reality his last great hope.

In speaking of the value of the proposed action to the school, Dr. Neale explained the benefits of having a large area for future forestry studies, and from an economic standpoint. According to Dean Miller's estimate, the 20,000 acres of young white pine included in the area will, in the course of ninety years, probably return several millions of dollars.

Dr. Neale then read two of a great many telegrams received from Dean Miller's friends all over the nation expressing their sorrow on learning of his untimely death.

Reference was made to a suggestion offered by E. A. Sherman in a recent letter to Dr. Neale, that when the University Forest was assembled it should be named "Miller Memorial Forest." The suggestion received unanimous approval, and Dr. Neale concluded by giving assurance that it would be thus dedicated.

At this time Arnold Westerlund was called upon to play a violin solo, which was well received.

Hon. Burton L. French spoke next of Dean Miller as the citizen. During many years of friendship and close association with Dean Miller, Mr. French found him always to be deeply concerned with matters of the public welfare. It was the man's ambition to be of service to man. Mr. French ranked him with Lincoln, Washington and other great men in regard to spirit of citizenship and public service. Of citizenship he said the man who practiced righteousness and obeyed the law was of the best; but more to be honored as a citizen is he who beyond these things is interested in the State, mankind and the future. Dean Miller was such a man.

Herman Daugh here entertained with two selections on the accordion ("Stomach Stienway" as the toastmaster referred to it), after which C. L. Billings, Manager of the Potlatch Forests, Inc., Lewiston, told of his personal contacts with Dean Miller.

Mr. Billings first met the Dean while the latter was in north Idaho on a matter of public service. Since that time he had known him always in that occupation. During several years of close association with the Dean, Mr. Billings said he found him invariably bearing an attitude of leniency, tolerance and sympathy toward his associates. As a traveling companion he was patient and congenial. Whether traveling by foot or by plane, he was always a match for his comrades, and in every way a true forester. Mr. Billings

(Continued on page 46)

JUNIOR 1933 TRIP FIELD



J. S. BARRON



SOME OF THE BOYS AT THE START



GEO. YARNEAU



AT THE OLSON WHITE PINE MILL.



THE ANNUAL BOAT RIDE



A GAME OF INDOOR OUTDOORS



TOWNS' BIG CREEK BATH



FLOYD
COSSITT



LOWERING
DEVICE



OLON
OLSON

NORTHERN ROCKY MOUNTAIN FOREST EXPERIMENT STATION

JUNIOR FIELD TRIP

WM. TOWNS, '34, AND JOHN PARKER, '34, INC.

SUNDAY, MAY 28, 1933

THE boys arrived in camp at 5:50 p. m. at the Northern Rocky Mountain Forest Experiment Station, Priest River, Idaho, with enough dust in our ears to raise next year's potato crop. Inventory showed Chas. Crawford, Jimmy Jay, John Parker, Elliot Redman, Clarence Stillwell, Wm. Towns, and Loren Wright, besides the instructor were present. Two Juniors, otherwise known as Crawford and Wright, had enough courage to bring along their pink pajamas, but regretted it on finding themselves in a tub of cold water during the night. Only one major accident occurred. Jimmie Jay lost a part of his pedal extremity. But all of us lost sleep.

MONDAY, MAY 29

Monday morning was spent browsing around the experiment station grounds, looking over some of the work. Our instructor decided we needed something to stimulate our appetites for lunch so he took us up to the Crow's Nest. Stillwell, Parker and Jay vied for honors in climbing to the top of the tree. Parker claimed a foul on the ground that someone was rocking the boat. J. B. Thompson conducted us over the station grounds in the afternoon, explaining the buildings and their construction. Jimmie Jay gave a store room in the laboratory a very close inspection; at least he was locked in there long enough. Redman wasn't saying a word.

TUESDAY, MAY 30

Tuesday will probably be a long remembered day in the erring lives of juniors—especially one named Towns. And I'll tell you why. He was out on the Big Creek mill pond rolling logs at such terrific speed that he couldn't tell where the spray ended and the mill pond started. A wild scramble ensued, during which he grasped at thin air with a wide open mouth. A cold bath was the result, followed by the good old horse laugh from a bunch of sympathetic pals. It is rumored that Stillwell kept both feet on the floor while eating at Camp Four, but Jay came out eating cookies as per usual. Thanks to the commissary, Towns didn't have to go back to the station until he was presentably clad.

WEDNESDAY, MAY 31

This is certainly a wonderful place to live. Ten million mosquitoes can't be wrong. Wednesday was spent examining various experimental plots. Charlie Crawford seems to be the main attraction for the mosquitoes, but then he's interested in the insects.

THURSDAY, JUNE 1

Our instructor is looking for "pa" and "ma" squirrels for the University Arboretum so if any of you foresters are ingenious enough to catch ma and pa, please forward them to him. Growth studies and thinnings kept us occupied for the greater part of the day, and in the evening we had time for a ball game. Said ball game was

started in a friendly spirit and ended in the same way??? It was the second inning only which was a little rough. Redman had to dodge the peavy handle bat. No casualties.

FRIDAY, JUNE 2

Friday was a busy day but nothing in the way of excitement. The afternoon was spent cruising timber on Big Creek. Crawford won the extra piece of pie for the best estimate. Everyone went to bed early because the morrow looks like a big day for all concerned.

SATURDAY, JUNE 3

The day dawned fair and clear and promised to be the best from the weather standpoint so far on this field trip. We started north and visited Jack Pine Flats on our way to Olson's logging operations.

Parker and Crawford were in line to furnish the entertainment on the mill pond that day. They found themselves adrift on a raft and without a paddle. Redman distinguished himself at lunch by eating three or maybe more pieces of pie. Jimmie Jay is still hitting the cookies.

The "shin dig" at Blue Lake proved to be a huge success. Redman seems to have a preference or a weakness for blondes. We used to think he was particular. Coffee was served at 12 o'clock.

SUNDAY, JUNE 4

The Junior Class again succeeded in raising enough funds to take the annual boat trip up Priest Lake. Captain Markham, alias the "skipper of the Senakuteen," was lured into some rather interesting tales which were needed to make the trip complete. In other years some of the small boys entertained themselves by pulling the whistle cord of the old "Tyhee." This year the youngsters had to amuse themselves in other ways as the good captain is the proud owner of the new gasoline launch, above named.

P. S.: The boys are too tired to look for pa and ma squirrels tonight.

MONDAY, JUNE 5

Work was started on the thinning plots today. The boys are interested because the instructor had to ask them twice to quit and go back to the station for lunch. It looks as if the quizzes are going to start soon. Everyone has his notes out and Wright is seeing to it that each one can trace the history of the public domain.

TUESDAY, JUNE 6

A quiet day was spent around the Station with George Jemison giving us the dope about the inflammability stations and weather records. Mr. Evans gave an interesting lecture on lightning. A quiet evening was spent over exams.

WEDNESDAY, JUNE 7

We finished our thinning plots minus Redman and Towns, who left for their summer work at

(Continued on page 46)

THE 1933 BIG CREEK BATH

ELLIOTT REDMAN, '34

ALL embryo foresters have at one time or other read tales of river rats who walk carelessly about mill-ponds, streams, and other bodies of water with nothing between them and the icy depths but a few logs of various sizes and descriptions. The animal instinct within the breast of most any young forester seems to be that of leaping upon any group of floating logs presenting itself just to prove to his own satisfaction that log-rolling is not as difficult as depicted, or more probably to prove that he is just a little above the average when it comes to the art of balancing himself and manipulating his calked boots from log to log. Records of the forestry school indicate that bath after bath has resulted from such fanaticism.

Our man, William Towns, class of '34, who hails from Sioux City, Iowa, was the one to write a chapter in the events of the 1933 Junior Field Trip last spring at the Diamond Match operation near the Priest River Forest Experiment Station. Needless to say, "Bill" wrote his bit of history with many graceful arcs and gestures, all of which terminated in a forced one-point landing on the back of his neck right in the middle of the log pond.

It happened soon after we had partaken of a fine logging camp dinner at which "Jimmy" Day disgraced the University of Idaho before the personnel of the logging operation with his unlimited capacity for cookies. It is my opinion that "Bill" has the cooks to blame for the whole thing, because we would all have been treating "Jimmy" for founder had not the cookie supply become exhausted. Regardless of the blame, "Bill" came to an untimely ducking and spent the rest of the year trying to get his bath schedule readjusted.

Before the main event several casualties oc-

curred in which two or three of the boys were seen to drop down at intervals and grab armfuls of logs, but no one got wet above the knees.

One of the boys discovered a log that was too large for him to roll, so "Bill's" generous assistance was requested. "Bill" promptly got on the other end of the log and the rolling process started. The log had passed thru an arc of approximately 400 degrees when "Bill" got a bit unbalanced and hopped off the log. Either his judgment was somewhat short on one end or he had not allowed for that second helping of pie, for he lacked just a bit of getting in an upright position on that particular log. The thing to do then was to hop back to or toward the first log, which "Bill" did—in a way. At least he jumped for the supposed position of that log, but it was not where he wanted it.

He did, however, manage to get his feet partly on said log even tho his body formed a parabolic contortion of the sixth power. As he started to fall backward he reached for at least five logs. Notwithstanding the fact that his reach was six or seven times farther than normal, he was just short of any log. "Bill" submerged in the icy waters with his mouth wide open and the most horrifying expression on his face I have ever had the "pleasure" of seeing on anyone. When "Bill" came up spouting like a whale, he navigated himself toward sawlogs with a swimming stroke resembling that of a windmill in a distressed cyclone and when he crawled up on logs so that he was finally spread across about four, he looked up at us and with eyes as big as saucers exclaimed, "Hand me more logs, hand me more logs!"

We got "Bill" out (hooked his pants with a pike pole)—helped him wring out his clothes, wrote "fnis" to the 1933 bath, and started down the road in search of tamer entertainment.

SONG FOR THE IDAHO FORESTERS

Hoist your coffee cups, you hombres of the trail,
With a chorus that will turn the coyote's tail,
Like the braying of an ass in a narrow mountain-pass

With the spirit of the men who never fail;
Sing a song of lonely lookouts on the peaks;
Sing a song of distant solitude that speaks;
Sing a song of boots and spurs where the screeching eagle whirs;

Sing a song of slapping saddle-bags that squeak;
Sing a song of bleating sheep and lowing steers
That will echo from the canyon walls for years;
Sing a song of life and beauty with a service call to duty

That will turn a roaring crown-fire into tears;
Shout a song of blowing clouds and rushing streams;

Lift a song that drowns the mountain-lion's screams;

Raise a chorus Heaven-high for the good old U. of I.

And the foresters who battle for their dreams.

Stanley Foss Bartlett.

HOMECOMING VISITORS

Several alumni of the School of Forestry "checked in" at Morrill Hall last Homecoming, November 11, 1933, when the University classic football game between Idaho and the State College of Washington was held. George Fisher, '33, came over from Missoula; Floyd Godden, '27, drove up from McCall; and Harold Brown, '33, who is occupied at the Corvallis Indian Reservation with headquarters at Nespelen, Washington, and Raymond Swanson, lately of Grangeville, Idaho, managed to make the journey to their Alma Mater.

FORESTRY GRADUATE RECEIVES SCHOLARSHIP

J. Hugo Kraemer, who received his Bachelor of Science degree this June from the Idaho School of Forestry, has been awarded the Bliss Scholarship in Forestry at Harvard University Graduate School for the coming school year. Mr. Kraemer plans to carry on research work in silviculture, with the ultimate plan of going into teaching or experimental work.

BLISTER RUST LABORATORIES MAINTAINED AT SCHOOL OF FORESTRY

THE federal government in cooperation with the Idaho School of Forestry established research laboratories on the University of Idaho campus several years ago to deal with projects leading toward the control of the white pine blister rust. This disease is a very serious threat to western white pine and Idaho contains the largest body of this species extant. Four phases of the problem are being studied intensively by four investigators as outlined below.

CHEMICAL INVESTIGATIONS

Rene P. d'Urbal, Assistant Chemist of the U. S. Dept. of Agriculture, is carrying on the work pertaining to chemical investigations and in reviewing his project states that chemicals have been used for the past several years to eradicate large masses of currants and gooseberries growing along the streams in the Idaho white pine belt. The use of chemicals for this work is the outcome of extensive field and laboratory investigations conducted by the Division of Blister Rust Control. Laboratory and greenhouse facilities have been made available for this work through the cooperation of the University of Idaho and the University of California.

Cooperative work was begun at the University of Idaho in 1930. The facilities provided by the School of Forestry include ample laboratory and office space on the fourth floor of Morrill Hall and suitable greenhouse space. The laboratory is fully equipped with all the facilities necessary for various types of analytical work. A few of the chemical studies that have been carried out in the laboratory are listed below:

1. Determination of the fixative and alterative properties of field soil in regard to certain chemicals.
2. The seasonal variation of starch and tannin in a number of different species of *Ribes*.
3. The movement of ammonium thiocyanate in plant tissues when the chemical is applied to the soil or to the aerial parts only.

The greenhouse is well stocked with *Ribes petiolare* and *Ribes inerme*, the two species which occur most abundantly along the streams in the white pine belt. These plants are used to test the merits of new toxic agents. The dosage and mode of application of the chemicals are varied. The preliminary results obtained in the greenhouse serve as a useful guide for subsequent intensive field experimentation.

Greenhouse and laboratory work have been expedited by securing the part time assistance of a forestry student who has taken care of some of the routine operations such as preparation of samples.

METHODS PROJECTS

This phase of the research work is under the direction of V. D. Moss, '32 and M.S.(For.) '33, who explains his project in the following paragraphs.

The ever increasing number of *Ribes* eradication problems arising with the expansion of blister rust control operations has given Methods project many investigational undertakings to solve and determine their practical possibilities. The successful use of chemicals for stream type eradication has added a second purpose to this project, namely, taking scientific data recommended by our chemical division and investigating the probable application of such data for practical field operations.

