

ALUMNI BULLETIN



INTERMOUNTAIN DISTRICT

1930

G R E E T I N G S

I take a lot of pleasure in again sending greetings to the men and women who have in the past been members of the District Four organization.

In carrying on the work of the District I see constant reminders of the excellent foundation laid by those who are now busy in other fields. We are deeply appreciative of your past work and hope for your continued interest and good wishes.

R. W. Rutledge

DISTRICT OFFICE HEADS

1908-1930

During the month of February the quarter century milestone in the life of the Forest Service was fittingly celebrated and the ceremony broadcasted throughout the country. This ceremony naturally causes many of the old-timers to give thought to their years of service and to their past and present co-workers. District 4 has not as yet reached the quarter-century mark but it has been in existence and located in Ogden in excess of two decades. During this period there have been many turn-overs both in the District Office force and in the field. Of the employees who were attached to the District Office when it was originally located in Ogden in 1908 only five are now members of the Ogden force. These are W. W. Blakeslee, now attached to Engineering, Joseph G. Falck and Hilda Holberg, who are now attached to Accounts, Rosalie Holberg, who is employed in Engineering, and John Wheeler, who is employed in the Supply Depot. The following is the turn-over in the heads of branches in the District Office from 1908 to the present time:

District Forester

Clyde Leavitt, attached to the Canadian Forestry Department.

W. A. Sherman, Associate Forester.

L. F. Kneipp, Assistant Forester in charge of Lands.

R. W. Rutledge, present incumbent.

Operation

R. P. Imes, in realty and banking business, Sidney, Montana.

A. C. McCain, Supervisor, Teton National Forest, D-4.

Vernon Metcalf, Secretary Nevada Livestock Association.

C. D. Simpson, Supervisor, Lolo National Forest, D-1.

C. W. Woods, present incumbent.

Forest Management

L. L. White, Assistant State Forester, Montana.

Ovid Butler, Executive Secretary, American Forestry Association.

C. G. Smith, Supervisor, Alabama National Forest, D-7.

C. B. Morse, present incumbent.

Range Management

Homer E. Fenn, livestock business, California.

C. M. Woods, chief of Operation, D-4.

Ernest Winkler, present incumbent.

Lands

T. C. Hoyt, practicing law in Arizona.

C. M. Woods, chief of Operation, D-4.

R. E. Gery, present incumbent.

Public Relations

James T. Scott, Supervisor White Mountain National Forest, D-7.

F. S. Baker, Assistant Professor, University of California.

Dana Parkinson, present incumbent.

Engineering

A. T. Mitchelson, with Bureau of Public Roads, Sacramento, California.

J. P. Martin, present incumbent.

District Fiscal Agent

Q. R. Craft, in Office of Accounts, D-3.

C. C. Brunner, present location unknown.

H. A. Seip, deceased.

Lee Stratton, present incumbent.

District Law Officer

W. C. Henderson, Assistant Chief Biological Survey.

A. W. Jensen, practicing law in southern Utah.

R. F. Fagans, practicing law in Chicago.

J. F. Lawson, with Federal Power Commission.

E. S. French, District Law Officer, D-3.

Manly Thomson, present incumbent.

FINANCE AND ACCOUNTS

Considerable progress was made during the year in the preparation of Clerical Work Plans on several Forests; also much valuable information as to the actual time required to perform the various jobs on those Forests for which plans were made last year was secured. This information will be used in amending the plans and thus harmonizing them with actual accomplishments.

The number of office inspections made during the last year were less than for several years. Two reasons are responsible; firstly, the District Fiscal Agent was detailed during the early spring for about six weeks to the Washington Office, thus reducing the available time of our office for this class of work; and secondarily, the need for inspections at such frequent intervals has decreased as the clerks have become better acquainted with their work and acquired a good knowledge of the contents of the Handbook. It is felt that only in special cases is it necessary now to make inspections more frequently than once in every two or two and a half years.

Whenever the proposed costkeeping scheme is mentioned to a Forest Clerk, he usually takes on a puzzled expression as much as to say, "I'm from Missouri and will have to be shown." This District has one Forest (Wyoming) on which the scheme is being tried out during the present fiscal year. The system was inaugurated on this Forest jointly by a representative from the Washington Office, the District Fiscal Agent, Forest Supervisor, and Principal Clerk of the Forest. Time alone will reveal whether or not the new scheme will secure such figures as will materially aid in the management of the unit on which tried.

During spare time the past winter Receipts and Expenditures statements were prepared for the different States in District 4, for fiscal year 1929, and distributed thru Public Relations.

The regular annual inspection of the District Fiscal Agent's office was made this year by Assistant Chief of Finance and Accounts, Zimmerli. Much valuable information comes to us thru these periodic visits; brought about by discussions of "knotty" problems and exchange of ideas. We were also favored this year by a visit by three representatives from the General Accounting Office.

FOREST MANAGEMENT

Timber Sales:

The one time lowly and much despised lodgepole pine is now the most sought for timber species in the Intermountain region. With few exceptions the large sales of the District are now for lodgepole pine. Last spring the Standard Timber Company took down the first drives on the West Fork of Smiths Fork on the Wasatch and Horse Creek on the Wyoming. Cutting on these sales is going along steadily and it is expected that for the next several years in the neighborhood of 150,000 ties a year will be taken from the Smiths Fork section and 200,000 to 250,000 a year from the Horse Creek section. The Montana & Idaho Company, Targhee Tie Company, and Globe Timber Company are all producing ties on the Targhee. The Globe Timber Company had previously operated on the Madison Forest but moved down to the Targhee in 1929 to cut out some insect infested timber and has since taken out a sale for an additional 100,000 ties. Approximately 1,883,000 ties were advertised for sale west of the North Fork of Snake River on the Targhee last fall. The Montana & Idaho Company was the successful bidder in this sale, bidding 10 $\frac{3}{4}$ ¢ per tie with an additional half cent per tie for the disposal of undesirable trees. As this company already has a sale it is proposed to combine the new sale with the old one in one sale for approximately 2,700,000 ties.

One of the most interesting and satisfactory developments during the year was the beginning of pole operations by the Great Lake Timber Company on Provo River on the Wasatch Forest. A preliminary sale involving about 18 million board feet was made to this company which intends to manufacture as its principal product telephone and power poles. It will also operate a sawmill to handle the large trees and will take out mine props to be sold to the mines in the vicinity of Park City. This operation promises more complete utilization than has been practical in sales for ties alone. An open tank treating plant for poles has been established on the Provo River a short distance above Heber and operations so far have been very successful and satisfactory.

Bark Beetles:

Lodgepole pine is not only sought after by lumbermen but is also a great favorite with the mountain pine beetle (*Dendroctonus monticolae*). These beetles have been in an epidemic stage in central Idaho and western Montana for several years and have developed to an alarming extent in the lodgepole pine regions in the vicinity of the Yellowstone Park. Last year a determined effort was made to combat them and over 54,000 infested trees were destroyed on the Cache, Caribou, Targhee, Teton, and Wyoming. The exact numbers for each of the Forests is:

Cache	-	13,828
Caribou	-	1,641
Targhee	-	31,204
Teton	-	651
Wyoming	-	6,945
		<hr/>
		54,269

It is estimated that these trees contained 4,521,000 board feet of timber.

A few hundred of these trees were taken out under sales and administrative use but the greater portion of them were disposed of by a new method which was developed on the Targhee Forest in this District. This method is the "standing tree burning method." It consists of spraying the infested length of the tree with kerosene or light fuel oil and setting it on fire. The heat engendered by the blaze kills the beetles which are in the larval stage at the time of treatment and are easily killed. So far it has been very successful and promises to be even more so since many tests of equipment have been made, better tanks for spraying the oil developed, and a clearer determination made of the best grade of oil for the purpose. Right now central purchases of pumps and oil are being made, tentage and some other items of equipment are being borrowed from Forests and other Districts, plans for concentration of personnel made, and in May and June a determined effort will be put forth to get the upper hand of this infestation.

Administrative Sample Plots:

In addition to all their other duties Forest officers have been taking a keen interest in the handling of their timber resources. Approximately 200 permanent sample plots for the study of growth and yield, best methods of thinning, effect of grazing on reproduction, studies on brush disposal and mistletoe infestations have been established.

Silvicultural Investigations:

The research organization will have available on July 1 an allotment of \$10,000 to begin scientific silvicultural investigations in the Intermountain Region. With this initial allotment studies of cutting methods in western yellow pine will be initiated. Later on these studies will be expanded to include other problems in the western yellow pine type and also be extended to the other forest types of this region.

Planting:

Planting is again on the upgrade. The Monument Nursery in Colorado is supplying us with planting stock and rangers are doing the actual work of cutting in the trees. Work is being very carefully done and a high degree of survival has so far been effected. In 1929 approximately 15,000 trees were planted and in 1930 nearly 20,000 will be put out. It is expected to increase the rate of planting by about 5,000 trees a year until the limit that can be put out by the regular personnel of the Forests is reached.

Timber Surveys:

Timber surveys are being pushed ahead steadily and in 1929 some of this work was done on 13 of the Forests, a large part of it being completed by the regular Forest personnel without the assignment of any special men for the purpose. In excess of 570,000 acres were covered on these 13 Forests.

OPERATION

Personnel Matters

The District personnel is becoming less disturbed by turn-over. An exception to this, however, obtains among the Junior Foresters and Junior Range Examiners. During the past year Junior Forester E. C. Farnsworth, formerly on the Targhee Forest, has taken a teaching job in Syracuse University; Junior Foresters Fred P. Struhsaker of the Pavette Forest, and Martin F. Stranz of the Ashley Forest have made connection with the Michigan Department of Conservation; Junior Forester A. A. Hasel has transferred to the Berkeley Experiment Station in California; Junior Forester G. D. Pickford of the Targhee Forest has transferred to research work with the Great Basin Experiment Station; Junior Forester C. E. Price, formerly of the Targhee and later a District Ranger on the Fishlake Forest, has resigned to take up ranching work in Oregon; and Junior Forester N. C. Schulze, formerly of the Boise and later District Ranger on the Lerhi, has resigned from the Forest Service. We expect that one or more of our Junior Forester Rangers may take up work in the proposed nationwide Forest survey now being launched by the Service, which was authorized by the McSweeney-McNary Act of 1928. District Forester C. H. Granger of the Pacific Northwest District has been made head Forest Economist and placed in charge of this survey, and is looking for good men to assist him in the work. All this goes to say that there are good opportunities in the Forest Service for well trained, ambitious and hard working young men.

While a classification of field jobs in the Government service has not been completed, as authorized by the Welch Act of May 28, 1928, a survey has been made of civilian positions in the Government field service, and the results of same are now available to Congress for consideration.

Fire Protection:

The winter precipitation over most of Idaho was considerably below normal during the winter of 1928-29, and it appeared that conditions were set for an early fire season. However, the unusual happened during the spring of 1929. The temperatures remained below normal and relative humidity above the average normal through the spring months. This retarded the development of the melting of the snow and the drying out of the soil, so that hazards remained below normal well into July. The summer months had a below normal precipitation, and by July 15 weather conditions became extremely hazardous. These conditions prevailed late into the fall, and instead of coming to a close in September as usual, the hazard remained high until the beginning of winter.

In late July and during August, rather high velocity winds prevailed, hastening and making more thorough the drying out process and assisting very materially in the rapid spread of fires. The greatest fire danger obtained upon the south Idaho Forests, where also the area burned and damage were largest.

For the whole District 527 fires occurred in and adjacent to the National Forests, requiring attention from the Forest organizations. Of these 486 were within the National Forests. Of the total number of fires 360 were one-fourth acre or less; 120 were between one-fourth and ten acres; and 47 exceeded ten acres in area. All of these fires burned a total of 50,275 acres, of which area 45,702 acres was National Forest land. The damage on National Forest land is appraised at \$105,405, in which figure is included \$65,885 for some 65,000 M. feet B.M. of timber burned. The cost to the Forest Service of suppression of these fires was very high, amounting to \$95,996. The causes of these fires are shown in the following tabulation, which indicates that 249 of the fires were man-caused.