At the present time, the Methods project has two series of experimental plot studies under way. Both series involve a comparative study on methods of hand and chemical eradication. Some of the chemicals being used for investigative work are sodium chlorate, Atlacide, ammonium thiocyanate, zinc chloride, sodium chloride and a copper complex. An interpretation of the final results are made from Methods plots and recommendations drawn up for practical field operations.

The last few months, this project has undertaken a histological and cytological study of chemically treated *Ribes* stem and root sections. The purpose of this investigational work is to determine the physiological effect chemical concentrations and dosages of Atlacide (sodium chlorate) and ammonium thiocyanate have on plant tissues. The laboratory work is being performed at Moscow, Idaho, where the Division of Blister Rust Control has been extremely fortunate in obtaining the cooperative services of the School of Forestry, the latter furnishing well equipped laboratories, greenhouse space, libraries, and a darkroom for photomicrographic work. Methods projects finds it necessary to employ a number of forestry students, both in the laboratory and in the field.

STUDY OF MOVEMENT OF MYCELIUM OF THE BLISTER RUST FUNGUS

The Division of Blister Rust Control has designated C. M. Chapman to devote his time to making a study of the mycelial movement of the blister rust organism (*Cronartium ribicola* Fischer) in needles of western white pine.

The pines used in this study were selected from native grown seedlings and exposed to infected *Ribes petiolare* under natural field conditions. Infected needles have been collected every 10 days since infection and fixed in formal-acetic alcohol. Fixed needles are rapidly prepared, imbedded, sectioned, stained and mounted with satisfactory results. The study will be carried on two or three years in order to average out individual tree differences and variations in climatic conditions. No final statement can be made until the work is near completion.

The fourth phase of this problem is in charge of Royale K. Pierson, M.S.(For.) '33, technician, Division of Forest Pathology, Bureau of Plant

(Continued on page 44)

FORESTRY AT THE SOUTHERN BRANCH UNIVERSITY OF IDAHO

CHARLES M. GENAUX, M.S. (For.) '29

Professor of Forestry

PROGRESS is measured in terms of actual accomplishments rather than in terms of the acquisition of supplies and equipment with which to work. On the other hand, it is obvious that the better the equipment, the better the opportunity for doing worthwhile work. Thus it is that the Department of Forestry of the Southern Branch, University of Idaho, Pocatello, points with pride to the results achieved in its three years of existence, and to the instructional facilities which it now possesses.

Thirty-eight students from five states are now enrolled in the department, which gives a two year forestry course, and at the end of the current school year, 24 men will have completed their first two years. There were only two members in the 1932 graduating class, and both are now employed in Region Four of the U. S. Forest Service. Fifteen men finished in 1933 and six of them enrolled in the Idaho School of Forestry at Moscow last fall. Of the nine remaining, all of whom stayed out of school this year, six are temporarily employed by the Forest Service in Region Four, one in Region Three, one is employed by U. S. Indian Reclamation Service in Arizona, and one only is unemployed. Three members of the graduating class of 1934 will be employed as lookouts and fire guards this summer and five freshmen will be similarly occupied.

SMALL NURSERY MAINTAINED

The department has a small nursery which is maintained to serve as a laboratory for seeding and planting, to provide stock for campus planting, to propagate arboretum specimens, and to furnish trees for demonstration windbreaks and farm woodlots which will be established on university property. Seventy species of trees are now present in the nursery.

The University library contains copies of the

most recent forestry texts, pamphlets, and periodicals. Greenhouse space is available for germination tests of tree seeds. National forest lands adjacent to, and in the general vicinity of the campus, are available for laboratory instruction and experimental work through the generosity of the Forest Service. In addition to the facilities above mentioned, the department has acquired a fairly complete collection of American forest tree seeds and fruits, as well as specimens of the twigs and foliage of these trees. The latest fire protection equipment is on display in the forest rooms, and other exhibits include woods, tree disease specimens and specialized forest tools and equipment.

OTHER DEPARTMENTS COOPERATE

No account of forestry at the Southern Branch would be complete, however, if it failed to mention the strong support of other departments of the institution, particularly botany, mathematics, chemistry, zoology, English, engineering, and social science, all of which maintain uniformly high standards of scholarship and contribute in a large measure to the development of our students. Close cooperation also obtains between this department and the Idaho School of Forestry, which gives four-year courses in the curricula of general forestry, logging engineering and range management.

Every effort is being made at the Southern Branch to provide the best possible training in the first two years of the forestry course, and the work is made easy and pleasant by the loyal support of students, fellow faculty members and friends. The course is so arranged that the Junior and Senior years of forestry work may be continued at the University of Idaho School of Forestry at Moscow without interruption.

ACTIVITIES OF THE SOUTHERN IDAHO FORESTERS

W. HOWARD CAMPBELL, '34

THE beginning of the school year 1933-'34 saw 31 new students enrolled in forestry which, with the old students, made a total of 38 foresters at the University of Idaho, Southern Branch. Early in the school year an all day trip was made to the boy scout camp south of Pocatello on the Cache National Forest. The purpose of the trip was to "get acquainted" as well as to observe the timber growth and the effects of fire and erosion. After a strenuous four hour hike to the top of Scout Mountain, during which one member of the party was lost, games were played, lunch served, and as a fitting climax, each new student was called upon to introduce himself and give a short talk.

FORESTERS BANQUET SUCCESSFUL

The biggest event of the year was the Foresters' Banquet. The students had looked forward to this banquet for months. To all students, old and new, this is an event which forms a lasting impression among the Forestry Club activities of the Southern Branch. The principal speaker was Dr. George Stewart, Senior Ecologist of the Intermountain Forest and Range Experiment Station, who delivered a splendid address, choosing as his subject, "The Importance of Study in Grazing Experience." The illustrations used in his talk helped greatly to impress his audience with

(Continued on page 44)

FORESTERS' EXHIBIT PROVES INTERESTING

JOHN HAYS, '35

The 1934 exhibit of the Associated Foresters presented Saturday afternoon and evening, May 5, proved to be one of the most outstanding exhibits on the Engineer Day program. The Associated Foresters, the Associated Miners, the Associated Engineers and the Home Economics Club, joined in putting on educational exhibits for the benefit of the various departments, students, and faculty of the University as well as visitors throughout the Inland Empire who were present. The project is presented every other year, alternating with the State College of Washington, at Pullman.

The program got under way this year with a luncheon at the Blue Bucket Inn at which there were several hundred in attendance. Following the banquet the exhibits were opened to the public and students stood in readiness to answer any questions spectators and visitors might ask. The Associated Foresters' exhibit was scattered from the third floor of Morrill Hall down to the front of the building and over to the Wood Conversion Laboratory.

The dendrology and wood technology exhibits were presented by Henry Ziminski while the forest mensuration was handled by Brennan Davis. Charles Carlson, assisted by Herbert Freece and Dean Sachs, had charge of the range management. A large number of game trophies and outdoor equipment made up the wild life display

over which Milton Edwards presided. One of the most unusual exhibits was the wood products and Clarence Stilwell stood ready to show the visitors about the Wood Conversion Laboratory. He was assisted by James Jay, Donald Johnson, Robert Opie and J. J. McNair.

Fire protection and silviculture exhibits took up the entire second floor hallway of Morrill Hall and the boys who demonstrated the various equipment and answered the questions asked were Leon Nadeau, Robert Johnson, Barney Kolb and Virgil Gould. The forest pathology was highly instructive and emphasized in particular the life cycle of the dreaded white pine blister rust disease. The students in charge of this exhibit, which took up the west end of the third floor hall, were Grey Reynolds, Amos Nugent, Fred Ahrenholz and Anders Hultman. Lloyd Hayes and John Parker took turns at demonstrating an electric moisture content indicator. The delicate instrument would show the moisture contained in a board in an instant's time.

One reason for the large number of visitors who called to inspect the Associated Foresters' exhibits was the generous publicity arranged by Charles Brown and Ralph Jensen. All in all, the Idaho Associated Foresters cooperated to the fullest extent to make the current year's exhibit one of the most interesting ever presented.

Francis Garner Miller

(Continued from page 7)

in addition to which I had a very great respect for his ability and knowledge. The loss of Dean Miller will be keenly felt."

"Dean Miller certainly made a very great record for himself in training boys for forestry work. Idaho forestry boys were always well trained and do excellent work."

"All foresters recognize that Dean Miller has been a strong force in advancing the profession and that his efforts have been rewarded with notable success."

"I have always been an admirer of Dean Miller. His Christian humility, his kindness, his humanness made him loved by many. As I grow older, these human traits gain greater value in my eyes than mental aggressiveness or even scholarship unless it is tempered with humility."

"Dean Miller had endeared himself, professionally and personally, to all of us in the Forest Service who knew him. We, too, have lost a friend, a companion and a professional associate whose passing will be mourned for many a year."

"We do not need other proof of immortality than such a life as Dean Miller's. His unselfish devotion to the high ideals of life and profession, and his influence on his students and associates for better living cannot end. Otherwise, it would be contrary to the general scheme of the universe."

"Dean Miller was a tower of strength in the profession. His achievements place him among our great leaders and teachers of forestry."

"Friends and the world have experienced a permanent enrichment through Dean Miller's creative life. A man of great external calm, of simplicity of demeanor, whose tenacity of purpose could be seen only after its complex and difficult achievement. Faithful always to his friends and the best that was in him, and like his beloved forests, always growing and pointing skyward. He called into existence or nurtured two great institutions of wholly noble and unselfish purpose; of how few men can this be truly said! He both planted and watered, and his saplings have at length become trees of beauty like Cedars of Lebanon."

School of Forestry alumni and former students have expressed their sentiments in the following way in referring to the passing of Dean Miller:

"The Idaho Foresters have lost their best friend and forestry a real champion."

"It was with great sorrow that I heard of the passing of Dean Miller. The profession of forestry, the School of Forestry, and the students and alumni have lost a great friend."

"Dean Miller's death came as a distinct shock to me. He was a man truly devoted to his students and the profession of forestry."

"I am proud to boast that I was one of Dean Miller's 'boys,' and with due modesty may I say that I am a better man for the contact with him—he didn't have to teach or preach; his own example and his convictions in forestry and life were sufficient to impress any young man."

THE ELEVENTH ANNUAL BARBECUE

CHAS. G. BROWN, '36

THE true foresters' spirit of cooperation and response to Associated Foresters' activities was well evidenced by the turnout for the Eleventh Annual Barbecue held Campus Day afternoon, May 9, at Luvaas Grove at the base of Moscow Mountain. The four classes were unusually well represented to give the largest attendance to any of the more recent barbecues. Conditions were ideal for this annual day of diversion,—the air being crisp and fresh after a night's rain, the sun bright and warm, and the grove, with its green pasture, surrounded by aspens and pines, and an inviting swimming hole, aided the student foresters in retrieving their summer energy and competitive spirit.

The usual sport events of recent barbecues were in order to limber the muscles and prove that brains and brawn can come from the same individual. Leon Nadeau, Sophomore, was the outstanding athlete for the day's activities. John Parker, Senior, however, nearly equalled Nadeau's mark despite the fact that his entries were confined to the last events due to his work in completing entertainment arrangements for the day. Each of these two students contributed the greatest number of points to his respective class. The Sophomore class for once broke through to the winning ranks, acquiring 35 points to down the Juniors with 32 points. The Seniors and Frosh gathered enough points to make the meet close from the beginning. Several times during the afternoon each class led and once they were tied at 18 all.

The 50 and 100-yard dashes started the competition with two fast heats being run on a narrow, crooked, mud-puddled lane. Mielke, Frosh, and March, Senior, ran a fast race in the 100, with the former running first into the tow rope used as a tape. Timekeeper Ziminski reported the unusual fast time of one flat when Marshall, Sophomore, skided across the finish line on all fours. This fast time was ruled out because the track with its 15 per cent slope provided too fast a course. March came back to win the 50-yard run in two jumps from the take-off. Mitchell, Junior, had to "take five" enroute and was content with second place.

Ziminski's two years' previous experience in the three-legged race gave the Juniors an advantage and victory in this event. M. Fickes, his team-mate, was the other reason for the win. Brown and Turner, Sophomores, came in for second place. "Flask-kid" Ziminski had to accept the judges' decision in the sack race, even when he knew that his high jump over the tape was a better performance than Nelson, Sophomore, could give. However, Nelson's timing won the race for the sops.

Nadeau proved to the boys that experience, and training (without fags) was enough to win the chopping contest. His ax went through the 16-inch log in the fast time of 2:53½ minutes. Edwards, K. Fickes, and Hayes also competed but could not finish within Nadeau's time.

Carlson, Junior, after running down the road three miles to a ranch house for a dozen eggs

came back in time to show the boys that throwing eggs to the tree tops and catching them couldn't be done. However, Wilson, the Jersey Frosh, demonstrated the technique used in Hoboken by tossing his eggs for five minutes to win first. Stillwell, the rough-cut Granger Senior, placed second with his 60-foot throw and an egg scramble.

"Scoop" March with his team-mate, Parker, Seniors, won the sawing contest in the rapid time of 42 seconds. Helpful team-mates poured water on the saw to keep the log from catching fire. M. Fickes and Edwards for the Juniors cut through the 44-inch log in 46 seconds for second place.

Stillwell stepped in too many gopher holes in his course in the relay. Coming down the home stretch he attempted to roll-in but wasn't fast enough for Mielke, who won the race for the Frosh. The Sophomores placed second and Juniors also ran. In the tug-of-war the husky Juniors proved too much for the other three classes.

Jensen, Sophomore, had the boys arguing as to whether or not he "blew" in the "horseshoe" contest. Douglas, Junior, came second. This event removed the Juniors from their top place. However, the judges awarded the victory to the Sophomore entry because the beginner showed the habits how to do it.

One of the more interesting events was the splash and shower from a rolling log. Nadeau again proved his superiority in logging by staying on the slippery thing 12 seconds, despite Timekeeper Ziminski's pull for his classmate Nugent. Parker thrilled the crowd with some log-rolling foot work which resembled a combination of the Kalispell hop and kangaroo tango. However, he managed to pass Nugent's time according to Ziminski's slow watch, to second place Ziminski was again "censored" for his slow watch when Parker climbed 50 feet for first place win in the climbing contest. Greco, Sophomore, was also handy with the climbing spurs for he was awarded second place.

White the "wet" foresters (Parker, Nugent, Nadeau, and McKee) were drying their clothes and warming themselves, "T-Bone" Hultman and "Coffee Joe" Davis started dishing out the "chuck" to the hungry foresters. The victorious Sophomores were given first chance to revive their tired bodies with beans, sandwiches, Coffee and ice cream.

Just at sunset the first truckload of foresters left the scene while those remaining continued the sport of baseball until dark. After all was over, many foresters commented on the day, exclaiming this to be the best of all the barbecues. The large turn-out, high spirit, ideal weather, and perfect plans of Chairman Davis were the principal reasons for the successful day.

QUITE THE CONTRARY

Professor—"The sap is an indication of vigor in the trees."

Student—"Not in family trees, professor."

PRIZE WINNER NOW STUDYING FORESTRY

In retrospect, it was no miracle that Leon Nadeau, an Idaho School of Forestry student should take up the study of forestry. The readers of *The Idaho Forester* could turn back to the 1928 edition, page twenty-two, and find that Leon Nadeau, then eighteen years old and a sophomore in the Garden Valley (Idaho) High School, won first prize in the state-wide Forest Essay Contest sponsored by the North Idaho Forestry Association. Mr. Nadeau's essay title was "The Recreational Uses of Idaho Forests," for which he was awarded fifty dollars. There were over 1,000 contestants from all parts of the state.

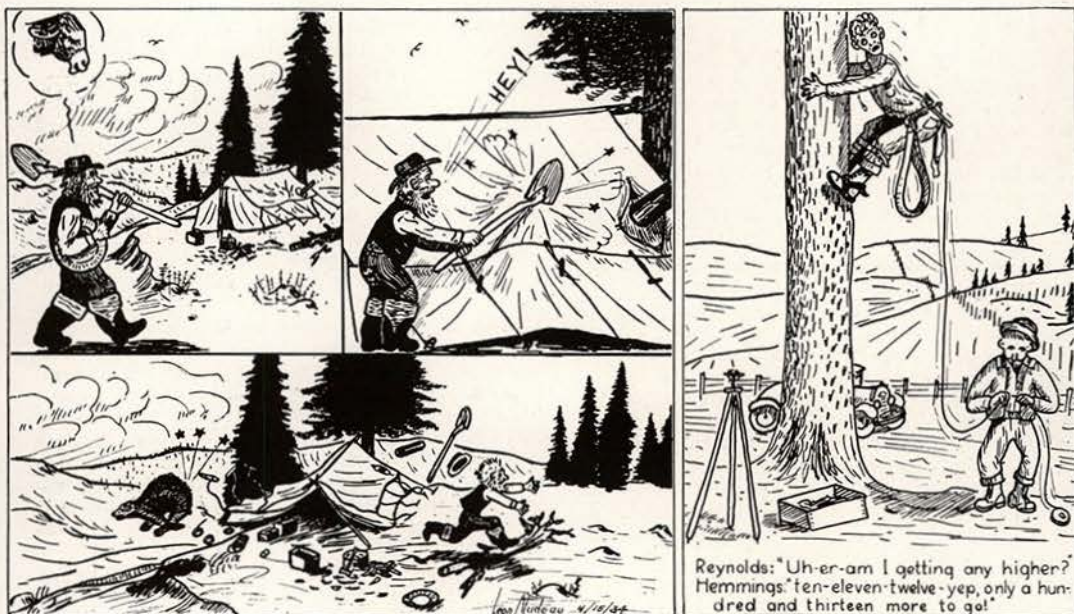
In reviewing Mr. Nadeau's life, it appears that he has been a forester since "away back when." After finishing high school at Caldwell, Idaho, he accepted a scholarship at the College of Idaho, Caldwell, where he attended the school year 1930-'31. Most of his forest work has been with

the U. S. Forest Service in Southern Idaho, but he has also had considerable experience in logging and milling.

Mr. Nadeau can be quoted as follows: "Having always lived and worked in the forests, the study of forestry in college seems about the most natural course possible. It is often said that to best succeed, one should do that work which affords one the most pleasure. I know no more enjoyable work than that which deals with the great open spaces. I have always found what I wanted there, and hope to in the future on a larger scale."

Incidentally, Mr. Nadeau is a very active forestry student on the campus, and he has a knack of always getting things done.

Mr. Nadeau is very diversified in his capabilities, for he is not only an excellent author, but he is also a good cartoonist. Some of his work is shown on this page.



IDAHO GRADUATE SUPERINTENDENT OF FIRST C.C.C. CAMP

To Robert P. McLaughlin, an Idaho School of Forestry graduate with the class of '25, goes the honor of being superintendent of Roosevelt Camp, Clinton, Connecticut, the first established C.C.C. camp. Mr. McLaughlin writes very enthusiastically concerning his work.

STUDENTS FURNISH XMAS TREES TO NEEDY

Idaho School of Forestry students played the part of good Samaritans last Christmas vacation when they furnished needy people of Moscow with the necessary Christmas trees and greenery. The trees were obtained through thinnings in the forest nursery and arboretum and many favorable comments were made concerning the students who participated in this worthy enterprise.

TRACTOR COURSE CONTINUED

The University course in "tractors and trucks" given by Professor Hobart Beresford and Mr. Elmer Humphrey of the department of agricultural engineering was again continued the present year. In this course, which is designed for forestry students, the boys obtain actual experience in driving a tractor, and some students have become proficient enough after the completion of this course to secure jobs as tractor drivers. This year the tractor was a new Thirty-five Diesel procured from the Caterpillar Tractor Company of Peoria, Illinois. Its bright yellow color made it quickly discernible against the green trees of the arboretum and nursery where it was used several days by forestry students to obtain first hand experience in tractor operation. Eventually, it is hoped to make use of the tractor in connection with woods operations such as skidding logs, loading logs, road construction, etc.

CCC IN IDAHO

THE inauguration of the Civilian Conservation Corps has started a new chapter in forest history of the United States, and particularly in Idaho, where untold benefit is being accomplished in the forests of the state. By early summer of 1933 there were ninety-six CCC camps established in Idaho, classified as follows:

National Forest Camps	74	(out of 806, U. S. total)	
State and Private Camps	22	(out of 534, U. S. total)	
Total	96	representing 7.16%	of the total 1340 CCC camps in the United States

How Idaho fared in obtaining CCC camps in comparison with neighboring states in the intermountain region is shown by the following figures:

	Idaho	Wyoming	Nevada	Utah
National Forest Camps	74	7	3	30
State and Private Camps	22	0	0	5
National Park Camps	0	7	0	0
Totals	96	14	3	25

The State of Idaho, through a comprehensive plan developed in recent years, was in readiness to place a large number of CCC workers in the field almost immediately, consequently a great many CCC camps were assigned to Idaho without delay. It was necessary to rush the ECW program, and Idaho was equipped to take care of the company cadres as they were shipped out of eastern concentration camps to the West.

All Southern Idaho camps are called "Improvement Camps," while Northern Idaho has two types, namely "Improvement Camps" and "Blister Rust Camps," since the Idaho white pine, a five-needled pine, is found only north of the Salmon River. This species of trees is attacked by the dreaded white pine blister rust, and consequently the most important Idaho manufacturing industry is threatened unless the disease is controlled.

There were eighteen winter or second enrollment camps located in Idaho covering the period from about October, 1933, to March, 1934, inclusive. These were all called improvement camps and were designated as follows:

SOUTH OF SALMON RIVER	
National Forest camps	8
State and Private camps	2
Total	10
NORTH OF SALMON RIVER	
National Forest camps	7
State and Private camp	1*
Total	8

*This camp was Camp S-260, located on the Moscow Mountain Experimental Forest.

For the third enrollment period covering April to the fall of 1934, Idaho had a total of seventy CCC camps, designated as follows:

SOUTH OF SALMON RIVER	
National Forest camps	8
State and Private camps	2
Total	10
NORTH OF SALMON RIVER	
National Forest camps	46
State Forest camps	14
Total	60

Of these fourteen state camps in Northern Idaho, eight are called blister rust camps, two of which are expected to expend about twenty per cent of their efforts on improvements.

In addition to the CCC camps of Idaho, the Division of Blister Rust Control established many camps the field season of 1933 throughout Northern Idaho, each manned by crews of thirty to fifty men. The present field season the number of blister rust camps has been materially increased. Funds for carrying on this blister rust work were obtained from ECW, NIRA, Division of Blister Rust Control and State of Idaho appropriations.

VALUES TO THE STATE AND NATION

It is difficult to appraise the forest work being done by the ECW and PWA programs in Idaho in dollars and cents. Some phases of the work will not show results for perhaps a decade or two, while others have produced immediate benefits. The work might be briefly summed up as follows:

First, a forest consciousness has been developed in the minds of thousands of future citizens upon whom the care and protection of one of our most important natural resources has been devolved.

Second, the forests of the state receive present and future protection from the white pine blister rust disease.

Third, through fire proofing portions of the forest, the timber receives both present and future protection.

Fourth, recreational resources of the state have been developed to a marked degree for the benefit of citizens of the entire United States as well as for Idaho.

The construction work completed includes many miles of motor trails, foot and horse trails, fire breaks, fences, bridges, etc.; but most important of all has been the fact that this outdoor work has built healthy minds and bodies among those who participated in this gigantic enterprise. Furthermore, the relief obtained in finding employment for the destitute of the nation cannot be overlooked.

FORESTERS' ANNUAL DANCE

CHARLES CARLSON, '35

The Associated Foresters Annual Ball was held at the Blue Bucket Inn on Friday evening, October 27. The decorations consisted of a large number of Douglas fir trees arranged around the walls and cedar boughs suspended overhead, making an ideal setting for the occasion. The dance was a great success, and a credit to the committee consisting of Maurice "Scoop" March, Brennan Davis, and Henry Ziminski.

THE MYTHOLOGY OF WOOD

The more favorable conditions for decay in the summer are sufficient to explain the greater decay of wood during the warm season. There is no known chemical change in the heartwood (extractives in the heartwood determine durability) between seasons. Sapwood is not a factor in decay, inasmuch as it is not durable in any sense of the word.

SOCIETY MEETS AT SCHOOL OF FORESTRY

THE Northern Rocky Mountain Section of the Society of American Foresters met at the Idaho School of Forestry Wednesday afternoon, March 14, Chairman J. E. Ryan, Forest Supervisor of the Kanisku National Forest, called the meeting to order at 2:00 p. m. and appointed E. H. Myrick, Ex-17, as secretary. The program had been previously arranged and announced by the late Dean Miller just before his death.

Floyd Otter, instructor in the Idaho School of Forestry, gave a detailed account of the construction and cultural program being carried on by the CCC camp S-260 on the Moscow Mountain Experimental Forest. Mr. Otter's report is given in full elsewhere in this issue of The Idaho Forester.

Charles K. McHarg, Jr., Regional Forest Inspector, gave an interesting resume of the Copeland Report. The authority for this report was Senate Resolution No. 175 of the seventy-second Congress. Mr. McHarg stated that tax delinquent lands make up the new public domain and they offer a very complex problem.

Blister rust was the third major project taken up in the program, and Royale K. Pierson, of the division of forest pathology, gave a complete account of the life history of the white pine blister

rust. His talk was illustrated with many plant specimens.

BILLINGS ON PROGRAM

C. L. Billings, General Manager of the Potlatch Forests, Inc., Lewiston, talked on the NRA Lumber Code, with special reference to article ten. He stated that in actual forest practice a committee of seven is to be formed. This committee would first write the rules of forest practice in Idaho; and second, administer the rules. Allocation of the cutting capacity will be made by using the Western White Pine Association formula according to capacity, performance, number of employees, taxes, and timber owned and controlled.

Considerable discussion followed Mr. Billings' presentation of this subject.

The School of Forestry Assembly room in Morrill Hall, where the meeting was held, was packed to capacity with foresters from all over the West. A number of blister rust men from California, Portland, and Spokane offices were in attendance. Lumber companies and the Forest Service were well represented. School of Forestry students were permitted to attend, and helped to swell the ranks.

WEEK END CRUISING TRIP

Leaving Moscow shortly after daybreak on May 11, the junior class of 24 students accompanied by their forest mensuration instructor, gained actual experience in timber estimating and forest mapping in virgin timber stands within a forty mile drive from the University campus. In order to save travel time to and from the field, and to get accustomed to a timber cruiser's life, camping out was resorted to. The first day was spent in cruising near Potlatch on state section 24 which bears a mature stand of ponderosa pine. The strip method was used with this timber. Individual student cruises were checked against the reports of the state timber cruiser and against forest school faculty cruises with remarkable closeness.

After the day's work, the drive was continued to Princeton, past Harvard and on to the "summit" on the North and South Highway where camp was established. Some students busied themselves in making beds, many using cedar and fir boughs while others more fortunate used bed springs available at the camp. The kitchen detail lost no time in getting an evening meal over the fireplace, and the dinner was quickly devoured by a tired and hungry group of foresters.