Lightning	278
Campers	96
Smokers	116
Brush Burning	15
Incendiary	5
Lumbering	5
Miscellaneous	<u>12</u>
Total	527

The fire season of 1929 turned out to be one of the driest and most dangerous seasons experienced. The area burned and resulting damage could easily have equaled the record for 1910, one of the worst fire seasons known, except for the better preparedness, equipment, and organization of the Forest employees in fire protection work.

Work Plans:

Written work plans embodying the best ideas that have been developed up to date are now in actual use on every ranger district in D-4. Written work plans for Forest clerks have been prepared in probably half of the Forest offices in the District, and this work is progressing so that we expect to have such plans in use in all of our Forest offices by the close of this year. Written work plans are in use on a good number of our National Forests by the Supervisor and his staff, and we are hopeful that within a year these plans will be completed and in use on all of our Forests. In fact, the idea of well prepared work plans is a part of our regular organization, and may extend into the District Office in due time.

PUBLIC RELATIONS

The relationship of the Forest Service to the public can well be compared to gravity. It works whether we use it or not. In trying to solve its problem, the Forest Service has appreciated the folly of ignoring the public and senses full well the destructive power of silence. President Hoover says: "Popular desires are no criterion to the real needs; they can be determined only by deliberate consideration, by education, by constructive leadership." If foresters exert a very decisive and constructive leadership, the country will tackle its stupendous land use problem in a wholesale versus a piece-meal manner. That there is a land use problem, and a stupendous one, no one will deny when they realize that less than 6 per cent of the 12 western States is cultivated. This means that there is still 94 per cent which must be made even more productive than in its natural state, just as has the agricultural land, before these states can come into their own.

That the above facts have been well considered by men in the Service today, as well as by the Forest Service alumni, is evidenced by editorial comment in the press; by numerous petitions for additions to National Forests; by the very strong resolutions on forestry passed by both the Salt Lake conference of Western Governors last August and the regional conference of the United States Chamber of Commerce last September, to say nothing of the national interest now being taken in the 190 million acres of unregulated public domain and the growing realization that investments in irrigation projects must provide for and assure proper functioning of the watershed which supplies the very life of the project.

The alumni of the Forest Service has played and will continue to play a very important part in stimulating these encouraging trends and bringing them to fruition.

RANGE MANAGEMENT

Our little annual story is like a weather vane; it points the way the wind is blowing in range affairs, and, like the weather, the policies on which emphasis is placed are rather changeable. The grazing fee storm, that well nigh monopolized attention for several years, has died down to a peaceful, much appreciated calm, and the pointer is turned toward continued amicability between the Forest Service and the permittees on this question.

The twin regulations, G-15 and G-16, which provide for using ten per cent of the grazing fees each year for range improvements, are working out very well. At first we thought the arrangement almost too good to be true, but we have been doing considerable range improvement work, principally water developments, which were sorely needed, indeed, for two years now, and the regulations have just about ceased seeming as strangers, though we haven't gotten over feeling mighty happy about them, especially whenever we see a sturdy trough full of clean, fresh water where a boghole used to be. During the past year \$38,000.00 was spent under these regulations, together with a special appropriation of \$10,000.00 from the Government for range improvements, and with these funds 404 water developments were completed, many miles of drift fences were constructed or maintained, rodents were poisoned, and larkspur was eradicated.

The storm center right now in the range industry is the problem of what to do about the Public Domain, which, as you know, is the big pasture in the West. The weather vane certainly could not have foretold a year ago what has happened the last six or eight months. Up to last summer the pointer was turned first one way and then another, perhaps most consistently toward Federal control, but did not indicate more than a gentle breeze in any direction. Then last summer, Secretary of the Interior Wilbur, in a speech made at Boise, and President Hoover, in a letter to the conference of Western Governors in Salt Lake City, urged that something be done about the public Domain and suggested as one solution that the surface rights be turned over to the various states, and each state control the land within its borders. Then what a storm arose. The old weather vane was spun and jerked around so often and so fast that even it became dizzy and hasn't settled down yet to pointing in any one direction, and probably won't until the Commission appointed by the President to investigate the problem makes its report. Our role in all this is to merely stand by and watch, which we do with keen interest, because, for one reason, one of the solutions offered is that the Forest Service handle the Public Domain.

Last spring the personnel from the Boise, Payette and Sawtooth Forests met at Boise for a three-day range management meeting. The results indicated that the boys up that way are not doing all their thinking about timber and fire.

This year ended the first half of the ten year permit period, and this winter a program of cuts for distribution to new beginners and for range protection has been worked out with each Forest. In the majority

of cases, the most conspicuous thing about the program is the lack of conservativeness of cuts. On many divisions and allotments the point has been reached where continued improvement can be expected under present stocking and management making cuts for protection unnecessary, and slack gained through forfeitures and transfer cuts, where made, can just about provide sufficient room for new beginners, or increases to small permittees. There are exceptions to this, of course, the Boise being a severely outstanding case. A bad erosion situation has developed there and heavy cuts in numbers of stock are being made to meet the situation.

The grazing survey work continues to be a training school. We seem to start each fiscal year with our six or seven positions filled, and it with about four vacancies, having lost the men to continued school work to obtain advanced degrees, to Ranger Districts, and to the research organization.

In other respects, there is not much change in the status of range management affairs since last year. Mr. Winkler is still at the helm, with Messrs. Stewart and Standing, and Miss Christensen as helpers. Nothing sensational has happened, but it is felt that each year there is progress - a little less trespass, a little more effective salting, a few more deferred and rotation grazing plans in successful operation, a little better forage cover - slow, but steady and sure progress toward better ranges and better management of them.

ENGINEERING

Roads:

Rapid strides have been made in the development and standardization of forest road construction and maintenance equipment during the past few years. Power equipment is supplementing "Old Dobbin" as rapidly as the changes can be made where this type of equipment means more construction and maintenance miles at less cost. During April of last year a Service-wide road equipment demonstration meeting was held by the Forest Service on the Santa Barbara Forest in District 5. This demonstration consisted of an actual tryout of the different types of road-building equipment, including such items as tractors, graders, gas shovels, backfillers, drag lines, rotary scrapers, rippers, etc., on a forest development road project and under actual working conditions that are encountered on most of our minor road projects. This meeting was attended by a representative of each district except Alaska, and through actual demonstration and the exchange of ideas between districts a long step towards standardization on construction and maintenance equipment and construction and maintenance methods was made. These demonstrations showed conclusively that through use of certain types of motor equipment particularly adapted to conditions encountered in forest road work, a considerable saving in construction and maintenance costs could be made.

Annual road appropriations for minor road and trail work remain about the same as in the past. The maintenance obligation, however, is rapidly increasing which correspondingly reduces the amount that can be provided for construction projects. This has made it necessary, except for high priority protection roads, to consider very seriously the question of cooperation in the approval of projects for construction. The amount of cooperative money being deposited for road work had noticeably increased during the past two years. This is no doubt due largely to the relief the counties have secured from the Federal Government and states in financing the construction of their main highways. Another source of cooperation has been from mining interests, who, being anxious to develop their properties, have in several cases contributed liberally in the construction and maintenance of roads that would hasten this development.

MAPS AND SURVEYS

Maps and Surveys continues to function as usual with a gradual increase in the work of the drafting room. Last winter the ceiling of the drafting room fell in due (?) to the rush and overloading. It should be kept in mind that 50 per cent of our outside jobs of drafting are rush jobs, and are wanted the same day as submitted even though it takes a week.

The making of drainage surveys still continues to be the major field work of this division, 730 square miles having been mapped last summer, mostly on the Powell National Forest in Utah. One field party spent nearly the entire summer on Erosion Surveys for the Office of Research. Entry Surveys have reached that point where we do only one a year.

Four members of our force spend the entire year in the drafting room, besides the field force who are here all winter. Each year we have more and a greater variety of work. The amount of work brought to us by the other divisions and sent us by the forests of this District increases year by year. Much "Passing of the Buck," an honored government pastime, is passed through the door of the drafting room to be tabulated, compiled, checked, edited, properly dressed, and sent to the blueprint room for final cooking and washing. The generous confidence with which the other divisions use us, we take as a compliment and are thereby led to believe that they like our services and the way we do things.

We believe that the work we turn out reaches more people in and out of the Service than that of any other division of this District. The work we do is of the kind that is of a permanent and lasting nature. We map an area of National Forest lands, and immediately incorporate it into a new up to the minute map, for the permanent benefit of everybody who wants to use it for long years into the future. The same can be said of all our work, that there is permanent and substantial evidence always on file.

New base maps were published of the Wasatch and Boise National Forests; also a road map of the north half of the District was compiled and has been sent to the printers. We believe that like other famous products, the work of our division improves with age, and any of our alumni who have not seen one of our new base maps should write in for one. We believe our latest ones are better. A comparison with the early proclamation diagrams, embalmed in our "Mummy files" will convince you. By which we are trying to say that we believe we can report a healthy and beneficial improvement. The "moonshiners" of drafting and mapping have about all ceased operating, the forests and other divisions preferring our superior product. (This paragraph was written by one of our competitors to which we take a bow)

Many new and unusual jobs pass through the division in a year, such as designing covers for special editions of the Daily News, and recently the making preliminary plans to show the size building necessary to properly house the Forest Service in Ogden.

The latest stepchild to enter and find a home with us is the designing, building and installing of Forest Service exhibits. In cooperation with District 1, a permanent Forest Service exhibit was installed in the Idaho State Capitol at Boise. All alumni of the Service passing through Boise should see this. Another one installed at the East Idaho Fair at Blackfoot took first prize.

Miss Rosalie Holberg and Mrs. Inez Adams Corn have the longest periods of service, and Melvin H. Lewis who transferred here from District 7 is our newest member in point of service.

Each year between the close of the field season and the holiday period we hold an annual feast and frolic, of which we try to notify all the alumni of this division, and to which all are welcome.

LANDS

Mineral Claims - Surface Rights

There has been but little change in the mining laws as regards the precious metals since their first enactment. Of late years, however, a sentiment has grown up favoring some material changes in these old laws, especially regarding the surface rights of lode claims. This movement to amend the law is not directed against the bona fide miner but rather against the individual who, through the guise of a mining location, endeavors to secure control of land with little or no value for its mineral content but of chief value for such purposes as water power, hotels, summer homes, hot springs, and the like. The proposed amendment would in no way restrict the past and present rights of the prospector to prospect for mineral. It would in no way restrict his existing rights excepting that the Government would retain the surface rights and the mineral claimant secure patent to that in which he is materially interested, namely, the underground workings. The bill (S.3774) introduced by Senator Norbeck, which applies exclusively to the National Forests in the State of South Dakota, affords an excellent illustration of what is contemplated:

"BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That hereafter mining locations made under the United States mining laws upon lands within the National Forests in the State of South Dakota shall confer on the locator the right to occupy and use so much of the surface of the land covered by the location as may be reasonably necessary to carry on prospecting and mining, including the taking of mineral deposits and timber required by or in the mining operations, and no permit shall be required or charge made for such use or occupancy: PROVIDED, HOWEVER, That the cutting and removal of timber, except where clearing is necessary in connection with mining operations or to provide space for buildings or structures used in connection with mining operations, shall be conducted in accordance with the rules for timber cutting on adjoining national forest land, and no use of the surface of the claim or the resources therefrom not reasonably required for carrying on mining or prospecting shall be allowed except under the national forest rules and regulations, nor shall the locator prevent or obstruct other occupancy of the surface or use of surface resources under authority of national forest regulations, or permits issued thereunder, if such occupancy or use is not in conflict with mineral development.