Saturday was profitably spent in forest mapping, using abney and trailer tape, sketching topography as the work progressed using section line control point checks. A staff compass was used by each three-man party to indicate the line of travel. Each man constantly checked his pacing, and time out was frequently taken to determine tree heights with the abney or pacing windfalls, and to measure diameters in anticipation of the next day's cruising job. An evening around the camp fire toasting marshmallows and

swapping stories put everyone in fine shape for a second night's rest in the open spaces.

The next morning each two-man cruising party was assigned a forty of virgin Idaho white pine to cruise by the line plot system and again results checked very satisfactorily with the check cruise. After a sumptuous dinner (with ice cream and cake for dessert, previously arranged as a surprise), prepared by Amos Nugent and his committee ably assisted by volunteers, camp was broken, grounds cleaned and a load of tired but happy foresters headed for the campus.

The School of Forestry

(Continued from page 22)

the School nursery in 1926 and again enlarged in 1929 through the purchase of the 27 acre Shannon property. Although the Clarke-McNary nursery was in operation as early as 1924, the first planting in the nursery in connection with the project was made in 1927. It also saw the development of cooperative research work between the School of Forestry, the Division of Blister Rust Control and the Division of Forest Pathology on a number of urgent studies of the white pine blister rust.

These twenty-five years of endeavor exemplified in the splendid devotion to forestry given by Dr. Shattuck and Dean Miller and their loyal colleagues is summed up not so much in the material progress shown by enlarged quarters and improved curricula, increased equipment and larger staff but in the living products of the School, its one hundred and eighty graduates, who, better than any words I can pen, reflect through their sterling service to forestry and their adherence to the high ideals of the profession, the excellence of their apprenticeship in the Idaho School of Forestry.

Notes on the Origin of American Forests

(Continued from page 24)

much of the mesophytic aspects of the late Miocene. By this time it is doubtful if the Sequoias survived, at least both the Sequoias and Taxodium would be rare trees. When the Pliocene closed, and the ice of the Pleistocene commenced its southward trend, the forests were slowly driven southward. This slow southward drift resulted in much of the coniferous element surviving the ice age. The deciduous trees for the greater part became extinct since the south afforded no haven of refuge because of the meeting of arid climatic conditions. This was the reverse of the conditions of the east and southeast, and resulted in the final extinction of the forest association which reached its zenith in Miocene times.

As the ice receded northwards the forests took advantage of the changing conditions till finally the present forest characteristics were attained. The Pinon-Juniper forest barely enters Idaho at the southwestern and southern boundaries. The *Pinus ponderosa* stands appear to have been derived for the greater part from the northern drift along the Cascades from the Sierras.

The northern coniferous forest (spruce, fir) prevail in the higher altitudes practically throughout the state. The lodgepole pine occupies the middle altitude, and the larch—western white pine associations, the lower middle till it finally meets the Ponderosa pine—Douglas fir associations of the more arid regions.

The climate of Idaho has become progressively arid since the Pleistocene, and it seems that ultimately the Ponderosa pine—Douglas fir association will dominate the intermountain region.

Activities of the Southern Idaho Foresters

(Continued from page 38)

some of the deplorable conditions caused by forest denudation and erosion and the conditions arising from unregulated grazing. The visiting forest officers from the Ogden regional office; and from the Targhee, Lemhi, and the Cache National Forests gave some very interesting talks on forestry and forestry education. Faculty members who were fortunate enough to receive invitations to the banquet gave short talks commending the work of the Forestry Club, the choice of forestry as a profession and its future, and especially complimenting Professor Chas. M. Genaux for his untiring efforts to better the forestry work offered at the University. Several short talks were given by students both from this school and other schools concerning their studies in forestry. There were 60 foresters and guests at this third annual banquet sponsored by the Forestry Club; and the event has helped tremendously to familiarize the young foresters with some of the present forestry conditions and the men with whom they are to be more closely associated.

FIELD DAY INSTRUCTIVE

The next big event of the year for the foresters as a group was the Annual Forestry Field Day. Twenty-three students accompanied by Professor Genaux, left Pocatello at 4:00 A. M. and by 10:00 o'clock they were in Twin Falls ready to start the day classifying trees and observing new specimens that were not to be found in the vicinity of the Southern Branch of the University. A visit to the Kimberley Nursery netted us many new specimens, and we stopped frequently at other places along the road to take test specimens or add new trees to our list.

To add some pleasure to the hard day of traveling and tree classification, a short sight-seeing trip was taken to one of the highest bridges in the world, a short distance north of Twin Falls. At 10:00 o'clock that night, a group of tired and wiser foresters returned home from the annual field trip.

The last "All Forestry Day" of the year was a visit to the Bannock Ranger Station, south of Pocatello, where the district ranger, Mr. Sterling Justice, gave some helpful demonstrations of packing and handling pack animals. A picnic lunch was followed by an afternoon of stunts and contests, after which at a short business meeting the following officers were installed for the school year 1934-'35:

President, William S. Hayes, Pocatello; Vice-President, Cleo Ross, Hazelton; Secretary-Treasurer, Dale Strong, Ashton; and Reporter, Claude Brower, Ashton.

Blister Rust Laboratories Maintained at School of Forestry

(Continued from page 37)

Industry. Mr. Pierson is working on disease investigations dealing with Ribes and pine inoculation experiments and states that the following projects are being carried on in the laboratories and greenhouses at Moscow and in the forests near by:

1. A determination of the relative pine-infecting power of sporidia borne on the four principal Idaho Ribes species and the two principal Ribes of the California sugar pine type.
2. Comparative susceptibility of different aged needles of western white pine by artificial inoculations as an aid in determining the age of natural infections.
3. A comparison of the Ribes infecting power of aeciospores and urediniospores by artificial inoculation under very carefully controlled conditions.
4. Field inoculations of fifteen to twenty year old native white pines to be made at the beginning and end of natural sporidial abundance to determine the exact incubation period of the rust under natural conditions.
5. Periodic microscopic examination of white pine needles to determine the seasonal variation in the number of functioning stomata. Results of this study are being correlated with pine inoculation experiments.

The Great Fire of Idaho

(Continued from page 11)

road. I ran back as quickly as possible and entered the tunnel, the fire reaching the tunnel less than a minute after I entered. The heavy debris of brush and logs just outside of the tunnel set the tunnel timbers on fire and as they burned out the ground fell in, which, together with the strangling smoke, led me to believe I would be safer outside. There being a little water on the bottom of the tunnel, I soaked my clothing thoroughly, held my wet hat over my face and rushed out between the burning timbers. I quickly scratched a hole in a pile of sand just outside of the tunnel, in which I lay with my face down. This gave my face protection, but my neck and back and part of my head were badly burned.

By midnight the fire had died down sufficiently to permit travel toward Wallace. I found the bridges all burned out and many places so hot that it was difficult to pass through. When I reached the city reservoir I found that a large pile of burning debris adjacent to the water main had set the outside of the wood stave pipe on fire. Believing that there was grave danger of the fire weakening the pipe sufficiently to cause a break, I carried water with my hat until the fire on the pipe was extinguished. I discovered my horse had torn loose but he had fallen dead in the fire a short distance from where I had left him.

I reached Wallace at 2 a. m. and found the town on fire. Fully a third of the town had burned with a loss of more than a million dollars. When the hills adjacent to Wallace became a seething furnace the town caught on fire, the women and children were loaded on the special train held in waiting, and taken out of town for the night, and brought back the next day. Another special train of box cars carried the patients from the Sisters' hospital. As they were removed hurriedly, many of them were taken without sufficient clothing to protect them, some being carried on stretchers. The sick man for whom I undertook to bring his family to him, was forced to return to Wallace before I could reach the place I had left him. The two companies of federal troops which had been sent to Wallace to help fight fire rendered splendid service in helping to get the women and children on the train and in policing the town.

The results of August 20 and 21 were extremely disheartening. New crews had to be immediately recruited, not only to fight fire but for rescue work. This was the hardest task of all. The men were afraid to go into the woods. On August 22 a fire was reported in the little north fork of the Coeur d'Alene River which contained more than a billion feet of Idaho white pine. A crew had to be sent there at once. By hard work it was secured and the crew had good luck in extinguishing the fire. Crews had to be organized to cut out the fallen timber from the trails, bury the dead, and bring out the injured. Runners had to be sent long distances to look up crews from which no report had been received.

One of these lost crews under Ranger Halm

had been stationed about 75 miles up the St. Joe River from Avery. We had learned that of this crew the entire pack train and one man had burned to death. The stations of Superior and Iron Mountain, Mont., on the Northern Pacific railway, were the nearest points to where this crew was working and these places were about 60 miles by trail. Three crews had been sent in from Superior and Iron Mountain Sunday, Monday and Tuesday, but they all returned without finding Halm and his men, reporting they could not get through the fire.

Deputy Supervisor Roscoe Haines, who had originally taken the men to the head of the St. Joe River, was the only man who thought he knew how to get through the fires that were still burning and where Halm's crew might possibly be found. So Haines, with two other men, started on Wednesday morning, August 24, for the head of the St. Joe. They traveled on horseback to the divide at the Cedar Creek crossing, where they left their horses and started down the river on foot, frequently shooting a gun as a signal. The third day out, Friday afternoon, Haines shot a grouse, and Frank Mills, one of the lost crew, heard the shot, so the crew was located. On account of the thousands of fallen trees, they were cutting their way out and had already come 20 miles. The crew had survived a terrible fire by getting on an island in the St. Joe River. Haines cut across country through fallen timber and burnings snags, and after a long, strenuous trip reached a telephone that same night and phoned me at Wallace of the safety of Halm's crew—and a more pleasing message has never been received!

The severity of the fire can be well known on account of the fact that in many places much of the green timber was actually consumed. This was especially true of the cedar. Also, a few days after The Great Fire, thousands of dead trout were found along Big Creek and other streams where the fire was especially severe, this being caused, without doubt, chiefly by the large quantities of ashes getting into the streams and by the falling of burning trees into the streams.

By August 25 we had more than 100 men in the hospitals of Wallace and St. Joe. Many of them were in on account of smoke injury to their lungs, so only remained a few days, while others who were badly burned were in the hospital for as long as six weeks.

Up to 1910 the government had made no provision for the expenses of emergencies of this kind, therefore there was no way to pay with government funds the hospital bills which amounted to more than \$5000. The Red Cross was good enough to furnish \$1000 and the remainder was paid in full by donations from the forest offices throughout the Service. The following winter Congress appropriated a limited amount of money which was used in making small payments to those of the fire-fighters who were most severely injured and to the dependents of those who were burned to death. The dead bodies were sewed up in heavy canvas as soon as possible, and buried where they fell. Later they were removed to the permanent burial ground at St. Maries, Idaho.

The difficulties to be overcome in paying off the men, many of whom were working under

assumed names; identifying the dead men and finding out the names and location of their relatives and dependents who were scattered all over the U. S. and even in foreign countries; culling out the false representations; and answering letters of inquiry from thousands of persons who had at some time lost track of an acquaintance or relative, produced a volume of work which took several years to clean up.

The Great Fire of 1910 made forest fire history in Idaho.

Author's Note:—The three railroads, Northern Pacific, O. W. R. & N. and Milwaukee extending through the Coeur d'Alene National Forest were most generous and accommodating during this terrible fire. On account of the absence of telephone lines and trails, runners had to be used to provide headquarters with information. The trains would carry these runners and stop to let them off or pick them up at any point desired. The railroads carried the crews from place to place without charge and ran special trains to bring the dead and injured. Each of these roads deserves great praise for the splendid service that it rendered.

Editor's Note:—An account of this fire appeared in the 4-L Lumber News several years ago.

Xi Sigma Pi

(Continued from page 31)

Forester; and A. W. Middleton, Idaho State Forester.

New members initiated this year include John W. Parker, Henry Ziminski, Charles Carlson, Lloyd O. Tumelson, Stewart Brown, and Paul L. Anderson.

The third annual dance was held March 31 at the Sigma Alpha Epsilon house. Members of the senior class in forestry were guests of the chapter. Everyone enjoyed himself thoroughly and recommended that the same policy be followed in subsequent years. Patrons and patronesses were: Dr. and Mrs. F. W. Gail, Mr. and Mrs. Allan Janssen, and Mr. Otto Turinsky, Jr.

The officers for this season are: Forester, G. Lloyd Hayes; Associate Forester, Henry Ziminski; Secretary and Fiscal Agent, William S. Gaffney; and Ranger, John J. McNair.

At a initiation and business meeting held Wednesday evening, May 16, the following officers were elected for the coming school year 1934-35:

Forester	Henry Ziminski
Associate Forester	Paul Anderson
Secretary-Fiscal Agent	Stewart Brown
Ranger	Charles Carlson

Junior Field Trip

(Continued from page 35)

McCall. We should have taken them out of camp with us for what they did to our bunk house beggars description. What a mess! What a mess! There ain't no Santa Claus.

THURSDAY, JUNE 8

Rain again and how? Being our last day for the trip, the Juniors started to go to the seed extraction plant on the west fork of Priest River. The old truck decided to make a final thrust at the unsuspecting foresters and left the road. Everyone got plenty of bumps but no one bruised badly. All aboard for the University and then summer work.

The Eighteenth Annual Banquet

(Continued from page 33)

closed with the assurance that he and his associates would sanction naming the University forest as a memorial to Dean Miller.

Dr. E. C. Jahn, of the Idaho School of Forestry faculty, in response to a call for announcements from the chair, came forward to present G. Lloyd Hayes with the Xi Sigma Pi Senior award for this year. Mr. Hayes then in turn announced the pledging to Xi Sigma Pi of Paul L. Anderson.

As an inspirational issue, Mr. French suggested the erection of a fitting marker within the school forest, bearing an inscription honoring Francis Garner Miller. The suggestion received full support, and the execution of the idea was placed under the responsibility of the Associated Foresters.