"SEC. 2. That hereafter all patents issued under the United States mining laws affecting lands within the national forests within the State of South Dakota shall convey title to the mineral deposits within the claim, together with the right to cut and remove so much of the mature timber therefrom as may be needed in extracting and removing the mineral deposits, if the timber is cut under sound principles of forest management as defined by the national forest rules and regulations, but each patent shall reserve to the United States all title in or to the surface

of the lands and products thereof, and no use of the surface of the claim or the resources therefrom not reasonably required for carrying on mining or prospecting shall be allowed except under the rules and regulations of the Forest Service.

"SEC. 3. That valid mining claims within the national forests in the State of South Dakota existing on the date of enactment of this Act, and thereafter maintained in compliance with the law under which they were initiated and the laws of the State of South Dakota, may be perfected under this Act, or under the law under which they were initiated, as the claimant may desire."

The Public Domain And Watersheds

The desire of the President to solve the overgrazed public land question, which resulted in the appointment of the Public Land Commission, has aroused intense interest not alone in the public land states but in the East as well. Even Will Rogers has expressed an opinion in no very gentle words. The people residing in the States in which District 4 is located are particularly interested in the solution of this problem. The livestock industry is one of the most important in the intermountain country and is vitally involved and that which concerns the development and permanency of this industry affects all other industries. The manifest interest of the President and the personnel of the Commission are such as to warrant the conclusion that consideration will be given to every phase of the situation.

In commenting upon the general public land situation the President suggested the advisability of "rounding out" the National Forest boundaries and in this foresters are particularly interested. There are adjoining existing National Forests and elsewhere considerable areas of land of chief value for the production of timber of the various species. It is believed by foresters and those interested in the general welfare that these lands should be made to produce that for which they are best suited. Some of these areas have been denuded of their once timbered cover and others consist of cut-over lands that are now in private ownership. The main object to be attained is not the inclusion of the areas within a National Forest but rather their perpetuation and continued use for the purpose for which best adapted, the growing of timber. They should be made parts of National Forest, however, if no other agency is willing to properly handle them.

Another matter of grave concern to the semi-arid intermountain country is Secretary Wilbur's encouragement for the people of the western states to become "watershed minded." If a continuous supply of water for irrigation purposes is to be maintained the watersheds should be adequately protected and safeguarded. Existing conditions show that the water carrying capacity of many of the large irrigation reservoirs is being seriously reduced through the washing of silt. This is a sad moment of the careless use of nature's resources by man. At the present time the Forest Service is the only branch of the Federal Government that has taken a material interest in the protection of watersheds

and the prevention of erosion and this for the reasons that many watersheds of important navigation and irrigation streams are within the National Forests and the organic act creating National Forests stated that one of the objects to be obtained was to secure "favorable conditions of waterflows." It has, therefore, been incumbent on the Forest Service to be "Watershed Minded." For years watershed and erosion studies have been made at the Great Basin Experiment Station and studies are now being made of the granite soils in southern Idaho. No doubt the President's Commission will be faced with the proper disposal of public lands chiefly valuable for watershed protection and the prevention of destructive erosion.

ASHLEY FOREST

The fire hazard on the Ashley in 1929 was the lowest for many years. Only three fires occurred. Rains were fairly well distributed through the season and the losses from fire damage were practically nil. In order to keep fit the Supervisor spent thirty days away on fire duty to the Selway Forest in Idaho where he assisted in the handling of crews in the suppression of a 50,000 acre fire. North Idaho witnessed one of its most hazardous seasons of record, but the losses generally were not so great as in 1919 and 1910.

Recent development of the Bananza Gilsonite mining district, south of Vernal, has opened up a promising market for mine timber. Approximately 75,000 linear feet were cut and removed last year. Practically all of the props to be used in the Gilsonite mines will soon be supplied from the Ashley.

The extensive timber survey was completed last fall and the results show the stock of available railroad ties to be approximately seventeen million. This is upwards of one hundred per cent more than was formerly estimated.

The grazing surveys initiated in 1928 are now completed and the the information is in the hands of the field. This will be used as a basis for future allotment adjustments. It is interesting to note how closely the carrying capacity estimates of the grazing divisions and the allotments made years back check with the indicated carrying capacity in the present range survey.

The bark beetle infestations are being gradually reduced. Sixty-five trees are all that could be located. They were treated last spring. Most of them were found in the yellow pine belt south of Manila.

We now have good forest development roads onto Mosby and Lake Fork Mountains. Two sawmills are cutting timber from the region of each of these projects.

Should any of you be traveling this way, be sure to make us a visit. The Uintahs still afford unusual opportunities for fine fishing. It is suggested that you plan your outing here.

BOISE FOREST

Nineteen hundred and twenty-nine was one of the most hazardous fire seasons experienced by the Boise in many years. A light snowfall was followed by an early spring and an exceptionally long dry fire season. Fall rains did not come and it was not safe to burn brush until the second week in December. Forty seven fires (of which 27 were man-caused) burned 882 acres and were extinguished at a cost of \$11,568.

Adams' road crew spent a large part of their time fighting fire but managed to push the Beaver Creek - Atlanta road down into Owl Creek and to construct a very good forest development road up Elk Creek.

The Boise Payette Lumber Company now have Camp No. 1 on Bannock Creek and during the past season logged Granite, Hoodoo and Warm Springs Creeks. They purchased 2400 M from us on the head of Granite Creek.

During the past season the timber survey crew made an extensive survey of 265,000 acres, completing the Middle Fork of Boise River. We now have good timber type maps and extensive estimates of the whole forest, except the Rattlesnake country and the North Fork above Deer Park which will be completed this year.

It has been increasingly evident that our forest range was not holding up as it should, and that we were getting too much erosion in some places. A combination grazing and erosion survey covered 128,000 acres in the Fall Creek - Trinity Creek country last year. In addition to the regular grazing survey and carrying capacity data they studied the effect of soil, erosion, slope and rodents. It is expected that the Middle Fork Boise River will be covered this year.

Another reduction in sheep was made this year and our permitted numbers for 1930 will be approximately 1845 cattle and 75,000 sheep.

The Great Basin Experiment Station has started a study of erosion in the granite soils of Southwest Idaho. They have made detailed studies of our precipitation data, will start snow studies this spring and expect to study streamflow and silting as effected by various degrees of grazing and logging.

As stated last year our valley farmers are becoming "watershed minded." They have had the Forest shown them and the Service policies explained, with the result that they are pushing a bill before Congress to put the balance of Boise River watershed above Arrowrock Dam under National Forest supervision.

The use of the forest for recreation is increasing rapidly as roads and trails are extended and improved.

The establishment of rearing ponds for trout by the Ada County Fish and Game League has been a great success. The fry are fed all summer and distributed as fingerlings which can better protect themselves. This cooperation by sportsmen will be a large factor in the upkeep of our more accessible trout streams.

CACHE FOREST

The insect infestation in the timber stands of Utah and Southern Idaho received but little attention until two or three years ago. At

the present time the insect infestation in the lodgepole stands of the Cache threatens the removal of all the larger timber in this type. One infestation started along the Strawberry Sharon Road at the head of Emigration Canyon and another was well under way in the Pearl Creek Basin above Mounan before they were given very material attention. These infestations increased in size very rapidly, the broods from one tree being enough to kill about 10 trees the following year and the bugs, in their flight, attacked all trees from 6 inches up and killed the great majority of them.

Tie sales were made in the two areas and most of the acceptable tie timber was removed from the Strawberry and Emigration Canyon areas. Trees unfit for ties were felled and removed to the sunny places or burned. In Pearl Creek the operator cut about 20,000 ties and was forced to give up the project because of the heavy operating charges. On the areas cut over, trees unfit for ties were treated by Service crews. In the meantime we also gave away to farmers and other parties all infested timber that they would remove from Forest lands. While these operations checked the infestation to some extent, they proved insufficient to stop it and last spring we adopted the Targhee method of spraying oil on the infested trees and then setting them afire. In this manner crews treated 14,000 trees during the summer. The larger portion of the work was performed during May and later in the fall, but burning was continued during July before the flight of the beetles occurred. During July crews worked during the day spotting and marking the infested trees with a white tag. At 11:00 P.M. the night crew started burning and continued until daylight. As the trees and needles were quite dry in July, the fires would crown out in the majority of the trees and after the first fire was started 8 or 10 burners would keep a mountainside lit up so that there was little difficulty in getting around or in finding new trees. Any fires starting on the ground were easily put out at this time of the night and a patrol crew during the day picked up any fires that had been overlooked.

The work will start again about June 1 of this year and we expect to burn about 6,000 infested trees during June and July. If any of the old Cache bunch wish to get in on the July fireworks, they should submit their applications at an early date.

CARIBOU FOREST

The season of 1929 was one of about the usual activity on the Caribou and in general the results of the season's work were quite satisfactory.

Grazing activities remain about the same as in the past though considerable liquidation among sheep permittees has been evident since the close of the grazing season, largely caused by a combination of

unfavorable conditions including a long feeding season during the winter and spring of 1929, scarcity and high prices of feed, low prices for lambs and wool and reduction, generally, by loan companies in amounts per head they would loan on stock and increase in amount of security required. Some fifteen transfers, involving approximately 25,000 head of sheep have been filed with us since the close of the grazing season of 1929. No reductions have been made for protection or distribution purposes though we are gradually decreasing the numbers of stock thru transfer reductions and hope that we will be able to reduce to the estimated carrying capacity by this method without having to make further reductions for protection purposes. The grazing season on the Tincup Allotment was shortened one week on the fore part of the season and two weeks on the latter part and the Snake River allotment was shortened ten days at the beginning of the season this year. In the main, the seasons on the various allotments are now approaching the proper opening dates.

During the season fifteen new range water development projects were completed on cattle and sheep allotments. Such development consisted mostly in the development of small springs and the installation at each project of six galvanized iron flume troughs on frame work mounted on creosote treated or cedar posts. These projects have permitted more uniform distribution of the stock and utilization of the range. Some eight or ten additional projects are planned for the present season.

We have also found it necessary to start reconstruction of portions of our telephone lines that were reconstructed a number of years ago with cedar stubs since the life of these stubs has not been as long as was anticipated. The reconstruction work will be done with creosoted lodgepole pine stubs and poles.

Recreational activities on the Forest are increasing rapidly. With the improvement of the roads in the vicinity of the Forest there is a very noticeable increase in the number of campers and tourists visiting the Forest. Three additional public camp grounds along the main highways were improved last season by the construction of camp tables, fire places, toilets, etc. Two rearing ponds for young trout, with a capacity of about 20,000 each, were constructed by the local sportsmen's club at Montpelier last season and these ponds are now filled with trout to be planted in the Forest streams this spring. Two more rearing ponds are contemplated this season. The deer season, which has been closed for a number of years, was opened for ten days in Caribou and Bear Lake Counties last fall and a considerable number of deer were bagged. The deer population does not seem to have been seriously decreased, however, since on a recent trip the local game warden and ranger report seeing approximately 40 head near Montpelier. Among them was an "Albino". It has been suggested that the change in color was caused by fright thru opening of the season after being closed for many years.

One of our most pressing problems at present is that of insect control work in our lodgepole pine stands. This work was started last

spring and during the spring and fall months control work was done on eleven separate areas ranging from 20 acres to approximately 400 acres in extent, a total of 1200 acres being treated. Examination of our lodgepole pine stands, however, indicates that we still have a number of areas on which control work must be done and such work will be initiated this spring. The largest area is located on the south side of McKay Creek, near the mouth, and is scattered over several sections in varying sized patches. It is estimated that between 2000 and 3000 trees will be treated on this area. The technical name of the insect responsible for the damage is "Dendroctonus monticolae" (Mountain Pine beetle) though we have heard it called a number of other names, that would not look so well in print, by the men engaged in the control work.

Mr. A. C. Toland, a former ranger on the Caribou, paid us a visit recently. Mr. Toland is now residing in Star Valley at Afton, Wyoming, and in addition to operating a ranch and running a nice sized bunch of cattle on the Caribou is also engaged in buying and selling cattle. We always welcome visits from ex-forest officers.

CHALLIS FOREST

Another year has rolled around and again we are mindful of you fellows who, in the days gone by, were members of the organization represented by this little sheet. We take this means to extend to you, all former members of the Challis Personnel, our sincere good wishes for your happiness, and success in the various occupations in which you are engaged. We hope that these few remarks will recall to your minds many pleasant memories of the times when you were associated with us in the work of managing and protecting this portion of the Nation's natural resources.

The fire season of 1929 was one of the worst experienced since the Challis Forest has been under administration. The previous winter's snowfall was considerably below normal, very little rain during the summer, with almost continuous high, drying winds, resulted in perfect burning conditions and fires spread rapidly from the start. The record was a run of eight miles the first afternoon by the big Camas Creek fire. In another instance some matches became ignited in a man's pocket. He drew the burning matches from his pocket and dropped them in the grass and brush. Although he began work immediately and put forth every effort, he was unable to subdue the flames. A fire fighting crew reached the scene within an hour after the start of the fire, but 110 acres were burned over before the fire was under control. Of our 36 fires during the season, 7 of them reached the Class C stage.

The new telephone line from Challis to Clayton Ranger Station (over the hill via Garden and Squaw Creeks) has been completed. Our telephone system is now divided into three main trunk lines and does

away with a telephone operator at Loon Creek during the fire season. The new line increases the efficiency of our telephone service considerably. Practically the entire telephone system of the Forest has been reconstructed, using treated poles or stubs on all pole lines. The system is being gradually extended by the construction of branch lines to connect up protective guard stations.

John Malm, former ranger who recently resigned from the Service, met with quite a serious accident at the time of the Camas Creek Fire. While leading his pack horses through the burn, one of them pushed over a small tree and the tree, in falling, struck the hammer of a 38 caliber revolver which he was carrying in his belt, discharging the weapon. The bullet entered the right leg below the knee and came out just above the ankle. John is at present located at Klamath Falls, Oregon. He has not as yet fully recovered from the injury.

The temporary protective force on the Challis consists of thirteen men and it is expected that this number will be increased by three during the 1930 season.

DIXIE FOREST

The Dixie personnel consists now of but four rangers, a clerk, and a supervisor. Frank Seaman and Bill Hurst, the old standbys, are still with us and since preparing their 1930 job sheets have been seen sharpening their spurs and renewing quirt poppers. This latter activity being necessary in order to cover more country because of the recent consolidation which made but two ranger domains out of the Little Valleys, Lowder and Harris Flat districts. Frank will hold forth on the west side while Bill regulates matters on the Panguitch slopes.

You old timers will remember that we used to have the Moapa, Dixie and Sevier Forests and that each had its supervisor, assistant supervisor, clerk, and several rangers. The parashont district on the Arizona strip was eliminated and the Powell took over the East Fork of the Sevier; with these exceptions, the Dixie has consumed them all. Work plans, progressive travel, and automobiles have made the administration of the larger areas possible.

FISHLAKE FOREST

There are now 22 alumni of the Fishlake National Forest. Of this number only one stayed with the Service a sufficient length of time to reach the retirement age of 62 years.

The question now arises as to the number of the present officers of this Forest who will be able to continue in the Service until they are eligible to retirement and receive a monthly retirement payment.

The records of this office now show that of the 12 officers on this Forest, three are over 50 years of age and have been in the Service more than 20 years. If the retirement age is reduced to 60 years as now provided for in the Lehlbach Bill, one of these officers will have to stay with the Service 6½ more years and two 9 years before becoming eligible for retirement. All the other officers on this Forest are less than 40 years of age and have been in the Service less than 15 years.

HUMBOLDT FOREST

The season 1929 on the Humboldt Forest was nearer normal than for several years with less adjustment in grazing preferences. However, the drought condition existing and seriously effecting lower ranges, forced a considerably heavier use of forest range by stock entering prior to the regularly established opening dates and the bad lamb market during September held back the bulk of shipments almost one month.

Range improvements came in for considerable consideration as we took over the maintenance of approximately eighty-eight miles of fences constructed under the provision of old Regulation G-4, which provided the Government would after ten years become the owner of improvements constructed by stockmen. There was also twenty-four new water development projects completed. This is a material step in our program to develop the value of our ranges by making possible better utilization and less trailing to and from water.

An outbreak of Tussock moth in the Jarbidge section was watched with considerable interest and study with some cutting to control the spread of the infestation. This insect attacks the alpine fir and so seriously defoliates it that the trees die the following season.

The low water condition resulting from the extremely dry seasons we have been having has materially affected our fish supply, which is probably not more than fifty per cent of what it was ten years ago in spite of efforts to restock the streams. There is of course many more fishermen now to satisfy than there was a decade ago. The increase in hunters, which we believe is responsible for the reduction in sagchen, will no doubt cause a reduction in the bag limit and open season. From the fish and game standpoint this would indicate that the conditions are not at all encouraging, however, it seems the accepted opinion among hunters and forest officers that there is and has been for several years a gradual increase in the deer.

IDAHO FOREST

The Idaho Forest still has its fire troubles. The season of 1929 was a long protracted affair, commencing the early part of July and continued critical up to the 15th of October. We finished the season with

a total of 91 fires, 38 of which were man-caused. A total of 396 acres of National Forest land burned over, which loss is remarkably low considering the very hazardous condition.

Mining activity within the Forest fluctuates from year to year. Considerable development was undertaken the last season, equipment and machinery being installed at the Jansen mine on Crooked Creek, the Red Metal mine near Profile summit, and at the Smith Creek placer mine. Mining companies in the Marshall Mountain district are now very optimistic over recent discoveries of ore deposits at the former Holt mine.

Transportation by airplane is expected to be an important factor in future economic developments within the Forest. A landing field has been constructed at Chamberlain Basin, and various parties have made the trip by the aerial route to this point. A plane has been making regular trips from McCall of recent days, transporting men to the Deadwood Basin for work in connection with the reclamation project at that point.

Our timber sale business took a sudden slump this past season, owing to the destruction of the plant at New Meadows by fire in the fall of 1928, and to the availability of private timber in the vicinity of McCall.

56,445 sheep and 3,029 head of cattle and horses grazed within the Forest this past season.

We will try to administer the Idaho Forest for this year at least with a total permanent force of eleven; a Supervisor, two Assistant Supervisors, six District Rangers and two Clerks. One Ranger will be responsible for the proper administration of 835,087 acres in the back country of the Forest.

All those who are inclined to risk their reputations as weather forecasters predict an extremely dry summer period which naturally means a very hazardous fire season. We may need help.

KAIBAB FOREST

The Kaibab National Forest had a very successful year in 1929 with plenty of rain, plenty of mushrooms and grass, so that cattle, sheep and deer spent a very fine summer. Both cattle and deer have come through the winter in good shape with few losses. The winter range, however, has been closely browsed, but we hope spring inspection will show less injury than on previous years.

The new highway past Jacob Lake was opened to travel in the middle of the summer and the filling station moved over onto the highway and a new camp ground developed. Eight miles of new road was constructed through VT Park. This is supposed to be DeMotte Park but it seems it just won't be called that in practice. A survey of a road on Houserock hill was made and prospects for construction during 1930 are bright.

Timber business is about the same with two little mills sawing a little lumber. They will probably cut a little more this coming summer for road construction. Black Hills beetles have not shown up since the infestation subsided in 1925.

Big advances were made in game management. Good working agreements were signed with the State and the best of cooperation was had all year. State Game Warden Bayless made several trips to the Kaibab, and Governor Phillips made two trips. In the hunting program, 2372 hunters killed 3907 deer. One buck and one doe or two does were allowed to each hunter. Old deer were successfully trapped and shipped by truck to other ranges, 216 to Arizona and 82 to California.

Travellers are increasing in numbers each year. However, there is less demand for campgrounds and more demand for camp cabins with popular furnishings.

The season of 1930 has in prospect, some more roads, still more travellers, continued deer hunting, and more investigations by committees.

LA SAL FOREST

The alumni of the La Sal are all engaged in the same work as reported last year, and are holding pretty close to their jobs. Changes are still going on in the La Sal personnel. Ranger Ivan Christensen is now in charge of the Monticello District, having succeeded H. H. Van Winkle who was transferred to the Sawtooth Forest at Hailey.

Plenty of field time is planned for the La Sal rangers. As the old saying goes, "There is no rest for the wicked." This certainly will apply to us if our present plans materialize. This year we initiated an extensive project in trying to rid our cut-over areas of mistletoe infection. In other words pruning all mistletoe infected trees, girdling or disposing of them by other means. The work is new and we have a lot to learn. In order to qualify one must have a light head and a strong back. It provides a splendid opportunity for field time during the winter months.

Once a member of the La Sal force, always a member, or so it seems with Mrs. Muriel Baty, formerly Miss Fiefield. While she isn't on the Forest Service payroll, she is the next thing to it, dividing her time as stenographer with County Clerk Howard A. Balsley, who was formerly Forest Clerk, and a private attorney who maintains an office next door to the Forest Office.

We were recently informed that Lewis T. Quigley is mining coal at Castlegate, Utah, and during the past summer we learned of the whereabouts of an old friend and ex-Forest Supervisor John (Johnny) Riis who is now editor and publisher of a daily newspaper at Richmond, Va.

LEMHI FOREST

Since the initiation of Regulations G-15 and G-16 three years ago, which regulations provide for the construction of range improvements by depositing not to exceed 10% of the grazing fees to the cooperative work fund for the purpose of constructing and maintaining range improvements, this Forest has accomplished some improvements which have resulted in much better satisfaction to the permittees benefitted and also has resulted in a higher carrying capacity of range. The Utah Construction Company has constructed 13 water developments on Crooked Creek and Birch Creek divisions, and 2 other developments are approved. As a result of this work this range is carrying on the Forest about 2500 additional sheep, and the result has been much fatter lambs than was ever known in the history of this range.

Under Regulation G-16, which has been used in all other range improvements on the Forest, we have accomplished the construction of one water development, and have 3 other projects planned for this year. We have also accomplished the construction of the Leadbelt drift fence, and this year we are building the Cliff Creek drift fence which separates the Alder Creek summer range from the Copper Basin spring range.

Five years have elapsed since a fish and game management plan for the Lemhi was prepared. A number of interesting things have actually been accomplished since this plan was written up. The plan contemplated the organization of a sportsmen's club at Mackay, and this club sponsors and cooperates with the State Game Department and the Forest Service in the management of all fish and game within their territory. It was also the Mackay Sportsmen's Club which recommended the closing of the Mackay reservoir to fishing, which has resulted in an average of 600,000 fish eggs being hatched and reared from rainbows which came from the Mackay reservoir. At the time the reservoir was closed it was felt by the State Game Department and a number of others that the reservoir was practically depleted of rainbow spawners. During the drouth periods which we have gone through the reservoir has dropped each year to its lowest ebbs, and had it not been for the closed fishing it would have been entirely depleted at this time. During the five-year period they have also accomplished the extension of the Big Lost River game preserve, which now includes all of the west division of the Forest. A closed area by game warden's proclamation has been in effect for the past two years on the area between Morgan Creek next to the Salmon Forest and to the south fork of Big Creek on the east side of Pahsimeroi valley.

During a recent address by Warden Thomas he explained that the plan at the Mackay hatchery would be to rear a million young fish each year, that the Mackay hatchery would be expanded to care for this many.

During the past winter rangers George Miller, A. M. Cusick and O. F. Cusick, in cooperation with Deputy Game Warden Kelley and Deputy Game Warden Sutherland, actually counted all of the antelope they could find in Custer County. This number reached 1769 by actual count. In Butte and Clark Counties there are now enough antelope using the Lemhi

Forest to bring the total up to 2475, according to last year's estimates. Deer have been on a gradual increase from 2270 in 1925 to 2450 in 1929.