Guests at the banquet included a large number of alumni and former students, many of whom travelled great distances to be present. During the afternoon the Northern Rocky Mountain Section of the Society of American Foresters held its annual meeting in the School of Forestry, and the members were guests of the foresters at their annual banquet. Also, a number of officials from the Office of Blister Rust Control were in attendance, to join the foresters at the banquet table.

It was the best attended banquet the Associated Foresters ever held, and the choice of speakers was excellent. One of Dean Miller's last acts was to arrange for this banquet in detail, even to the setting of the date. The speakers were those selected by Dean Miller. After his untimely death, the Associated Foresters arranged to change the banquet into a Memorial for Dean Miller.

Toward a University Forest on Moscow Mountain

(Continued from page 15)

ing, and demonstration purposes. Within the Moscow Mountain portion the University of Idaho owns some 3,646 acres as a nucleus of a forest for its School of Forestry.

The situation offers a very fine opportunity to meet the needs of the School of Forestry and at the same time provide a stable policy for a block of forest land of local importance for supplying wood products, for water shed protection, for recreation, and it may be added, as a reservation for wild life.

Without control by some public agency such stable policy is doubtful. Continued ownership as at present is uneconomical. Without some such public ownership as is here contemplated the only probable ultimate end for most of this land not already in some public ownership is tax delinquency.

With adequate machinery set up by appropriate legislation and administrative regulation and policy, it is expected that the Idaho School of Forestry will be able to block up a suitable well-balanced School Forest with

logical administrative boundaries through donations from some private owners, exchanges with others, exchanges with the United States, assignments or transfers of land already state owned. The proposed congressional legislation outlined in the bill which is attached will bring the federal government into line on such an arrangement. Additional state authority will thereafter still be necessary.

EMERGENCY CONSERVATION WORK CAMP

Camp S-260 of the Civilian Conservation Corps is now located on this proposed Forest working on an extensive program which includes the construction of roads and trails, telephone lines and a modern lookout tower, all of which will assist substantially in the protection of the area from fire. In addition much silvicultural improvement work is underway on the 3,646 acres now owned by the University.

Acknowledgement is made to Paul A. Wohlen of the Forest Service for the basic data used in this report.

F. G. MILLER, Dean
School of Forestry
University of Idaho.

The bill as passed by the Congress of the United States is as follows:

AN ACT

For the inclusion of certain lands in the national forests in the State of Idaho, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the provisions of the Act entitled "An Act to consolidate national forest lands," approved March 20, 1922 (U.S.C., title 16, sec. 485) are extended and made applicable to the following-described lands in the State of Idaho:

Sections 5, 6, 7, and 8, township 40 north, range 1 west.

Sections 1, 2, 3, 11, and 12; section 10, except the southwest quarter northwest quarter and the west half southwest quarter, township 40 north, range 2 west.

Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 16, 17, and 18; section 15, except the south half southwest quarter; north half northeast quarter, southwest quarter northeast quarter, northwest quarter, and the north half southwest quarter section 19; northeast quarter, east half northwest quarter, and the southwest quarter section 20, township 40 north, range 3 west.

Sections 1 to 23, inclusive; northeast quarter, east half northwest quarter, northwest quarter northwest quarter, and the north half southeast quarter section 24; northeast quarter, east half northwest quarter, and the northwest quarter northwest quarter section 26; northeast quarter northeast quarter, west half northeast quarter, and the northwest

quarter section 27; north half section 28; and the east half northeast quarter section 29, township 40 north, range 4 west.

Sections 9, 11, 12, 13, 14, and the south half section 1; south half section 2; southeast quarter section 3; section 10, except the north half northwest quarter; north half, and the east half southeast quarter, section 15; northeast quarter, and the north half southeast quarter section 16; north half, southeast quarter southwest quarter, and the southeast quarter, section 24, township 40 north, range 5 west.

Sections 29, 30, 31, and 32, township 41 north, range 1 west.

Sections 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 34, 35, 36, and the north half section 33, township 41 north, range 2 west.

Sections 13, 14, 15, 16, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, and section 26, except the southwest quarter southwest quarter, township 41 north, range 3 west.

The southeast quarter section 32; southwest quarter, west half southeast quarter, and the southeast quarter southeast quarter, section 33; east half southeast quarter section 34; south half section 35, and section 36, except the northeast quarter, township 41 north, range 4 west.

All foregoing descriptions relate to Boise base and meridian.

SEC. 2. Lands within the national forests heretofore granted to the State of Idaho for educational or other purposes may, under such rules and regulations as the legislature of such State shall prescribe, be offered in exchange for any of the lands described in Section 1 hereof which are of nonmineral character and approximately equal value and area, in the ownership of the United States or in other ownership, to the end that the State may acquire holdings in a reasonably compact form for economic administration as a forest property, or for use as an experimental, training, and demonstrational area by the School of Forestry of the University of Idaho, or for any other purposes that the legislature of the State may authorize or prescribe, anything in the enabling act of such State to the contrary notwithstanding.

SEC. 3. The lands conveyed to the United States under Sections 1 and 2 of this Act (together with the land described in section 1 now owned by the United States, subject to all valid existing rights) shall, upon acceptance of title, become parts of the national forest within whose exterior boundaries they are located.

Passed the House of Representatives April 5, 1934.

Passed the Senate April 25, 1934.

Signed by President Franklin D. Roosevelt, April 30, 1934.

Forestry in Relation to Game Conservation

(Continued from page 20)

official for wild and domestic animals. While any forested area may become over-populated with game or domestic stock, and serious injury to the forest might result, experience has shown that over-abundance of game is most apt to occur in cut-over sections. Forest management therefore, has, not only to deal with such activities as conducting timber sales, fighting forest fires injurious rodents, forest insects, and plant diseases, and preventing erosion, but, also it must consider the relation of game to livestock, particularly in many western states, and the effect of both classes on forest reproduction. In dealing with big game on national forests the co-operation of the states is desirable, if the most satisfactory results are to be obtained.

Owing to the varying and often complicated conditions, the relation of game to forestry brings into prominence many local problems pressing for solution. Deer especially, but elk, antelope, moose, and other animals, are thus involved. Under what may be regarded as normal conditions, where game animals are not so numerous, they are dainty feeders, nibbling the leaves and tender shoots of plants of many kinds, taking a little food here and a little there. The cropped branches are rapidly renewed and little or no harm to the general vegetation results. Some plants are more palatable than others, however, and are gradually killed through over-browsing by an excessive number of animals. Less palatable plants must then be resorted to and the progressive destruction of foliage, often becoming apparent at first only in spots, may extend to the entire forest. Over-browsing by game animals is often undetected by the ordinary observer until a line marking the highest reach of the animals is clearly seen. Wherever such a line is seen, it is an indication that a serious situation has already been allowed to develop. The repeatedly defoliated plant stems cease to put out leaves, and if their tops can be reached the trees or shrubs are killed or dwarfed in growth. If continued, the inevitable result is starvation for the game, and this is usually accompanied by serious damage to forest reproduction.

PENNSYLVANIA DEER

In many eastern forests, as we have seen, attempts to restore game, especially white-tailed deer, have been remarkably successful. Under the "buck law," which usually restricts the number to a single buck deer per season and prohibits the killing of does at any time, deer have increased until an unwieldy surplus presents serious local situations. Under the operation of the buck law in Pennsylvania the disparity between bucks and does widened to such an extent that many does were barren, concentrations of deer exhausted the foliage, and local starvation resulted. In 1931 conditions had become so critical that a state-wide open season on both bucks and does was made effective for the first time. The bag limit was one deer of either sex. As a result there fell to the hunters the amazing total of 95,000 animals, about three-fourths of which

were does. A drastic corrective measure had become imperative, and much public criticism was the reaction to be expected. General evidence has indicated that the breeding stock was not too severely depleted. Since that time open seasons limiting hunters to a single buck have been resumed. Deer are again numerous in places, and the does too far outnumber the bucks.

THE KAIBAB DEER

The rise and fall of the mule deer of the Kaibab Plateau in northern Arizona has afforded a striking illustration of the importance to both game and forest of disposing of the surplus when the forage-producing capacity of the game range is threatened. The case of the Kaibab deer is worthy of consideration in some detail, as it affords data of great value in dealing with forest problems in relation to game elsewhere. Previous to the establishment of the Grand Canyon Game preserve in 1906 the Kaibab area, a domestic stock range, was also the favored hunting ground of the Navajo Indians of northern Arizona and the Utes and Piutes of southern Utah. There they obtained winter supplies of meat and buckskin, and as the skins of does and fawns were highly prized the killing was undoubtedly indiscriminate.

The Kaibab area was heavily stocked with cattle and horses for many years. Progressive depletion of forage by these domestic animals and deer combined was noted by forest officers. Grazing allotments for stock were thereupon gradually reduced, until they became negligible.

From the creation of refuge in 1906, no killing of deer was permitted until 1924. The deer were further partially protected by the taking of many predatory animals that preyed upon both the deer and the domestic stock. From a comparatively small number, possibly 3,000, the increase was comparatively slow for some years, but the cumulative rate, gaining greatly accelerated impetus, brought a final climax with startling suddenness.

Field studies participated in by the writer in 1922 and 1923 has shown that the deer were overutilizing important forage plants. The number of deer was estimated at 20,000 and the removal of 2,000 bucks was recommended. Public opposition, however, prevented any action. At that time the over-browsing, while severe in places, was limited in scope, large sections, especially of winter range, being little affected, and actual starvation of deer seemed remote. By August 1924, however, the change in conditions was amazing. The deer had reached phenomenal numbers, seemingly at a bound. More than 1,000 were counted by us along a road one evening. Many of the shrubs upon which they normally fed had been killed to the ground by over-browsing. The larger aspens had been defoliated as high as a deer could reach, and young aspens with tops within reach were defoliated and killed. Most of the deer were already in poor physical condition. Some of us realized that the animals had reached the numerical peak for the plateau, and that a tragedy was impending. A committee that had been appointed by the Secretary of Agriculture to study the situation was much impressed, and estimating the deer population at 30,000 figures probably far too conservative,

recommended a 50 per cent reduction, though this proved to be impracticable at the time.

DEER DAMAGE FOREST PRODUCTION

The most tangible early result of the committee's recommendation was the removal that year (1924) of 675 deer. As this was the first killing of deer that had been permitted for 18 years, such an inadequate measure could not avert disaster. Many thousands must have died during the winter of 1924-25. We found widely scattered carcasses the next spring (1925), and it was significant that most of the fawns of the previous year were gone. While many predatory animals had been taken, coyotes remained plentiful and preyed heavily upon the herds. As deer increased on the Kaibab National Forest and domestic stock was reduced, predatory-animal control was discontinued.

A working agreement was finally effected by the Forest Service with the State of Arizona under which well-regulated hunting is carried on in fall and limited trapping of coyotes for fur is permitted. Previous to this agreement, however, deer damage to forest reproduction had reached a critical stage. On the summer range, embracing the higher parts of the Kaibab Plateau, nearly all the small aspens and many other small trees and shrubs were killed to the ground. The deer showed a special predilection for white fir, and browsing extended even to the yellow pine, the most important timber tree of the region. The tender terminal shoots of most of the small pines were cropped, and the trees were partially defoliated. Many were killed, and the survivors were severely stunted.

On the winter range, at lower levels flanking the summer range, the deer normally fed upon a variety of shrubs. Of these the most important, owing to palatability and abundance, was the cliff rose (*Covania stansburiana*). This shrub was dominant over some 50,000 to 60,000 acres. Most of the plants of this species had been killed or very severely injured over much of this area by progressive defoliation, mainly by surplus deer. The cliff rose grows slowly, and obviously this important foliage plant cannot be restored to its former abundance for many years.

General evidence has indicated that since 1924 both deer and deer foliage have declined at a gradually slowing rate. Some improvement in foliage conditions can now be noted in places. Many young yellow pines and other conifers that had been kept cropped down for years have finally succeeded in pushing their central shoots beyond the reach of deer and are making vigorous growth. Aspens sprout readily from the roots, but the new, tender growth is of limited quantity and owing to high palatability it is still

nearly all eaten during the summer. It is apparent that a point is being approached, however, when hunting may be more restricted; but forest shrubs producing the most palatable forage have been so largely eliminated that the proper management of forest and game will call for rigid control of the deer. Improvement in forage on the general Kaibab area will tend to draw deer away from the clover meadows that have been so attractive to them along the Grand Canyon Highway. A few deer may remain, but the larger groups that have delighted so many visitors will be but a memory.

PROTECTION OF OTHER SPECIES

In other parts of Arizona the over-production of game has led to a surplus that threatens the forage supply and seriously injures forest reproduction. White-tailed deer in the Santa Catalina Mountains have greatly increased in recent years and forest damage is resulting. Elk reintroduced on the Sitgreaves National Forest have become too numerous and destructive. Even the antelope, reduced a few years ago to a point where extermination in Arizona was imminent, have increased to thousands in the Coconino National Forest and adjoining territory. In competition with domestic stock the normal forage supply is so diminished that the antelope are forced to browse on junipers and other trees as high as they can reach, leaving them completely defoliated to a sharp line such as is seen on over-utilized deer ranges. The mounting numbers of the antelope, like those of the deer, have been coincident with the control of predatory animals, mainly coyotes, instituted primarily in the interest of domestic stock, on areas closed to hunting.

The deductions to be drawn from these, and from cases that might be mentioned in other states, east and west, should have a wide application in similar forested areas. Experience has shown how readily game can be restored where food is abundant, and how killing by man or by predatory animals can be effectively controlled; it has also demonstrated the vital importance of checking numbers in time to prevent the destruction of forage that will be of far-reaching effect on both game and forest. The regulation of game abundance becomes, therefore, an important part of the routine of forest management. This means that the length of hunting seasons, bag limits and the sex ratio should be fixed in accordance with rather local conditions.