Ranger M. C. Schulze, who was in charge of the Medicine Lodge district for the past two years, resigned effective on November 30, 1929, and on April 1, 1930 Charles H. Rouse, a Junior Range Examiner, who is a graduate from the University of Montana, was assigned to take charge of the Medicine Lodge district.

MANTI FOREST

The personnel of the Manti Forest consists of the Supervisor, two clerks, and five rangers.

During the past year Forest Clerk Van Boskirk and Ranger Thursby spent 16 days on the fires in the northern part of D-4, and Ranger Williams spent a month and a half on the Kaibab during the deer hunt. The Forester, District Forester, Assistant Secretary of Agriculture Dunlop, several Congressmen, and other visitors of note spent some time on this Forest. In addition Roy Headley, Chief of Operation from the Washington Office, and C. N. Woods from the District Office spent several days checking over work plans on district 2. The average days spent away from headquarters by the Supervisor and rangers was slightly in excess of 200 days. Eighteen miles of new road on district 6 were completed. This road makes it possible to follow the sky line north from the head of Cottonwood canyon to the extreme north end of the Forest, and while the construction work is up to a motor way standard only, it will be very convenient for 90 per cent of the sheep men grazing sheep on district 6.

Our timber sale business has fallen to pieces. The outlook for 1930 is somewhat better, since the cleaning up of a number of old cutting areas is now practically completed and new ones must be opened.

For most of the Forest, the ranges are in better condition than they have been in 25 years. On a few allotments the big lamb problem is causing some little worry. Reseeding of the poorer ranges by stockmen and Forest officers is being continued. The production of grass seed last year due to the wet season was lighter than for 1928.

Increased recreational use of the Forest made it necessary for us to improve a number of camp grounds in Twelve Mile, Manti, Ephraim, and Huntington canyons and in Joes Valley.

Range improvements costing approximately \$3,000 were completed under the provisions of Regulation G-16.

Somewhat lower prices for cattle prevailed and the prices for sheep and wool were somewhat discouraging to the growers of that class of stock.

MINIDOKA FOREST

Nothing very exciting occurred last year. All lines of work proceeded along a fairly even course. No disastrous fire interrupted anyone's work. The perennial trespass problem broke out in two cases, both of which were settled without much trouble. Four range checks were made in localities most subject to infringement of the grazing regulations, but little violation was found. The practice of winter feeding makes fairly accurate counts possible. Besides, most cattlemen have sold down approximately to their permitted numbers. Except for the west half of the Raft River Division, permitted stock about balances the range survey estimates of carrying capacity. Salting and distribution plans are being accepted without protest by the stockmen. About the only knocks that come our way are from applicants denied a permit or from present permittees desiring increases in localities where no surplus range is available. They still regard the range resource as inexhaustible, and feel that as long as some cows are on the forest there should be room for one more.

The timber business fell off a little last year - only 20,000 trees were sold; but these were marked in accordance with a carefully thought out management plan. The dense stands of Douglas fir and lodgepole pines are being thinned moderately to remove disease, defective specimens, poor species, and to speed up the rate of growth which is very low in some stands. These thinned stands, with only the best and thrifty trees left, evenly spaced, rival those pictured in books. The truck and trailer, used sparingly two years ago, increased greatly in use last year as a means for quick and effective transportation of timber from the forest. Effective is the word; for they broke thru most of our old bridges, caved off the banks of narrow roads, straightened out sharp curves, and pointed the way to a real forest development road system.

A few of those early plantations, given up as hopeless years ago, are now beginning to attract attention. Two or three patches of yellow pine in Shoshone Basin have reached a height of eight to fifteen feet. The Douglas fir, what is left of them, are proving they too can stretch up and put on growth. In recent years porcupines have developed a special taste for yellow pine bark, and are doing serious damage. The planting bug has also revived among forest officers. Last year about 2,200 yellow pine and Douglas fir seedlings were set out by the local force, and so far followed by high rate of survival. Two thousand more will be planted this spring.

Not much new in the way of administrative improvements was done last year. All summer stations now have water piped to or inside the cabin. Pastures are adequate and buildings in fair shape. The ranger enjoys his radio after a strenuous day. More and more it is becoming a job of marshalling Nature's forces to manufacture wood and forage.

NEVADA FOREST

The drouth which has prevailed in this part of the State for the past four years will from all appearances be more severe during the coming

summer than ever before since practically no snow has fallen in this part of the State during the winter of 1929-30. From the first of August 1929 to September 15 of that season a very generous rainfall occurred over this part of the State which brought out a very satisfactory crop of forage on the winter ranges and because of this and the light snowfall during the past winter all sheep have wintered in excellent condition and are now returning to their summer ranges in better condition than for many years previous.

Because of the light snowfall during the past several years, many of the creeks and springs have completely dried up within the Forest and many of the local ranches and farms are suffering severely through lack of water for irrigation. During the summer of 1929 practically all of the residents of Weaver Creek were forced to establish temporary summer camps in the mountains where water could be secured for domestic use since Weaver Creek went completely dry and the wells at the various ranches also went dry. I met James F. Robinson, a prominent sheepman of Baker, Nevada, yesterday and he advises that in all probability no agricultural crops will be produced in the vicinity of Baker and Garrison, Utah this year because of lack of water for irrigation. He also stated that practically every well in Snake Valley had gone dry during the past winter and that several of the ranchers in that vicinity were now having deep wells drilled in the hope of securing permanent domestic water supply. Summing the situation up, it appears to me that we are confronted with the most serious problem in this part of the State, since the water for irrigation and mining operations will be very much less than ever before.

PAYETTE FOREST

The last leason saw the Payette Forest going along about as usual, selling timber and grass, putting out fires, and building roads and other improvements.

The Hallack and Howard Lumber Company cut about the usual amount and have nearly finished logging Beaver Creek and are planning to move their operations this spring to Little Pearsol and Big Creeks.

The Forest Service completed the Profile Gap Road to the mouth of Profile Creek and the Meadow Creek Mines completed their section of the road to Meadow Creek putting 14 miles of new road on the map. There is considerable interest on the part of miners in completing this road to the summit of Profile Creek and substantial cooperation may be forthcoming.

Five miles of new road was completed down the South Fork of the Salmon below Knox. Continuation of construction is planned for 1930. Some Nampa business men have purchased the claims of Deadshot Reed and are anxious to complete the road to that point in order to erect a dredge and are considering cooperation on the road in order to speed up construction.

There is feverish activity in the Deadwood Basin on account of the construction of a large dam by the Reclamation Service. Preliminary work was done last summer and clearing work has been going on all winter. The contractors expect to open the road during March and begin active construction work during April. About 300 men will be employed in 1930 and 15,000 to 20,000 tons of cement and other freight will be moved in over forest roads.

A number of new buildings were constructed including a bunkhouse, storehouse and garage at Garden Valley, a storehouse on Blue Point, and a guard cabin at Stolle Meadows.

Feed was very short on account of the extremely dry season; some damage to the range occurred and some permittees left the forest before the closing date.

The Payette was fortunate in getting through the fire season with only one Class C fire. This occurred near the mouth of the Deadwood River and covered about 250 acres.

POWELL FOREST

That the Powell is coming into its own as a recreational center, is evidenced from the fact that 26,120 tourists visited the Forest during 1929. Most of these numbers were transient tourists visiting the Bryce Canyon National Park. To reach the Park, however, it is necessary to traverse a portion of the Forest. One of the distinguished parties visiting the Forest on strictly business matters was the Congressional Agriculture Appropriation Committee which was making a tour of the western states. This party consisted of Congressman Dickenson and wife, of Iowa; Congressman Summers and wife, of Washington; Congressman Don B. Colton, of Utah; William A Duvall, clerk of the committee; B. J. Finch, in charge of the Bureau of Public Roads for Utah; Major R. Y. Stuart, Chief Forester; and R. H. Rutledge, District Forester, District No. 4; C. E. Rachford, chief of Grazing in the Washington office, also spent a few days inspecting ranges within the Powell.

As you all know, the Powell has always been classed with the asbestos Forests of the District. It has been so classed because of the few annual fires occurring during its twenty-five years of existence. Although 1929 was a bad fire year, there is no need for a new classification for the Powell. Notwithstanding this fact we did have some fires that resulted in substantial losses. During the year three of our main sawmills burned to the ground. In each instance, however, the mills have been rebuilt and are now going along smoothly.

The present personnel of the Powell can boast of the fact that 33-1/3 per cent of its yearlong force now holds the Forester's certificate designating them as Practicing Foresters. During the year Rangers Wilford Bentley and Leland D. Heywood received such certificates. We are very

proud of this record, since, so far as we know, only eight such certificates have been issued. We are still more proud to know that the boys receiving these certificates have merited all that the words "Practicing Forester" signify.

To secure a better working map for the Powell division, two crews were detailed to the Forest during 1929 for the purpose of making a drainage map. Approximately sixty per cent of the work was completed and the plan provides that the other forty per cent be finished this year (1930). Too, the outlook for a grazing survey of the Powell side, which will begin this year, is very encouraging.

The first half of the ten-year term permit terminated at the close of the 1929 grazing season. Generally speaking, the Powell ranges were in much better shape than in 1925, when the ten-year permit went into effect. Yet we have a lot to do in bringing about better management of stock on the range, reductions in numbers, later opening dates, etc., before we have reached our objectives and fulfilled our responsibility in governing the use of National Forests as defined by the Secretary of Agriculture.

The present outlook for range forage during the ensuing season is somewhat discouraging. Winter precipitation has been much below normal. A recent field trip (3-20-30) demonstrated that an auto could be driven over a large per cent of our intermediate ranges. A more-than-normal precipitation for the summer months is our cherished hope from a grazing point of view.

SALMON FOREST

Fire:

The Salmon National Forest was the hardest hit of any Forests in the District as to acreage and costs, with approximately 23,000 acres burned over and in the neighborhood of \$30,000 expended in fighting fires. We had a total of 59 fires of which 38 were lightning and 20 man-caused. Up until July 13 the fire season looked quite favorable and we had a good protective organization, well trained and carefully selected. However, on July 13, a dry lightning storm occurred which started 27 fires, 19 in a single two hour period. All of these fires were handled quickly and promptly extinguished with the exception of one fire which started at a low elevation in steep, inaccessible country. It required two days to get to this fire and by the time it was finally controlled, covered the greater part of a township in a more or less patchy burn. Both Forest officers and fire fighting crews traveled day and night to get to this fire and did good work but wind, topography and inadequate transportation or rather, lack of roads, combined against our best efforts.

The Salmon was threatened by fires from the Nez Perce and Lemhi Forests upon which some funds were expended, but a fire from the Challis Forest and one from the Idaho Forest both succeeded in crossing over onto the Salmon and increasing the acreage burned and costs of this Forest.

Roads:

The fires of last year proved conclusively that more roads are needed for the adequate protection of a forest. The construction of these roads will facilitate the transportation of men and supplies. This year the Salmon starts the construction of its first motor way. Work will start in Spring Creek and from there the road will go to Bluenose Lookout and then follow the ridges to Beartrap, Long Tom, Cayuse Point and Skunk Camp. The U. S. 93 highway from Salmon to the Montana line up the North Fork is nearing completion. This road is being constructed by the Bureau of Public Roads and is now completed from 4th of July Creek to the Montana line, a distance of approximately 32 miles. It is expected that seven more miles will be completed this year, or up to Boyle Creek.

Improvements:

The old 4th of July Ranger Station is no longer in existence. Last spring the building was torn down and hauled to Indianola where a much needed storehouse was constructed. The front part of the storehouse is divided into two rooms, one for the Ranger's office and the other for the summer guard. The other half of the building is used for storing the fire and administrative equipment.

A standard lookout building was constructed on Middle Fork Peak, the first for the Yellowjacket District. Water from springs is being piped to both the Indianola and the Hughes Creek Ranger Stations and this fall these two stations will be equipped with bathrooms.

SAWTOOTH FOREST

The Sawtooth is becoming civilized! Think of a de luxe dude-ranch rising in the wilds of Salmon River - a layout with all the comforts of a high-class hotel. It was started last summer and is about completed. It has a fine location of Gold Creek facing the Sawtooths, and really is a swell joint. They have probably put in \$75,000 or so on it. You want to plan on trying it out this summer.

Ketchum staged a building-bee last summer and now has a pippin of a pool, with a surrounding quadrangle of first-class apartments. Hot water was piped down from Guyer. This is another reason for making the Sawtooth a visit this year.

The Sawtooth Highway forges ahead in fine shape. Twelve miles of road was under construction last year and will be finished early this season. We expect the remaining link of twelve miles to be started this spring, giving, by 1931, one of the finest roads in all out-doors. By the way the Warm Springs road is one fine little project, and is now completed as far as Red Warrior Creek.

You should see the sheep troughs the boys are putting in - 100-footers, of the galvanized-iron flume type, with creosoted posts and everything. Boy! it's some job to get some of them on the ground, but

the projects are proving mighty well worth while in cutting down trail-
ing and making new range available. The cattle-unit water projects are
being continued, also.

They hauled out about 23,000 lambs from the Stanley Basin - Bear
Valley country to Ketchum, last summer. Everyone is glad to see this as
it saves a lot of wear and tear on trails, holding grounds, Forest of-
ficers, and sheepmen, to say nothing of the ewes and lambs.

The fire season was bad! We had two big fires, one of these,
over on Germania Creek, being the largest the Forest has ever had. Two
bad years in succession, and it looks like a third one coming up.

Bill Horton writes from California that he can't stay away and
intends to be back as soon as things open up. He may handle a bunch
of pure-breds for one of the users. Bert Griffith built up a prosper-
ous store at Ketchum; H. B. Howland is still on his Featherville ranch
and does some guide work during the hunting season; C. M. Mangun is
pointing with commendable pride to his two new school buildings at
Shoshone; Martyn Mallory is County Assessor here and has made a splendid
record; Walter Leflang breezes in occasionally and will probably be
around Ketchum this summer.

The Sawtooth bunch sends its best wishes to the alumni.

TARGHEE FOREST

If you were to visit the Targhee office this spring you might
mistake it for some kind of an employment agency, or at least the per-
sonnel department of a big concern. So far about 100 men have been
interviewed, sized up and listed for the May and June bark beetle con-
trol work, for which we have planned thirteen eight to twelve man main
camps to be located in Pleasant Valley, Cottonwood Creek, Rattlesnake
and West Camas Creek, the Old Fishhatchery, Fish Creek, Porcupine,
Dry Creek, Twin Creeks, Packsaddle, Pony Creek, Flat Hollow, Kirkham
Hollow and in Graham Hollow and Wolverine Creek. The estimate is for
25,000 infested trees which will be treated by the standing burning
method with the use of oil in pressure spray pumps.

The outlook for a big timber sale business is very bright. The
Snake River chance of 1 $\frac{3}{4}$ million ties, on the west side of the North
Fork from Shotgun Valley to Driveway Well, was sold this spring to
the Montana Idaho Company which will operate in connection with their
Moose Creek Plateau sale. The Targhee Tie Company has nearly com-
pleted its present Crow Creek and South Buffalo sales in Island Park.
The Globe Timber Company from West Yellowstone is cutting the Bull Elk
chance of 115,000 ties and has built a good camp at the old Harsh-
barger sawmill location on the Rammel road.

Cruising of the Fall River compartment of the Island Park
working circle has been completed and the million and one-fourth ties
will probably be advertised sometime during this spring or summer.

G. D. Pickford (Pick) has left us to join the staff of the G.B.E.S. and Gene Farnsworth, who has been chief of our timber survey crew for two years and assistant on the Moose Creek sale for two years before that, resigned in March to become Senior Instructor at the N.Y. State College of Forestry, Syracuse, N. Y. He is located at the state ranger school at Wanakena, N. Y. Merle Markham will move from Guild to the Porcupine Ranger District; Al Balch of the last summer timber survey crew will go to Guild; Dan Bulfer will return for the Island Park scaler position; Flo Powers for the D-4 and 5 sales work, and a new man named Wilford Keene will fill the Kilgore guard position left vacant by Chas. Connaughton, who will be on a grazing reconnaissance party this summer. Our second clerk, Sid Gholson, has been with us since last May. The rest of us are now all old timers and are here to welcome you when you pass by this way.

TETON FOREST

Three quarters of a million dollars expended within the year in the interests of recreational activities and wild life propagation and protection is the outstanding factor of importance in the development of this neck of the woods. The movement which contemplates the development of Jackson's Hole and adjacent territory as a big National recreational area and wild life sanctuary to the exclusion of other forms of lands use, is being promoted by the Snake River Land Company, a Utah Corporation, operating with eastern capital. The \$750,000.00 or more expended to date represents land purchases which includes almost the entire area of privately owned lands north of the Gros Ventre river. The effect on the affairs of the Teton National Forest is to force recognition of the use of adjoining privately owned lands for recreation and game rather than stockraising or farming, as the basis of "dependability" in preferences in the use of adjoining National Forest lands. It looks as though the Teton will have to go in for recreational development and propagation and protection of wild life on a large scale as major activities or turn the Forest over to the National Parks Service.

The hazards of one man patrol in the back country was again exemplified on the Teton the past year by the death of Forest Guard S. E. Copenhagen. "Smithy" was packing up and in cutting a small sling rope accidentally cut his arm making a severe wound severing several large blood vessels. He managed to turn his horses loose and fire several signal shots and was apparently in the act of firing another shot when in his weakened condition from the loss of blood he accidentally shot himself. The gunshot killed him instantly, however, the examining physician said that he would have inevitably bled to death from the knife wound.

TOIYABE FOREST

Nineteen twenty-nine seems to have left us few outstanding events to remember it by. We are all a little older, we know, and a little wiser, we hope, but we fail to note anything remarkable among our ac-

accomplishments. We supervised the grazing of 7,669 cattle and horses and 31,186 sheep; we sold and supervised the cutting of 421 thousand board feet of timber; we inspected lands held under Special Use; we maintained our roads and trails, buildings and fences, and we built ten range water development projects, a water system at the Potts Ranger Station, and an office at the Reese River Ranger Station, and we fought fires. We collected the proper fees for authorized use of Forest resources and we reduced and penalized unauthorized use. On the whole we believe we did this pretty well, and that we are making progress, but we can not recall wherein we distinguished ourselves.

The year might be recalled as the year of the floods. We had hardly completed the maintenance of the Petes Summit Road when a cloudburst made the lower west side almost impassible. This year we hope to rebuild this section on a new location where it will be reasonably safe from such damage in the future.

The same storm washed most of the fish out of the Kingston Rearing Pond, which had been built and stocked last spring by our resourceful Toiyabe Club. Fortunately about half the fish found their way into Kingston Creek, but many were apparently washed down into the valley and left stranded. Most unfortunate of all, for we had our hearts set on it, was the resulting decision of the State Fish and Game Commission not to build a branch hatchery in Kingston Canyon, though old timers say there had never been such a flood in Kingston for forty years.

Notwithstanding the floods, the year was, as far as the livestock industry is concerned, just another dry year. If we get plenty of moisture this year, 1929 will stand out as the last of a series of dry years, each a little drier than the year before. The present outlook for 1930 though is far from favorable, since the snowfall has been very light.

The August and September storms in 1929 came after practically all forage had dried up, after many springs had failed, and water for irrigation was depleted to an extent that a very short hay crop was a certainty. It was too late to help the hay situation much, but the stimulated growth of range forage resulted in stock leaving the Forest in average flesh condition, and brought the desert ranges up to better than average condition.

The storms seem to come just in time to keep us from having to move out, and that seems significant. Maybe the weather man plans to treat us better later on. We have hopes, and in the meantime, the shortage of stock brought about by enforced liquidation has enabled us to make good progress in range revegetation. Some of the stockmen sold pretty close, and now it will take years to entirely stock their preferences, if they depend on natural increase, which they would prefer to do. We have been inclined to follow a very liberal policy in the granting of non-use of grazing preferences because of the relief afforded to the ranges.

Our water development program, while only about half complete, has aided materially in range revegetation, by making possible better distribution. In fact, it is quite likely that we would not have been able to graze as many stock as we have during these dry years if we had not constructed so many watering places. This year we expect to complete fourteen more projects.

UINTA FOREST

Our Nebo herd of elk, which has been the subject of much interest and some controversy in the past, is gradually coming under a plan of controlled game management. Strange as it may seem, these elk, although increasing steadily, did not scatter to surrounding country but tended to congregate too much in certain localities to the point of overstocking the range and causing undue interference with the proper handling of domestic livestock and with our plans for improvement of the range.

Beginning with the spring of 1928, a count of the elk was made by the Uinta rangers and State game wardens whereby it was determined that the number at that time was approximately 700 head. Meetings were held with the local game and livestock associations and with the other interested agencies at which an agreement or understanding was reached that efforts would be made to keep the number of elk in the herd at about 600 head. During the winter of 1928-29 the State Game Department built a trap in the foothills southeast of Nephi for the purpose of trapping 200 or more animals to be transplanted to other parts of the State. Trapping did not prove highly successful, however, and the cost of handling was high. Accordingly, permits were issued by the State Fish & Game Commissioner for killing 300 head last fall and 258 head were reported in by hunters as being killed. Thus the increase is used beneficially and the breeding stock is being maintained at the number the range will carry safely without undue injury to other interests.

Although last season was a bad fire season generally and three members of our force were called to other Forests and other districts to help suppress big fires, the Uinta Forest had the unique distinction of being the only one in the Intermountain region not having a single fire. We do have them in some years though, as just the year before we had 20, some of them covering the better part of a section or more.

One of our bigger activities during the past two seasons has been the construction and reconstruction of range improvements, mostly water developments, in the drier parts of the range. After several years of almost no funds for range improvements, authority has been given to divert up to 10% of the grazing receipts for this purpose. The Uinta is taking advantage of this provision to the limit and good progress is being made. A large number of galvanized metal watering troughs is being installed and the most permanent kinds of construction are being used.

WASATCH FOREST

Probably the outstanding work on the Wasatch the past year has been the sale on the Provo River of 75,000 lodgepole pine poles, equivalent to 10,937 M feet B.M. and 4,498 M feet B.M. lodgepole pine, 2,855 M Engelmann spruce and 119 M feet B.M. white fir, and an unestimated amount of green and dry mine timbers which was sold to the Great Lakes Timber Co. This gives us two large sales on the Forest, the other being the tie sale on Smiths Fork. In timber sold in commercial sales we lead the District during 1929.

The Provo River Road is being largely reconstructed which is being done entirely by motor equipment. Jack Woolstenhulme, an old timer in the Service, is the foreman in charge, and Jack sure knows his stuff in getting a large amount of work out of the equipment.

This spring work will be started on the construction of 18 miles of ordinary duty road up Weber River. The estimated cost of this road is approximately \$37,000 and it will be constructed on a 50/50 basis with Summit County. It is planned to construct about 5 miles this season.

Grazing activities on the Forest remain about the same as in the past, although where needed, the numbers are being gradually reduced to the carrying capacity, and progress is being made in adjusting seasons to meet the needs. This year we will tag about 3,500 cattle as a means of trespass control.

Recreation continues to be a big job on the Wasatch, although this year we expect to be relieved of some of this responsibility since we are turning the Utah Outdoor Camp in Big Cottonwood over to the city.

We have recently recommended the withdrawal of 61,000 acres in the Granddaddy Lakes region as a primitive area. If the Forester approves our recommendations all forms of improvements except the necessary protective, administrative and sanitation improvements will be prohibited.

Some of the "old timers" call on us occasionally to say "hello" and make inquiry about their friends who are still on the job. Lou Shepard was in recently. Lou is still a successful timber operator on the Medicine Bow Forest in District 2.