Forestry in relation to game conservation involves principles of management and adjustment that are comparatively simple. But a well-informed public opinion is necessary if the inertia and prejudice that tend to paralyze constructive effort are to be overcome. Timber and game are major forest resources. Each must be fostered in its proper relation to the other.

Forestry Education in Idaho

(Continued from page 5)

its water falls, is a great play place for the nation as well as for its own people.

This is as important a function as its use as the seat of industry. Recreation is indeed a recreation of the soul and the play place is as important as the corn field. So the School of

Forestry includes its lesson of the prevention of this great forest region from destruction and cultivation of public opinion in its behalf as a play place. Do students come to it from far away states for instruction in forest technology? Welcome them. Send them home again equipped with the technology which they sought, but also with their souls filled with the beauty and glory of the great national forests of Idaho and of the nation.

DIRECTORY AND NEWS OF ALUMNI AND FORMER STUDENTS

FLOYD L. OTTER, '29

Instructor in Forestry and Associate Editor of the Idaho Forester

THE list which follows contains the latest known addresses and brief news notes about all of the graduates of the Idaho School of Forestry and of the former Department of Forestry. Besides graduates, all former students who have indicated their interest by writing to *The Idaho Forester*, or about whom we have information from other sources, are included. All former students as well as graduates are urged to keep in touch with the School so that they may receive *The Idaho Forester* and keep in touch with the doings of the other Idaho foresters. Please feel free to send in any corrections or alterations.

- AHLSSKOG, RALPH HUGH, '33, recently left his position with the CCC in Arkansas where he served as camp superintendent, to accept an appointment as technician with the Northern Rocky Mountain Forest and Range Experiment Station. His address is U. S. Forest Service, Coeur d'Alene, Idaho.
- ANDERSON, BERNARD A., M.S. (For.) '28, 618 Realty Building, Spokane, is with the Division of Blister Rust Control in charge of the Clear-water operations.
- ANDREWS, MILTON D., '32, U. S. Forest Service, Duluth, Minnesota, accepted a position as Junior Forester in March, 1933. Andrews has been married since November 1932.
- AUST, PAUL W., '32, 203 5th Avenue, Spokane, Washington.
- AXTELL, DONALD H., Ex-'29, 211 Fourteenth Avenue, Lewiston, Idaho, is in the employ of the Potlatch Forests, Inc.
- BAIRD, JOHN C., Ex-'28, Johnny's last address was U. S. Forest Service, Pagosa Springs, Colorado. He has recently transferred to one of the new purchase units in Missouri.
- BALCH, A. PRENTICE, '29, Forest Service, Robertson, Wyoming, is now Junior Forester assigned to a tie sale. He states that his literary productions of the past year all go by numbers instead of titles, Forms 26, 820, 1034, 4b, etc.
- BARTLETT, STANLEY FOSS, Ranger Course '21-'22, is still Associate Press editor of the Lewiston (Maine) Sun-Journal. Some of his verse, including a poem to the memory of Dean Miller, are to be found in this issue of *The Idaho Forester*. Last year he and Mrs. Bartlett were fortunate enough to take a vacation trip to Honduras and Nicaragua where they studied tropical people, animals and trees. He would especially like to hear from Ray Ferguson and Albert Cochrell.
- BAUMANN, HERMAN, '24, Woods Superintendent, Fruit Growers' Supply Co., Susanville, California.
- BEALS, WILFRED H., '27, U. S. Forest Service, Lauzon, South Dakota, sends an interesting description of the damage done to timber by a cyclone. The cyclone occurred in May, 1933, and mowed down twelve sections of timber on his district alone. He has seven timber sales in operation in the attempt to salvage the timber before it deteriorates. The fire hazard is tremendous.
- BEDWELL, JESSE L., '20, M.S. Oregon State College '24; Ph.D. Yale '32. Associate Pathologist with the Division of Forest Pathology, Washington, D. C.
- BENNETT, CAREY H., '29, Springfield, Missouri. According to all reports "Shorty" is married—since Christmas. He is still with the Biological Survey.
- BICKFORD, CHARLES ALLEN, M.S. (For.) '31, 348 Baronne Street, New Orleans, Louisiana, Junior Forester with the Southern Forest Experiment Station. Allen was married in 1932.
- 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 the forest survey of the Douglas Fir region.
- BROWN, DR. FRANK A., '22, 217 South Los Robles, Pasadena, California.
- BROWN, HAROLD G., '33, 424 Federal Building, Spokane, Washington, is forester at large for the Indian Field Service, Forestry Branch.
- BROWN, RICHARD I., '31, Pt. Allegheny, Pennsylvania.
- BUCHANAN, T. S., Ex-'33, Division of Forest Pathology, 4031 NE 77th Avenue, Portland, Oregon. "Buck" is in charge of computations in the Portland Office in winter and on field research in summer. He was a recent school visitor looking for summer assistants, and reports the arrival of a son last October. He plans to return for another year of school beginning next fall.
- BUCKINGHAM, ARTHUR, '30, Challis National Forest, Challis, Idaho.
- BURNETT, LOYD, Ex-'33, has recently returned from Minnesota where he spent the winter as a technical foreman in a CCC camp on the Chippewa National Forest. He was in charge of forest stand improvement work and found it most interesting. Teaching silviculture to the CCC's occupied his spare time. He was married last year to Miss Martha E. Snyder of Pullman, Washington. He is a CCC foreman at Elk River, Idaho this summer.

- BURROUGHS, I. C., '27, M.F. Yale '28, T.V.A., Knoxville, Tennessee. "Ike" is Assistant Lands Chief of the Tennessee Valley Authority. He is organizing the work of soil erosion prevention.
- BURTON, LESLIE, '30, 123 West Eighth Street, Leadville, Colorado. "Les" is now District Ranger on the Cochetopa National Forest having transferred from the Washakie in Wyoming during the past year. He is the father of a son, Robert Leslie.
- BUSH, BEN E., '03, Moscow, Idaho. Mr. Bush has been a CCC camp superintendent in the Clearwater country of Idaho and in New Hampshire during the past winter and coming field season.
- CALLENDAR, WILLIAM, '27, Nitrate Plant, Florence, Alabama, is Cultural Foreman with the Tennessee Valley Authority.
- CHAMBERLAIN, FRED B., Ex-'23, 59 Albert Street, Melrose, Massachusetts, is in the wholesale lumber business for the Guernsey-Westbrook Co., of Hartford, Conn. He reports business better and lumbermen's code working out 98%.
- CLARKE, STANLEY C., '32, M.S. (For.) '34, Extension Forester, University of Idaho, Moscow, Idaho. He has recently published a bulletin on the planting and care of woodlots in Idaho.
- COCHRAN, ALLAN R., '28, M.F. Yale '30, U. S. Forest Service, Buena Vista, Virginia, District Ranger on the George Washington National Forest. He reminds us that the eastern national forests are growing into man-sized forests. The ranger's job is one of real responsibility where a man has use for all he knows.
- COCHRELL, ALBERT N., Ranger Course '22, while still Assistant Supervisor of the Kaniksu National Forest at Sandpoint, Idaho, has been spending the winter at Amherst, Mass., helping out in the administration of the state CCC work in New England and New York. He has been able to talk over old times with former Professor Behre and "Bob" McLaughlin.
- CONNAUGHTON, CHAS. A., '28, Ogden, Utah, has been on leave from the Intermountain Forest and Range Experiment Station this winter working toward an advanced degree at the Yale Forest School.
- COOK, JOHN, Ex-'33, is technician and foreman at the Moscow Mountain CCC Camp, S-260, on the school experimental forest and has been supervising planting and other cultural work since his arrival April 1. He spent the winter on a difficult trail construction job on the Middle Fork of the Salmon River, Idaho National Forest. He made the trip out to McCall by airplane and reported a rough voyage, rough enough that he lost twenty pounds and three shades of color, etc.
- COONROD, MELVIN A., '32, Box 44, Nitrate, Alabama. "Mel" has been working as cultural foreman with the Tennessee Valley Authority under the direction of the Forest Service.
- "Bill" Lansdon, "Bill" Callendar, and Earl Morganroth are on the same job.
- COSSITT, FLOYD M., '24, is at Hot Springs National Park, Arkansas, where he is Assistant Forester on the Ouachita National Forest. "Field work and fires the year round," he says, "somewhat different from the Kaniksu." Floyd is reported just recently to have received another promotion, details not known.
- CRANSTON, WM. V., '33, 745 Park Avenue, Hot Springs, Arkansas. "Bill" spent the winter as CCC camp foreman at Horseshoe Bend, Idaho, was appointed technical foreman at the Moscow Mountain CCC camp, but after a few days at Moscow received an offer from the Ouachita National Forest where he is now employed as cultural foreman (Junior Forester). He writes, "I hear good things about Idaho men from all sources."
- CUMMINGS, LEWIS A., '25, M.F. Yale '29, U. S. Forest Service, Senior Forest Ranger, Del Norte, Colorado. Cummings spent a two-month detail last winter directing CWA work at Rolla, Missouri.
- CUNNINGHAM, RUSSELL N., '17, Lake States Forest Experiment Station, University Farm, St. Paul, Minnesota.
- DE LA CRUZ, EUGENIO, '26, Bureau of Forestry, Manila, P. I. Cruz is now Forester-at-Large in the office of the Director of the Bureau.
- DANIELS, ALBERT S., '23, Box 19, Southern Pacific Building, Houston, Texas. Since last July, Daniels has been acting as superintendent of the Southern Pacific Creosote Plant. He had been chemist and assistant superintendent for several years.
- DANIELS, KENNETH MILES, '33, Intermountain Forest and Range Experiment Station, Boise, Idaho. "Bud" is assigned to the vegetative studies crew working on the Experiment Station plots in the Boise National Forest.
- DAUGHERTY, CHARLES I., Ex-'22, U. S. Forest Service, Hailey, Idaho, is Senior Forest Ranger on the Sawtooth.
- DAVIS, ROBERT, '28, Forest Service, Ogden, Utah.
- DECKER, ARLIE, '13, M.F. Yale '17, Lewiston, Idaho. Arlie is in the cedar pole and piling department of the Potlatch Forests, Inc. He spent last spring in New York in charge of cedar pole sales for the Weyerhaeuser Sales Co.
- DENNING, STEWART K., Ex-'13, Ass't Sales Mgr., Panhandle Lumber Co., Spirit Lake, Idaho.
- DITTMAN, CLARENCE B., '31, Selfridge Field, Mt. Clemens, Michigan. "Bud" is an Airplane Pilot in the U. S. Army Corps making flights over most of the United States. He saw service above the World's Fair and flew the air mail between Cleveland and Washington, D. C., recently.
- DODD, JACK B., '32, Ranger, Glacier National Park, Belton, Montana.

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DOYLE, IVAN S., '26, is in charge of the Woods Warehouse for Potlatch Forests at Headquarters, Idaho. We renew acquaintance with "Ike" every fall on the management field trip.

DRISSEN, J. PHILIP, '21, Forest Supervisor, Indian Service, Blackfoot Indian Reservation, Browning, Montana.

EASTMAN, VIRGIL H., '31, U. S. Forest Service, Orofino, Idaho.

ELLIS, F. GORDON, '28, 486 D Street, Ellis Apartments, Idaho Falls, Idaho. Ellis was foreman of a CCC camp in Boise Basin last summer.

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

ENSIGN, WARREN, '33, has accepted a position as Junior Forester Technician with the Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Mont. He spent the winter as foreman in a CCC camp at Boss, Mo.

FARMER, LOWELL J., '30, M.S. (For.) '31, 403 Federal Building, Salt Lake City, Utah, is with the Federal Bureau of Entomology.

FARRELL, JAMES W., '22, U. S. Forest Service, Challis, Idaho, Supervisor of the Challis National Forest.

FAVRE, CLARENCE E., '14, M.S. (For.) '15, U. S. Forest Service, Kemmerer, Wyoming, Supervisor of the Wyoming National Forest.

FENN, LLOYD A., '11, LL.B., U. of Montana, Kooskia, Idaho.

FICKE, HERMAN O., '31, is stationed at Lewiston, Idaho, as Junior Forester Technician working on the Forest Survey. Permanent address, Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Mont.

FIELD, WALTER D., '26, Assistant Land Agent, Clearwater Unit of the Potlatch Forests, Inc., 604 Ninth Street, Lewiston, Idaho. "Walt" has been a frequent Moscow visitor.

FIFIELD, CHARLES E., '32, Box 122, Pierce, Idaho, spends his summers as checker foreman on white pine blister rust work and his winters teaching in the Pierce High School.

FISHER, GEORGE M., '33, Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana. George is engaged at present in thinning studies and surveys of the experimental forests.

FOX, CHARLES E., '28, Leland, Idaho, has been superintendent of schools at Leland, Idaho, for the past two years, spending his summers with the blister rust control organization as checker foreman. His second son arrived last July.

FRAYER, HUME C., '33, U. S. Forest Service, Camp 6, Marienville, Pennsylvania, is one of 18 cultural foremen on the Allegheny National

Forest engaged in supervision of liberation cuttings, thinnings, planting, roadside beautification, and surveys and maps. He writes that he believes he has gotten beyond the range of Idaho men, but a glance over these pages shows that he is right in the midst of them.

FRITCHMAN, HOLT, '31, Afton, Wyoming, is a Junior Forester Technician with the U. S. Forest Service. He expected to be on the Weiser (Idaho) National Forest this summer.

GARIN, GEORGE ILLCHEVSKY, '29, M.S. (For.) '30, Forest Ranger, Flathead Indian Agency, Dixon, Montana. George is directing CCC work with Indian workers.

GARNER, L. H., Ranger Course '23, is Senior Forest Ranger on the Challis National Forest, Clayton, Idaho. His district adjoins that of "Art" Buckingham, '30, and is the largest district on the Challis.