WEISER FOREST

The year 1929 saw the completion of the survey of the Council Working Circle timber resources, a two year project. The report has been worked up and the management plan is in course of preparation. The circle involves an area of 284 thousand acres and a volume of 1,835,987 M feet of timber. Of the total timber volume 565,770 M feet

is in private ownership. The management plan will show an annual allowable cut of somewhere between 25 and 30 million feet, which eventually means a sizable operation in the Weiser River Valley somewhere.

In the spring of 1929 the work of a relatively strange defoliating insect was discovered in Meadows Valley, on an area of several hundred acres. Simultaneously, other work was noticed in Price Valley, Round Valley, Mud Creek and Bear Creek. The Bureau of Entomology identified the insect as the Tussock Moth. The insect spread so rapidly and caused such havoc in white fir and Douglas fir stands that considerable alarm was evident among Forest officers and others, particularly so because no practical means of combating the insect were available. By the time the insect went into the puppa stage it was known that several thousand acres in widely scattered areas had been attacked and more or less heavily defoliated. The coming season will see the work of this insect closely studied by the Bureau of Entomology and Forest officers, particularly so because last fall while in the puppa stage many of the developing moths were found to be heavily parasitized.

WYOMING FOREST

Insect control work on the Greys River drainage absorbed the attention of the greater part of the Forest personnel during the first month and a half of the field season, all except two of our rangers being detailed to this work. About 7,000 infested trees were treated by spraying the trees with kerosene and firing them. The wide spread of this infestation will make further work necessary along this line in the future.

Timber sales business on the Forest increased materially over the preceding year, our total cut of timber from all sales operations amounting to about 7-3/4 M. ft. B.M. This increase was due largely to the operation of the Standard Timber Company getting more effectively into continuous production. About 50,000 acres of the Greys River country was covered by timber survey on an extensive cruise.

The hard winter of last year affected the sheep industry in this region materially. Many sheep outfits were unable to fill their preferences on account of winter losses and while our monetary receipts declined on this account, our ranges benefitted materially by reason of the reduced numbers of stock grazed.

The Wyoming considers itself very fortunate in the matter of small fire loss this year. While our period of hazard was quite extended we had a total of only 21 fires, only one of which was a class C, and that burned on open territory off the Forest.

Along with the regular maintenance of roads and trails, which is in itself becoming a job of quite sizable proportions, we built eighty miles of new trail, these being chiefly of a way standard.

Our fish planting program in cooperation with the State Department resulted in the planting of about 375,000 fish on the Forest. A number of heretofore vacant waters were stocked. The anticipation of good fishing and our bettered road conditions outside the Forest will undoubtedly result in an increase in recreational visitors to the Forest.

GREAT BASIN EXPERIMENT STATION

Research in the Intermountain Region is making some substantial developments under the McSwency-McNary act. For the fiscal year 1930 the Station received increases of \$10,000 for the study of the spring-fall ranges, and \$4500 for the study of grazing in relation to erosion in Idaho. Another \$5000 was received for the study of methods of controlling erosion on the granite soils in Idaho. The personnel has been materially increased to take care of the new work. The following people have been added to the Station: L. F. Watts, Senior Silviculturist, formerly of District 4 and more recently head of the Forestry Department of the U.S.A.C.; F. G. Renner, Associate Range Examiner, formerly of District 6, and G. W. Craddock, Jr., Assistant Range Examiner; G. D. Pickford, Junior Range Examiner, and Miss M. A. Israelson, Clerk, formerly of District 4.

One of the urgent problems which has received the most consideration is the influence of grazing and timber cutting on streamflow on the Boise River in Idaho. This is one of the most important irrigation streams in the West. Records indicate that the streamflow has been approximately 10% less and the flood period has been somewhat earlier recently than in former years. Considerable erosion has started over much of the watershed and much silt is being carried into the Arrow-rock Reservoir. Water users are very apprehensive regarding the condition on the watershed. The studies to date, indicate that adverse climatic conditions have played a large part in the variations in streamflow, and that drought, excessive damage by rodents, and over-grazing are causing the erosion. The data accumulated to date are too meager to indicate what effect timber cutting and grazing may be having on the streamflow itself.

The Agricultural appropriation bill for the fiscal year 1931 carries an increase of \$10,000 for study of winter range problems and \$10,000 for silvicultural investigations and methods of cutting western yellow pine. This will still further increase the work of the Station and add silvicultural investigations to the project. One of the early undertakings will be the formal establishment of the Intermountain Forest and Range Experiment Station.

G.B.E.S. Alumni

A review of the Great Basin Experiment Station personnel records from 1922 to 1929 shows that the Station has a substantial list of alumni

of men who served either as permanent members of the Station, temporary assistants, or on detail for short training periods.

Three former members of the Station staff, former Director A. W. Sampson, H. E. Halmsten, and F. S. Baker are now on the faculty of the University of California. The following men, who at one time or another held temporary positions at the G.B.E.S., now are in permanent positions in the Forest Service: B. R. Lexen, G. D. Pickford (now with the G.B.E.S.), J. E. Ritter, Percy Rowe (on school leave), H. H. Van Winkle, and L. A. Wall.

Forest Service men who have been detailed to the G.B.E.S. on training assignments are as follows:

District 1: Thomas Lomnasson, Inspector of Grazing.

District 2: Fred Stell, Technical Assistant, Montezuma N. F.

Washington Office, (Branch of Research): F. H. Eyre (formerly Assistant Supervisor, Wasatch N. F.).

District 4: E. C. Sanford, District Office; Forest Supervisors A. G. Nord, and S. S. Stewart; Assistant Supervisors D. A. Arrivee, J. W. Farrell, F. C. Koziol and G. C. Larson; Junior Range Examiners Selar Hutchings and Liler Spence (on school leave); and Forest Rangers A. L. Taylor, J. J. Albano, O. A. Harrison, G. E. Moore, A. R. Torgeson and Charles Rouse.

District 6: F. G. Renner, Associate Range Examiner (now with the G.B.E.S.).

Biological Survey: O. J. Murie, Biologist.

Utah State Agricultural College: Dr. Geo. Stewart.

PERSONALS

"Larry" Palmer must like being a "Sourdough" for he is still Chief Reindeer Man in Alaska for the Biological Survey.

Byron Miller has not ceased to serve as Palmer's right and left hand man. Byron was modern enough to be a member of a lost plane party last winter. He and two others with whom he flew were forced down out in the wilderness and were not heard from for several days.

Thornton G. (Zack) Taylor and Ray Becraft are at the Utah State Agricultural College teaching Forestry. Zack is head of the Forestry School and Ray is handling the Range Management.

A. E. Aldous gets his name in print quite often in connection with his research work at the Kansas State Agricultural College.

Curtis E. Price has shifted from tree growing on the Fishlake to corn and "tater" growing on a farm in Oregon.

Mr. Squires, one time Supervisor of the Cache, passed away in Logan last year.

Ed. Spencer is a business man in Logan.

William Mace is trying the other end of Forestry and is managing a lumber yard at Cedar City.

"Bud" Townsend is County Agent at Ely, Nevada.

George Lowe, one of the old Fillmore bunch, is a cattle man at Beaver, Utah.

Homer Fenn is buying and selling livestock in California.

Vernon Metcalf is still Secretary of the Nevada Land and Live Stock Association and makes his home in Reno.

Mark Anderson is still running the Roberts Hotel in Provo, Utah but he doesn't let that take all his time. He does much thinking, writing and talking on conservation questions and is quite a leader in Utah along these lines.

Dr. A. W. Sampson ("Sammy"), Harry Malmsten and Fred Baker are now naturalized sons of California as they have been teaching at the State University at Berkeley so long.

Fred Cronemiller is Supervisor of the Modoc Forest with headquarters at Alturas, California.

Among the alumni with whom the Wyoming quite frequently come in contact are former Supervisor Lee E. Cooper and former Ranger W. D. Rickert, both of the old Bridger Forest. These men are operating an up-to-date sawmill in the upper Green River section, taking timber from the Wyoming Forest.

John L. Allen, an old time Ranger on the Bridger Forest, is now living on his fine improved ranch in the town of Pinedale, Wyoming.

Former Ranger E. V. Cockins, better known as "Prof" is the editor of the Pinedale Round-up, "the newspaper published farther from a railroad than any other in the United States." "Prof" never fails to publish any items of Forest Service material and his editorials reflect interest in the vocation which he no longer actively follows.

Martin Murphy, who was for several years Ranger on the old Dutch Joe District of the Bridger Forest, is now employed by the Union Pacific Railroad at Rock Springs, Wyoming.

Two of our former Clerks are now married and have homes of their own. Ethel M. Geer resides in Texas, while Isabel Smith Wiesehuegel, now lives in Moscow, Idaho, where her husband, E. G. Wiesehuegel, formerly a Forest Assistant on the Wyoming, is now an instructor at the University of Idaho.

George W. Yeaman is joint proprietor of the Star Meat & Grocery Company at Afton, Wyoming.

Austin P. Russel is now Assistant City Engineer at Rock Springs, Wyoming.

Archie LeRoy Gibson has transferred to another branch of the Government Service, he being at present with the Bureau of Entomology, with headquarters at Coeur d'Alene, Idaho.

John Davis is operating a wood yard at Afton, Wyoming, and Jas. Moffatt, who was also a Ranger on the Wyoming Division, is now employed by the State Highway Department, with headquarters at Smoot, Wyoming.

A. A. David still calls Daniel, Wyoming, his home as he has a ranch in that vicinity though he spends his winters in California.

Among those former members with whom we have lost contact with the passage of time are Wm. Casper, Max Shapiro, Wm. Osborne, and G. H. Dunn.

Mark K. Cherry is doing quite well as a farmer and sheep raiser near Grouse, Idaho. He has also located a mining claim which he expects to develop soon and which promises to put him on a sound financial basis.

Otto H. Tschanz of Mackay, Idaho is succeeding as a confectioner.

Robert Johnson, Moscow, Idaho, is studying forestry at the University of Idaho, and it is understood that he expects to be employed on the Boise the ensuing field season.

N. C. Schulze of Winsper, Idaho, is employed on a cattle ranch.

Angus M. Woodbury of St. George, Utah, is holding down two jobs. He is professor of biology at the University of Utah in the winter and Naturalist at Zion National Park in the summer.

Wm. H. Mace is in the coal and lumber business at Cedar City, Utah. He has built up a good business and is doing fine. Bill would be pleased to have his old friends drop in for a chat and promises not to discuss high powered salesmanship.

John C. Benson still gets his mail at Enterprise, Utah, and is now planning to engage in the sheep business. Jack says cows are all right but it is safer to carry your eggs in more than one basket.

Raymond T. Forbes and his brother Bill operate the Cedars Hotel at Cedar City, Utah, and are enjoying a good trade.

Joseph M. Moody is located at St. George, Utah, but is hard to keep track of. You hear of him as a farmer, road foreman, deputy sheriff, and butcher. Mit still enjoys telling how his good marksmanship saved his life and made extinct the last roving grizzly in the Pine Valley mountains.

Lawrence J. Adams of Parowan, Utah, is expanding in the sheep business and also writes life insurance.

J. Walter Hill, formerly of the Idaho Forest, is now busily engaged in the sheep business in connection with his ranch holdings at Lidvale.

Harry E. Waid, former clerk on the Challis, after teaching several years in the Juneau High School at Juneau, Alaska, incidentally developing champion basket ball teams and shooting some big game as a side-line, accepted a job as U.S. Immigrant Inspector at Victoria, B.C., where he is now located.

Mr. John E. Irby has been foreman of the Albert Gardner sheep outfit who holds a permit for three bands of sheep on the Caribou, and we usually visit at Mr. Irby's camp at least once during the summer.

It is understood that Lucas W. Hastings is now located in California but we have been unable to get his address.