GATLEY, HOWARD A., Ex-'23, Boy Scout Executive, Boy Scout Headquarters, Kenosha, Wisconsin. His avocation is conservation of forests and wild life. The Hornaday Gold Medal for Distinguished Service to Wild Life was awarded Mr. Gatley last year.

GENAUX, CHARLES M., M.S. (For.) '29, Pocatello, Idaho, is Professor of Forestry at the Southern Branch, University of Idaho. He reports a splendid enrollment in forestry.

GERRARD, PAUL H., '23, Ass't Forest Supervisor,

U. S. Forest Service, Orofino, Idaho. Paul has charge of the blister rust control operations on the Clearwater Forest and on other lands in the Clearwater country.

GILL, TYLER S., '31, Caldwell, Idaho. "Ty," when last heard from, was about to start for Rhineland, Wisconsin, for a Forest Service position.

GILLHAM, NORMAN F., '26, 134 South Central Avenue, Phoenix, Arizona, is still with the U. S. Biological Survey as Assistant Leader. He was working on his porcupine control bulletin for publication when he wrote last.

GODDEN, FLOYD W., '27, U. S. Forest Service, McCall, Idaho. Floyd was temporarily detailed to Louisville, Kentucky, supervising Emergency Conservation Work in the Central States the past winter. He is back in McCall now as Assistant Supervisor on the Idaho National Forest.

GREENE, E. G., '27, Moscow, Idaho. "Long" is engaged in business in Moscow.

GREGORY, CHAS. A., '28, has the title of Ranger and is in charge of the Messaba Purchase Unit, U. S. Forest Service, Virginia, Minnesota.

GUERNSEY, WILLIAM, '29, 618 Realty Building, Spokane, Washington, Division of Blister Rust Control. "Bill" is in charge of the St. Joe and Coeur d'Alene field work of the division.

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GUSTAFSON, CARL A., '27, M.S. (For.) U. of California, '29, is a Junior Forester on a tie sale at Robertson, Wyoming.

HAMMOND, GEORGE M., Ex-'20, Bowman Lumber Co., 1622-24 N. San Fernando Rd., Glendale, California, is Vice-President and General Manager of the Bowerman Lumber Co. His only publications, he states, have been "more and cheaper price lists" until the NRA code relieved him of that duty. His son Charles will be ready for Idaho in two more years.

HAND, RALPH L., Ranger Course '22, St. Joe National Forest, St. Maries, Idaho, district Ranger, Roundtop District.

HARLAN, PAUL M., '25, 1329 Clay Street, San Francisco, California.

HARRIS, THOMAS H., M.S. (For.) '30, is Junior Forester with the Division of Blister Rust Control, Government Island, Oakland, California.

HATCH, A. B., '28, M.F. Yale '29, Biological Laboratories, Harvard University, Cambridge, Massachusetts, has been appointed Research Assistant to the staff of the Arnold Arboretum. His specialty is mycorrhizae which he would have us believe are the most interesting of all the little organisms that teach us that two can live cheaper than one. He was joint author of two articles on the subject in the Journal of Arnold Arboretum last year and presented a paper before the American Association for the Advancement of Science in Boston, December, 1933.

HEPHER, W. STANLEY, '31, M.S. (For.) '32, Boswell, British Columbia, Canada, has worked part of the winter as timekeeper on a road crew in B. C.

HILL, EDWARD B., '31, U. S. Forest Service, Painter, Wyoming. Ed was transferred in January from the Caribou National Forest, Idaho, to the Black Hills in South Dakota where he was on a timber survey crew. In March he went to Halsey, Nebr., as Junior Forester Technician in charge of planting. Recently he was reinstated permanently as District Ranger on the Shoshone National Forest. He worked with Paul Talich and Paul Larsson while in the Black Hills.

HILLMAN, WILLIAM P., Ex-'13, is in the Office of Operations, U. S. Forest Service, Missoula, Montana.

HILLS, R. C., Ex-'23, E. C. W. Camp 53, Washington, Rhode Island.

HJORT, GEO. V., '31, Eden, Idaho, is teaching mathematics and coaching athletics in the Eden High School. This was his second year there. Although he enjoys the coaching and teaching work, he says that he has an eye open for a good chance to get back into the forestry profession.

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

HOFFMAN, HENRY C., '28, M.S. (For.) '28, is with the U. S. Forest Service at Paris, Idaho.

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HOPKINS, JESSE K., '33, 36 Bengal Terr., Rochester, New York, was a foreman in a CCC camp at Glen, New Hampshire, the past winter.

HUME, JOHN F., '31, 207 West First Street, Moscow, Idaho. Jack is in charge of wayside beautification work for the Department of Public Works, State of Idaho. His principal project was planning a \$12,000 expenditure for development and beautification of Heyburn Park near St. Maries.

HUNTINGTON, COLLIS H., '26, c/o U. S. Forest Service, Portland, Oregon.

JACKSON, THOMAS B., '19, Seaside, Oregon. Tom has recently accepted a position on the logging staff of the Crown-Willamette Paper Co. in charge of the Youngs River operation. He was formerly manager of the lumbering operations of the Fruit Growers Supply Co., at Hilt, California.

JAMES, CORLAND L., '33, Northern Rocky Mountain Forest and Range Experiment Station, U. S. Forest Service, Missoula, Montana. Before accepting the position as technician at the foregoing address, Corland was a technical foreman at the CCC camp on the Moscow Mountain Experimental Forest, where he supervised the cultural work on the forest.

JEMISON, GEORGE M., '31, U. S. Forest Service, Missoula, Montana, is still Junior Forester assigned to fire research at the Northern Rocky Mountain Forest and Range Experiment Station. He is the author of "The Significance of the Effect of Stand Density upon the Weather Beneath the Canopy," which appeared in the April, 1934, issue of the Journal of Forestry.

JEPPESSEN, MARVIN S., '31, U. S. Forest Service, Kemmerer, Wyoming, has been appointed Junior Forester Technician and assigned to the Wyoming National Forest.

JOHNSON, ROBERT B., '32, U. S. Forest Service, Hailey, Idaho, Forest Ranger.

JOHNSTON, H. W., Ex-'17, St. Michael, Alaska.

JOHNSTON, ROYAL H., '27, Potlatch Forests, Inc., 324 14th Avenue, Lewiston, Idaho. "Jerry" is assistant timekeeper at the Lewiston mill. He is frequently seen in Moscow.

KEENE, EDWARD L., '29, U. S. Forest Service, Ogden, Utah.

KEMP, RICHARD L., Ex-'27, is with the Panhandle Lumber Co. at Spirit Lake, Idaho.

KEMP, PAUL D., M.S. (For.) '29, U. S. Forest Service, Portland, Oregon.

KENNEDY, FRED H., '29, Forest Service, Miles City, Montana, Junior Range Examiner with the Northern Rocky Mountain Forest Experiment Station. Fritz's young son, "Bill," age one year, can tell grama grass from Brometea already, his proud father reports.

KLEPINGER, FRANKLIN, '30, 1137 Thirty-sixth Place, Los Angeles, California. Does anyone have any recent information concerning

"Klep's" whereabouts? We can't believe he would stay on Thirty-sixth Place indefinitely.

KRUEGER, OTTO F., '29, Rio Linda, California, is now with the State of California engaged in fire prevention work.

KRUMMES, WILLIAM T., '30, reports his marriage to Jane Haley of Idaho Falls, the past year. Bill is in charge of the Crescent Lake Migratory Bird Refuge, Mumper, Nebr., and also Superintendent of a CCC camp for the coming summer. He was a visitor on the campus in January.

LANGER, CHARLEY J., '30, Uintah and Ouray Agency Fort Duchesne, Utah. In addition to his regular work as Junior Forester in charge of forestry and grazing activities on the reservation, Charley has had the supervision of three ECW (Indian) camps and some PWA road and bridge camps. The Indians are good workers, he states, once you get them over the notion that they have joined the army and are going to war. He and Mrs. Langer announce the arrival of Charley J., Junior, on December 23, their second child.

LANSDON, WILLIAM H., '27, 1502 North Sixth Street, Boise, Idaho. Bill is a cultural foreman in a CCC camp, Tennessee Valley Authority, P. O. Box 86, Nitrate Plant, Alabama. He has been engaged in erosion control work by building rock and log dams and planting black locust and other species of trees. He expected to be in Tennessee or Virginia this summer.

LARSSON, PAUL, Ex-'33, was at Pactola Camp, South Dakota, during the past winter. Recent information is to the effect that Paul has married a South Dakota girl, Miss Wanda Gilbert, and accepted a junior forester appointment at Rolla, Missouri.

LEBARRON, RUSSELL K., '31, Lake Forest Experiment Station, University Farm, St. Paul, Minnesota, reports the arrival of a baby daughter on February 28. Russell is engaged in silvicultural investigations at the Superior Branch Station, Ely, Minn. Cutting experiments, planting methods and troubles and plantation

care, and cultural work such as release of spruce from over-topping birch and aspen are all in his line. He has also been putting in such forest-fire protection improvements as blasting holes in swamps for pump chances. The woods up there, he states, are full of deer, rabbits, NIRA's, CWA's, and CCC's. The difficulty is to keep the proper balance among the wild life.

LEHRBAS, MARK M., '27, 348 Baronne Street, New Orleans, Louisiana, Assistant Forest Economist at the Southern Forest Experiment Station, U. S. Forest Service. "Polly" is in charge of the forest survey for the 11 Southern States.

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LINDSAY, CLIVE J., '31, Hazelton, Idaho, worked as survey foreman on the Boise National Forest last summer but resigned in the fall to accept a position with the Bean Growers Corporation at Hazelton. He was married last May.

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

LOMMASSON, THOMAS, Ex-'18, U. S. Forest Service, Missoula, Montana, Range Management Division.

LORD, PHILIP B., '33, 1317 Gates Place, South Pasadena, California. "Phil" has received an appointment as Junior Range Examiner in the California Region. He has been employed by the Angeles National Forest.

LUNDSTRUM, FRITHJOF J., '11, 1631 North Harvard Boulevard, Los Angeles, California. Do any of you alums have any more detailed or more recent information about Lundstrum than the above?

McLAUGHLIN, ROBERT P., '25, M.F. Yale '26, Ph.D. Yale '32, Yale Forest School, New Haven, Connecticut, is Superintendent of CCC Camp Roosevelt at Clinton, Conn. Bob has been elected to membership in the International Association of Wood Anatomists and published his "Systematic Anatomy of the Woods of the Magnoliales" in *Tropical Woods* last year.

MAKARA, FRANK R., M.S. (For.) '32, 3115 Broadway, New York City, New York, has been studying at Columbia the past year working to a Ph.D. in Chemical Engineering. He is still working with cellulose. He is anxious to locate any Idaho foresters who are in the big city or will be there next year.

MALHOTRA, DES RAJ, '25, Assistant Conservator of Forests, State of Kashmere, Jammu, Kashmere State, India.

MALMSTEN, H. E., '17, 191 Chestnut Street, Berkeley, California, is Assistant Professor of Forestry at the University of California.

MARTIN, PAUL, Ex-'33, writes from Mentor, Ohio, that he is keeping busy.

MELICK, HARVEY I., '23, Nampa, Idaho. More information wanted.

MILLER, DOUGLAS REED, M.S. (For.) '32, is still with the Division of Blister Rust Control. Address, B. R. C., Government Island, Oakland, Calif. He was in Moscow, March 14, for the annual banquet.

MILLER, W. BYRON, '22, M.S. (For.) California '25, Stevenson, Skamania County, Washington. Associate Range Examiner, U. S. Biological Survey, Reindeer Investigations, Alaska, still on leave due to illness. He welcomes letters addressed to U. S. Veterans' Administration Facility, Fort Bayard, New Mexico.

MITCHELL, WILLIAM W., '28, 1105 Madison St., Wilmington, Delaware. We are pleased to report that "Shy" is again able to do forestry work. He is in the Branch of Research, U. S. Forest Service, Washington, D. C.

MOODY, VIRGIL C., '17, U. S. Forest Service, Coeur d'Alene, Idaho, District Ranger.

MORGANROTH, EARL S., '32, c/o George Williams, Gary Station, Route 1, Boise, Idaho. Last October Earl transferred from the Boise National Forest to the Muscle Shoals winter ECW project as Cultural Foreman, in charge of a crew developing a 70-acre nursery. He states that the whole nursery will have an overhead sprinkling system. He expects to be there another year working under Project Superintendent E. Wolf, formerly of Sandpoint, Idaho. Present address 738 Nellie Ave., Florence, Alabama. He and Mrs. Morganroth announce the arrival of a daughter, Mary Ann.

MOSS, VIRGIL D., '32, M.S. (For.) '33, Moscow, Idaho, has a permanent appointment with the Division of Blister Rust Control. He has been working at the blister rust laboratories at the School of Forestry this winter on a problem in chemical killing of Ribes.

MUNSON, OSCAR C., '21, Pacific Telephone and Telegraph Co., San Jose, California.

MYRICK, E. H., Ex-'17, U. S. Forest Service, Orofino, Idaho, Supervisor of the Clearwater National Forest, attended the annual banquet. He expects 15 CCC camps and 30 NIRA blister rust camps on his forest this summer. Last season, in addition to regular administration work and the CCC camps, Mr. Myrick was liaison officer between Forest Service and U. S. Army for the forests handled out of the Lewiston Headquarters. He has a daughter registered in the University this year.

NERO, EDWARD T., '23, Office of Indian Affairs, Fort Duchesne, Utah, has been Project Manager for the Emergency Conservation Work, on the Uintah and Ouray Indian Reservation.

NETTLETON, H. I., M.S. (For.) '28, U. S. Indian Service, Mescalero, New Mexico.

NEWCOMER, FRED R., '31, Hill City, South Dakota. Fred transferred last October from an ECW position on the Bighorn National Forest (Wyoming) to the Black Hills where he is now a technical foreman. His achievements during the past year include his marriage, the culmination of a campus romance.

OLSEN, CLARENCE C., '26, Forest Service, Willamette National Forest, Eugene, Oregon. When the consolidation of the Cascade and Santiam National Forests took place Olsen was made Assistant Supervisor of the new Willamette. He speaks of "the pleasure of working with foresters of all degrees of experience from the tropics to the frozen north" who helped supervise the work of the CCC on that forest. The boys from the city streets, he thinks, learned something during the summer about the "strength of the mountains."

OTTER, FLOYD, '29, M.F. University of Michigan '33, is back at the University of Idaho as Instructor in Forestry.

PAGE, MILFORD M., Ex-'28, Idaho Falls, is in the

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photography business and active in Boy Scout work. He would welcome a visit from any Idaho foresters who happen to be passing through Idaho Falls.

PARKS, WILLIAM, Ex-'34, McCall, Idaho, was a visitor at Moscow this spring. "Bill" is employed during summer seasons on the Idaho National Forest and is working up a business as packer and guide for hunting parties.

PARSONS, RUSSELL M., '24, Coeur d'Alene, Idaho, is employed as an engineer by the Bureau of Highways at Coeur d'Alene, Idaho.

PATRIE, C. R., '21, Forest Supervisor, Colville Indian Reservation, Nespelem, Wash.

PECHANEC, JOSEPH F., '32, U. S. Forest Service, Ogden Utah, is Junior Range Examiner Technician with the Intermountain Forest and Range Experiment Station. He has been in the Ogden office the past winter in charge of CWA compilation crews.

PHELPS, EUGENE V., '27, Box 156, Harrisburg, Illinois. More information concerning Gene is wanted.

PIERSON, ROYALE K., M.S. (For.) '33, Moscow, Idaho. "Riley" Pierson was recently advanced to the rank of Assistant Pathologist with the Division of Forest Pathology, Bureau of Plant Industry of the U. S. Department of Agriculture. His office and laboratories are in Morrill Hall.

PIKE, GALEN W., '27, M.F. Yale '28, Junior Forester, U. S. Forest Service, Deadwood, South Dakota. Pike is on the Supervisor's staff of the Black Hills National Forest. When he wrote, he was acting supervisor with the activities of the forest and seven CCC camps to keep him busy. A daughter, Sally Gale, was born to the Pikes within the past year.

PLUNGUAN, MARK, M.S. (For.) '31, Pulp & Paper Institute, University St., Montreal, Canada. Mark was at McGill again last winter studying for his Ph.D. under Dr. Hibbert.

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

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

RENSHAW, EMERA W., '25, U. S. Forest St. Maries, Idaho. Wolford is ranger at large on the St. Joe National Forest and has visited Moscow frequently during the past winter. He has been showing Forest Service movies at the schools of the county and was induced to put on two shows at the University.

RETTIG, EDWIN C., '19, Potlatch Forests, Inc., Lewiston, Idaho, Land Agent and Forester. He has been a visitor to the campus several times the past year.

RICHARDS, HORACE J., '33, 232 Congress, Bend, Oregon, is green lumber foreman for the Brooks-Scanlon Lumber Company.

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- RODNER, JACK W., Ex-'24, Emida, Idaho, was superintendent of a CCC camp near Bovill, Idaho, last summer and in Minnesota the past winter. He will have a blister rust camp near Clarkia, Idaho, the current field season.
- ROWE, PERCY B., '28, M.F. Yale '30, California Forest Experiment Station, University of California, Berkeley, California.
- RUTLEDGE, R. H., Ex-'96, Regional Forester, U. S. Forest Service, Ogden, Utah.
- SAJOR, VALENTIN, '26, M.F. Yale '27, is an "Ingeniero Forestal" c/o Division of Forest Studies and Research, Agricultural College, Laguna, Philippine Islands. When the executive branch of the Philippine government was reorganized last year Sajor was made Ass't Chief of the Bureau of Forest and Range Management. Serving in that capacity he has been detailed to special range studies at the Agricultural College and acts as Ass't. Professor of Range Management at the School of Forestry, University of the Philippines. On the side he is President of the Bureau of Forestry Savings and Loan Association. Cruz, '26, is secretary of the same association. Sajor has recently built a new home for his family in Manila.
- SALING, WALLACE M., '28, M.S. (For.) '29, Junior Range Examiner, U. S. Forest Service, Ogden, Utah. "Smoky" and Mrs. Saling have been blessed with a big boy, Wallace M., Junior.
- SARGEANT, HOWARD J., '30, c/o Bureau of Biological Survey, Washington, D. C. Since "Shorty" conducted this column he has covered a lot of ground. Since last June he has been detailed to the Forest Service on land acquisition work at Holly Springs, Mississippi, but expects to get back to his old job of following the wild geese soon.
- SAWIN, B. E., Ex-'35, is foreman in a CCC camp at Proctorsville, Vermont.
- SCHOFIELD, WM. R., '16, 2728 Ohio Street, Sacramento, California, has the responsible position of Forest Engineer and Appraiser, California Board of Equalization.
- SCHUMAKER, O. FRANKLIN, '31, U. S. Forest Service, Roxie, Mississippi. Frank is making good as a Junior Forester Technician in the South. He has been on the Homochitto National Forest since last October and has a crew of 60 men with two cultural foremen under him. Girdling hardwoods, thinning, and land acquisition have been his principal lines of work.
- SCRIBNER, S. C., Ranger Course '24, St. Joe National Forest, St. Maries, Idaho, District Ranger.
- SHANER, F. W. Ranger Course '23, Kooskia, Idaho, District Ranger on the Selway National Forest.
- SHANK, PAUL J., '31. Mrs. Shank, and Paul, Jr., have spent the winter in Warren, Idaho, where Paul has been employed as a Junior Forester Technician.
- SHARMA, P. D., M.S. (For.) '22, Rajpura St., Chaunk, Passian, Amritsar, (Punjab), India, Technical Advisor to the forestry department.
- SHARP, ANDREW G., M.S. (For.) '29, Spruce Falls Power & Paper Co., Kapukasing, Ontario, Canada. "Andy" was sulphite engineer when last heard from.
- SIEWERT, GEO. W., '31, 2026 East First St., Duluth, Minnesota, is reported to be doing good work as CCC foreman and NIRA foreman in Minnesota since the "new deal."
- SNOW, E. A., '25, Technical Assistant, Holy Cross National Forest, Glenwood Springs, Colorado, writes that he has been fortunate enough to meet several Idaho men in his travels.
- SOWDER, ARTHUR M., '25, M.S. (For.) '27, Moscow, Idaho, is Assistant Professor of Forestry, University of Idaho.
- SOWDER, JAMES E., '31, P. O. Box 564, Santa Cruz, California. "Jim" is Junior Forester with the California Forest and Range Experiment Station, U. S. Forest Service, Berkeley, California.
- SPACE, JACKSON W., '27, U. S. Forest Service, Pecos, New Mexico.
- SPACE, RALPH S., '25, Assistant Supervisor, U. S. Forest Service, Kalispell, Montana. Last year the Blackfeet National Forest was divided between the Kootenai and Flathead Forests. Ralph

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- remains at Kalispell as one of the assistant supervisors of the enlarged Flathead National Forest.
- SPENCE, LITER E., '28, M.S. (For.) California '30, Moscow, Idaho. Liter is instructor in forestry at the University of Idaho specializing in the range management subjects.
- STANLEY, WILFRED B., '30, 1107½ South Third Street, Kelso, Washington. "Bill" is in the auditing department of the Weyerhaeuser Timber Co. at Longview. During the last two years he has progressed from a job of slinging rigging in the woods to timekeeping and then through the mill employment department to his present position. Kirk W. is a recent arrival in the family.
- STAPLES, H. W., '20, Moscow, Idaho, is now cashier of the First National Bank of Moscow.
- STILLINGER, C. ROY, Special '19, 414 Federal Building, Spokane, Washington, is Associate Pathologist in the Bureau of Plant Quarantine, in charge of the field office of the Bureau at Spokane. He has written two publications on plant pests and their control through quarantine.
- STONEMAN, J. WARREN, Ex-'24, is reported to be teaching school at Mead, Washington.
- STOFFER, DAVID J., M.S. (For.) '32, Safford, Arizona, has recently received an appointment as Technical Foreman (Junior Forester). He expected to continue with the same work in which he has been engaged—cultural foreman at a CCC camp.
- STOWASSER, CLARENCE, '30, 525 West Summit Avenue, Coeur d'Alene, Idaho.
- SWANSON, RAY, Ex-'34, has been employed the past winter as assistant technician by the U. S. Forest Service at Grangeville, Idaho.
- SWAYNE, ALLEN, '32, Camp F-24, Virginia, Minnesota. Allen has an appointment as Technical Foreman and has been making reproduction surveys on the Superior National Forest.
- TALICH, PAUL H., Ex-M.S. (For.) '34, spent the winter on timber survey work on the Black Hills National Forest, Deadwood, South Dakota. He has expressed his intention to return to Idaho next fall to finish his work for the master's degree.
- TAYLOR, CYPRIAN D. N., '32, Route 1, Nelson, British Columbia, Canada, states that he is engaged in underground forestry—timbering in the Yankee Girl Mine at Ymir, B. C.
- THORNTON, JAMES A., Ex-'12, visits the campus each fall for football games, from his home in Coeur d'Alene, Idaho.
- TOOLE, ARLIE W., '27, Box 454, Washburn, Wisconsin. Arlie resigned from the Indian Service last fall to accept an appointment as Senior Forest Ranger on the Chequamegon National Forest.
- WADSWORTH, HERBERT A., '11, U. S. Infantry, Fort Meade, Maryland.
- WALRATH, FAIRLY J., '27, Centerville, Tennessee, is employed as a foreman in a CCC camp. His permanent address is Orofino, Idaho.
- WARD, RAYMOND, Ex-'29, Republic Washington, Executive Assistant, Colville National Forest, Republic, Washington.
- WELLNER, CHAS. A., '33, Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana. "Chuck" is another Junior Forester Technician who is making good at Missoula. He expects to be at the Priest River station this summer in charge of a crew examining cutting and reproduction plots. George Jemison, '31, he reports, was an excellent instructor in a statistical methods seminar for all members of the experiment station staff the past winter.
- WENDLE, REX W., Ex-'30, Equipment Clerk Bureau of Highways, Coeur d'Alene, Idaho. Rex has two children now, one of each.
- WHEATON, ROGERS G., '24, M.F. Yale '25, 631 White Street, Springfield, Massachusetts.
- WHITE, HAROLD Z., '26, 1113 10th Street, Lewiston, Idaho, is dry kiln superintendent for the Lewiston plant of Potlatch Forests, Inc. As usual he conducted the seasoning class through his battery of 72 kilns this spring.
- WIESEHUEGEL, ERWIN G., M.S. (For.) '29, c/o Ohio State University, Forestry Department, Columbus, Ohio. "Wiese" is Professor of Forestry at the Ohio two-year department. Last summer was spent in supervision of ECW work in southern Ohio.
- WILLIAMS, GUY V., '27, has transferred to the Twin Falls, Idaho, branch of the Mountain States Telephone and Telegraph Co. He is the proud father of a daughter born April 13, 1933.
- WOODWARD, DOREN E., '30, has been temporarily detailed to the Forest Service as Acquisition Assistant in charge of land acquisition on the Monongahela National Forest at Elkins, West Virginia. The Monongahela has been about doubled in size by the addition of purchase units. The largest single purchase was a tract of 150,000 acres. In acquisition work, Woodward explains, graduate foresters are used as

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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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party chiefs with two-man crews composed of trained local woodsmen under them. All tracts considered for purchase are stripped and, if timbered, are cruised by the line-plot method. He had four crews during the winter and planned to add more as soon as the heavy winter broke up. Woodward, a loyal federal employee, married last year on the day that President Roosevelt was inaugurated.

YATES, DONALD R., '17, Exter Investment Co., Skinner Building, Seattle, Washington.

DECEASED

CARLSON, OSCAR FRED, '15.

YOUNG, HOMER SMITH, '17.

ADDRESSES UNKNOWN

Letters sent to the alumni listed below have been returned from the addresses given. Anyone knowing of the whereabouts of any of these men please write the news to any member of the faculty so that the School and its alumni can keep in touch with each other to the benefit of both old and new students:

HERMAN, CHARLES H., '13, 1622 N. Fernando Road, Glendale, California.

RUCKWEED, F. JOHN, '17, Clear Lake Wisconsin.

RYAN, CECIL C., '24, 1061 W. 57th St., Los Angeles, California.

STEVENS, A. W., '15, Klamath Falls, Oregon.

APPRECIATION

The Idaho Forester is very grateful to the contributors for their part in the publication of this issue. Acknowledgement is also made of the splendid cooperation of several agencies in supplying certain cuts. The Publicity Department and the Gem of the Mountains of the University of Idaho kindly supplied the cuts appearing on pages 1, 2, and 12.

The cut appearing on page 19 was borrowed from the Chase Bag Company, Cleveland, Ohio, while The Timberman, Portland, Oregon, permitted the use of the cut on page 9.

Splendid cooperation was obtained from School of Forestry students in the assignments for various activities. Many snapshots were turned in for the panel cuts and these add much to make The Idaho Forester more interesting in depicting student life at Idaho. The Seniors were especially helpful in arranging their section. To acknowledge each student's assistance would be practically to list the names of the over one hundred students registered in the School of Forestry this year.

SILVER ANNIVERSARY NUMBER

The year marks the twenty-fifth year that forestry courses have been taught at the University of Idaho. The past quarter century has been a profitable one to the Idaho Forest School and there is every indication that the next quarter of century to the golden anniversary will be equally as profitable.