J. E. Hickman, at one time a ranger on the Powell, is successfully launched in the life insurance game at Salt Lake City.

P. O. Barker is still serving as County Commissioner for Garfield Co., with residence at Escalante, Utah. His main business, however, is farming and stock raising.

O. C. Snow, of Richfield, is still successfully engaged in the business of buying and selling of both sheep and cattle.

J. J. Porter of Escalante, Utah, who served as ranger on the Powell for a period of eighteen years, operates a moving picture show in Escalante. Mr. Porter is one of our best cooperators.

Josiah Shurtz, of Escalante, who served for many years as ranger on the Powell, is one of our successful sheep permittees.

Fred Fechser, formerly clerk on the Uinta, is at present clerk of the School Board of the Provo School district.

Walter F. Brough, who for many years guided the destinies of the Nephi district, has been interested in sheep raising for a number of years, but has disposed of his sheep and is once more in the cattle business.

O. R. Thomas has for many years been in the floral and nursery business in Provo and Springville and has built up a splendid business in this line.

Ex-ranger Fred O. Johnson is farming near Duchesne and drives a school truck during the winter months. He still manifests a keen interest in Uinta Forest matters and wishes to be remembered to all of his former co-workers.

DISTRICT OFFICE PERSONNEL

Engineering

R. H. Rutledge, District Forester
Edna Gilchrist, Clerk

Public Relations

Dana Parkinson, Asst. Dist. Forester
Mrs. Flora C. Pearson, Clerk

Finance & Accounts

Lee Stratton, Dist. Fiscal Agent
A. C. Wycoff, Deputy " "
J. G. Falck, Pr. Clerk-Auditor
Alan Richards, Pr. Clerk-Bkkpr.
A. J. White, Clerk-Receipts
Kathryn Melvin, Clerk-Appointments
Dorothy Lundy, Asst. Clerk-Chk. Writer
Hilda J. Holberg, Jr. Clerk-Property

Operation

C. N. Woods, Asst. Dist. Forester
T. V. Pearson, Jun. Adm. Officer

Forest Management

C. B. Morse, Asst. Dist. Forester
Earl C. Sanford, Jr. Adm. Officer
U. S. Swartz, Logging Engineer
S. B. Locke, Associate Forester
Orpha Lindstrom, Clerk

Range Management

Ernest Winkler, Asst. Dist. Forester
J. O. Stewart, Jr. Adm. Officer
A. R. Standing, Associate R. Examiner
Luella Christensen, Clerk

J. P. Martin, District Engineer
W. W. Blakeslee, Sr. Adm. Asst.
Mrs. Mae Gilman, Senior Clerk
Frank L. Allen, Chief Surveyor
Arval L. Anderson, Prin. Surveyor
Draftsman
H. M. Shank, Associate Civil Engineer
Geo. L. Nichols, Chief Draftsman
C. J. Truscott, Chief Surveyor
F. W. Woods, Pr. Surveyor Draftsman
Melvin H. Lewis, Sr. Transitman
Mrs. Inez Corn, Draftsman
A. Rosalie Holberg, Draftsman
M. W. Bird, Asst. Eng. Draftsman
J. R. Ostler, Asst. Operative-
Blueprinter

Law

Manly Thompson, Dist. Law Officer
Myrtle Snyder, Clerk

Maintenance

H. C. Baker, Senior Clerk
Arlene Burk, Clerk
Evelyn Pendery, Jr. Clerk
Helen B. Boyd, Clerk
Frank G. Wright, Messenger

Lands

R. E. Gery, Asst. Dist. Forester
W.M.H. Woodward, Mineral Examiner
Elsie Powell, Clerk

GREAT BASIN EXPERIMENT STATION PERSONNEL

C. L. Forsling, Principal Silviculturist
L. F. Watts, Senior Silviculturist
E. W. Nelson, Associate R. Examiner
F. G. Reuner, Associate R. Examiner
Geo. W. Craddock, Jr., Asst. R. Examiner
G. D. Pickford, Junior Range Examiner
Walter E. Mann, Sr. Clerk.
Marguerite Israelson, Clerk

FOREST PERSONNEL

Ashley

A. G. Nord, Forest Supervisor
June P. Allan, Clerk
A. A. Hardy, Ranger
Glen A. Lambert, Ranger
George W. Walkup, "
Clyde Lambert, "
Fred Sargent, "

Boise

G. B. Mains, Forest Supervisor
Arthur Potter, Asst. Supervisor
J. W. Stokes, " "
A. L. Moats, Sr. Clerk
Delia Calderwood, Asst. Clerk
David Laing, Ranger
Irvin M. Varner, "
Leo. E. Fest, "
Walter T. Berry, Ranger
Everett R. Farnham, "
Frank E. Gray, "
H. C. Hoffman, Junior Forester
W. M. Saling, Junior Range Examiner

Cache

Carl B. Arentson, For. Supervisor
F. W. Rich, Clerk
H. I. Rice, Ranger
W. H. Campbell, "
W. S. Averill, "
J. A. Libby, "
S. R. Justice, "
Odell Julander, "

Caribou

F. S. Moore, Forest Supervisor
Gleenn Peterson, Clerk
Charles A. Spackman, Ranger
Alonzo E. Briggs, "
Jesse E. Drancy, "
Arthur Peterson, "
James B. Bruce, "

Challis

E. A. Renner, Forest Supervisor
E. E. McKee, Asst. Supervisor
Henry L. Smith, Clerk
Lewis B. Koch, Ranger
Charles Daugherty, "
R. E. Allan, "
Merle G. Markle, "

Dixie

Orange A. Olsen, Forest Supervisor
Alfred P. Larson, Clerk
James H. Baldwin, Ranger
Frank W. Seaman, "
William M. Hurst, "
Benjamin Swapp, "

Fishlake

C. A. Mattsson, Forest Supervisor
Chester J. Olsen, Asst. "
Wayla C. Ellis, Sr. Clerk
Tom W. Livingood, Asst. Clerk
Bert L. Robins, Ranger
James Jensen, "
Milo T. Dyches, "
H. M. Christensen, "
Albert Albertson, "
H. M. Peterson, "
A. L. Taylor, "
E. L. Cox, "

Humboldt

Alexander McQueen, For. Supervisor
Wilford E. Tangren, Asst. "
Ona S. Murphy, Clerk
Charles E. Butler, Ranger
Thomas J. Wells, "
L. E. McKenzie, "
A. C. Rohwer, "
Paul L. Travis, "
Harold H. Price, "

FOREST PERSONNEL - Cont.

Idaho

S. C. Scribner, Forest Supervisor
Ira Latham, Asst. " "
J. W. Farrell, Asst. "
Russel R. Brown, Prin. Clerk
Edwin Woodfield, Asst. "
Fred L. Williams, Ranger
Merle Wallace, Ranger
Kenneth E. Wilde, Ranger
C. T. Gray, "
O. L. Latham, "
Dan Levan, "
J. W. West, "

Kaibab

Walter G. Mann, Forest Supervisor
Hugh E. Putnam, Clerk
Robert H. Park, Ranger

La Sal

A. C. Folster, Forest Supervisor
L. R. Chandler, Clerk
S. Cooper Smith, Ranger
Marion P. Hunt, "
Ivan Christensen, "

Lemhi

Oscar W. Mink, Forest Supervisor
Hugh E. Wilmot, Clerk
Geo. A. Miller, Ranger
Oscar F. Cusick, "
Arthur Cusick, "
Chas. H. Rouse, "

Manti

J. W. Humphrey, Forest Supervisor
S. S. Van Boskirk, Sr. Clerk
G. W. Southwick, Asst. Clerk
Edward P. Cox, Ranger
D. H. Williams, "
Wells Thursby, "
Seth Ollerton, "
P.M.V. Anderson, "

Minidoka

S. S. Stewart, Forest Supervisor
Evelyn Ferrin, Clerk
C. E. Jensen, Ranger
E. E. Stock, "
M. F. Youngblood, Ranger
Bert Mahoney, "

Nevada

Charles A. Beam, Forest Supervisor
W. O. Peterson, Clerk
Warren C. Taylor, Ranger
Thomas A. Windows, "
George E. Moore, "

Payette

W. B. Rice, Forest Supervisor
Francis Wallis, Asst. "
Clark Miles, Technical Asst.
Robert Davis, " "
Errol C. Crary, Clerk
Glen T. Smith, Asst. Clerk
Andrew L. Bunch, Ranger
J. D. Parker, "
L. N. Wellman, "
Elmer C. Ross, "
Arthur C. Smith, "

Powell

Wallace M. Riddle, For. Supervisor
C. D. Emery, Clerk
Wilford Bentley, Ranger
Ernest Jorgensen, "
Thomas C. Haycock, "
Leland Heywood, "
S. S. Hutchings, Jr. Range Examiner

Salmon

John N. Kinney, Forest Supervisor
Dominick Romano, Asst. "
Helen C. Payne, Clerk
Allen H. Wheeler, Ranger
I. C. Robertson, "
J. L. Phillips, "
N. E. Poyner, "
Floyd Godden, "
G. S. Bradley, "
L. T. Gutzman, "

FOREST PERSONNEL - Cont.

Sawtooth

M. S. Benedict, Forest Supervisor
R. F. Bowman, Clerk
L. H. Garner, Ranger
Arthur H. Berry, "
H. H. Van Winkle, "
J. E. Minear, "
Thos. Van Meter, "

Targhee

S. W. Stoddard, Forest Supervisor
David A. Arrivee, Asst. "
Jno. Nelson, Sr. Clerk
Sidney W. Gholson, Asst. Clerk
Ray Pickett, Ranger
Lemuel Steele, Jr. Ranger
Leo. J. Hutson, "
Francis Moss, "
Claud C. Shannon, "
Alford P. Balch, "
J. G. Kooch, "
Lyman L. Richwine, "
Charles A. Connaughton, Ranger
Wilfred L. Keene, "
M. J. Markham, Junior Forester

Teton

A. C. McCain, Forest Supervisor
A. N. Butler, Clerk
Richard H. Ohl, Ranger
C. E. Dibble, "
C. H. McDonald, "
Jas. W. Lambert, "
Felix Buchenroth, "
K. C. Allan, "
J. A. Evans, Road Foreman

Toiyabe

James E. Gurr, Forest Supervisor
Ernest R. Hill, Clerk
Phil Kennedy, Ranger
A. R. Torgerson, "
Anderson C. Walker, Ranger
Ivan L. Dyreng, "

Uinta

Charles DeMoisy, Jr., For. Super.
Geo. C. Larson, Asst. Supervisor
Ward C. Ireland, Clerk
Emma Evans, Asst. "
A. F. Richards, Ranger
Parley C. Madsen, "
Merrill Nielson, "
Edson J. Adair, "
A. P. Christiansen, "
A. J. Wagstaff, "

Wasatch

E. C. Shepard, Forest Supervisor
Blaine Betenson, Asst. "
Carl A. Gustafson, Jr. Forester
G. M. O'Neill, Clerk
Vivian N. West, Ranger
William W. Smith, "
Morgan Parke, "
T. D. Phinney, "
J. B. Hann, "

Weiser

J. Raphael, Forest Supervisor
F. C. Koziol, Asst. "
G. L. Rigdon, Clerk
Robert E. Clabby, Ranger
DeWitt Russell, "
H. J. Burr, "
Willard A. McDowell, "
Vernon Brewer, "
Edward Ritter, Junior Forester
Fred H. Kennedy, Ranger

Wyoming

C. E. Favre, Forest Supervisor
Milo H. Deming, Asst. "
Harry A. Cheeseman, Clerk
W. J. Prevol, Asst. Clerk
J. J. Albano, Ranger
Fred Graham, "
O. A. Harrison, "
Robert S. Dalley, Ranger
H. A. Shannon, "
A. A. Hasel, "
V. L. Stoddard, " T-Sale
S. E. Cazier, Ranger
G. A. Turney, Jr. Forester