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In the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. . . Where conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

James Wilson, Secretary of Agriculture

February 1, 1905

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FOREST SERVICE LEWIS & CLARK NAT'L FOREST CHOTEAU, MONTANA MAR 11 1929 RECEIVED

OUR MILESTONE NUMBER

In brief, we show in the various articles that follow what the Forest Service has accomplished during the past year.

RESEARCH

By E. H. Clapp

The outstanding event of the year in research, while not in the nature of an accomplishment, was the passage by Congress of an enabling act known as the McSweeney-McNary law. This law is of vital importance in its recognition of forest research if it accomplishes nothing else. To what extent it will insure sustained and regular increases in the resources for forest research still remains to be seen. The first year's increases carried by the Agricultural appropriation bill recently approved by the President may or may not be an indication. Actually, however, for the Forest Service alone the increases are more than twice the maximum for any previous year in the history of the Forest Service. Other things of significance are: the appropriation for forest products research moved substantially upward for the first time in several years; one of the first enlargements of an existing Forest Experiment Station was obtained; the first substantial increase in range research in 15 years was granted; an initial appropriation was made for a forest survey, attempts for which have been repeated over a period of more than 20 years; and an initial appropriation was made for a study of the financial aspects of forestry, attempts to obtain which have continued over a period of more than 10 years.

Progress particularly worthy of mention in the work of the Forest Experiment Stations includes the collection of an enormous volume of data for normal yield tables of upland oak stands for the Appalachian and surrounding territory and the completion of volume tables for six important oaks. It includes work showing an influence by forest litter in flood and erosion control far exceeding in significance and importance anything previously shown or anticipated. It includes a showing of damage by fire in southern lowland hardwood stands far more serious than anything previously expected. It includes a large amount of work on northern swamps which when completed may have a vital significance in the forest and agricultural economy of such regions as the Lake States. It includes such things also as a classification of forest trees as a basis for National Forest silviculture in Cali-

fornia having behind it records for each class of 20 years on growth, seed production, susceptibility to windthrow and insect damage, etc., for several thousand trees.

Range research brought well towards completion 15 years of research on the function of western grasslands in the control of erosion. On two southwestern range reserves the striking advantages of conservative stocking over excessive use of the range were almost conclusively demonstrated.

The Forest Products Laboratory among other things made substantial progress on work which should result eventually in practical moisture content grades for lumber which at the same time will meet satisfactorily the requirements of different classes of use. Very significant progress was made on the minute structure of wood cells and of the chemistry of such woods as redwood. Strong white pulps were developed from southern pines, and new or modified chemical methods were also developed for making pulps from various eastern and southern hardwoods. Fire was shown to reduce the production of naval stores from injured trees by 50 per cent, and to kill an additional large percentage of the stand. Woods and mill scale studies by the Forest Products Laboratory and by other products units were carried through important stages in several forest regions, showing the dividing line as to tree diameters between profitable and unprofitable handling and obtaining other significant information bearing upon the practice of forestry on the one hand and utilization upon the other.

The Forest Taxation Inquiry, designed for a number of years to be a fact-finding study only, substantially completed its work in the Lake States and initiated similar work in the Pacific Northwest and on a relatively small scale in New England.

In a statement such as this there can be the barest reference only to lines of work in which substantial progress or important findings have been made, but much more detailed statements can be found about most of these lines of work in the Forester's last annual report.

FOREST MANAGEMENT

By E. E. Carter

The outstanding accomplishments in Forest Management activities during the calendar year 1928 are as follows:

1. Fires on timber sale logging operations were relatively few in number and covered only small areas. This is the result of four years of effort to get into full effect the fire prevention code, drawn up in the winter of 1924-25, and which could not be incorporated in some long-term contracts executed before 1925 until 1928. Logging fires occurred on timber sales during the year, but they were usually directly traceable to negligence or stupidity on the part of some man or men. For example, a 70-acre fire on a California timber sale resulted from the effort of a youthful tractor driver to find out how rough ground or how big logs his tractor could be forced to surmount, with the result that the tractor burst into flames and the high wind which was blowing carried them beyond immediate control. In general, however, the year was notable for the small number of logging operation fires and the small acreage burned in fires caused by logging under National Forest timber sale contracts.

2. Distinct progress was made in correlating desirable silvicultural practices with the necessities of logging, especially in the use of modern machinery. Specifically, the tractor is rapidly replacing the donkey engine as a means of skidding or moving logs from the stump to the railroad in the pine regions of California, Oregon, and other States. New

and better standards of what constitute satisfactory conditions on timber sale areas with tractor skidding were established, particularly in California, and means devised by which these standards can be attained in practice.

3. The unsatisfactory condition on the Malheur National Forest, due to the failure of the former contractor to operate as required by the terms of his contract, was cured by the resale of the timber after public advertisement to a capable and financially strong operator. The purpose of the Service to make the timber resource contribute to the maintenance of the community adjacent to the Forest is thereby being accomplished. A large sale on the Tusayan National Forest in Arizona, made during the year, will maintain an already established industry, which is the chief business of an important town in the region, as well as produce revenue for the Federal Treasury and for the county and change a mature and overmature forest into one in which growing timber will predominate.

4. Another large sale was made on the White Mountain National Forest in New Hampshire, being the first of major size on that Forest. The product of this sale will be chiefly pulpwood, but sawlogs of the hardwoods are also included. This sale is to run for 15 years and during that period will produce revenue amounting to at least one million dollars.

5. The bulletin on the pulp timber resources of southeastern Alaska, by Mr. B. F. Heintzleman, was completed and at the end of the year was in page proof. Delivery of the pamphlet is expected daily. This publication represents the continuation of the efforts of the Service to develop a pulp and paper industry in Alaska, and furnishes data in printed form on the timber as a companion bulletin to Mr. Dort's publication on the water powers of southeastern Alaska, issued by the Federal Water Power Commission three years ago.

6. Although definite figures will not be available before March, I am confident that more acres were planted on the National Forests during the calendar year 1928 than in any other year. This was due principally to an increase in the acreage planted in the Lake States, particularly on the Huron National Forest. The year was also notable for the establishment of the new nursery at Parsons, W. Va., which will place administrative planting on the eastern National Forests on a firm foundation.

7. A destructive insect infestation in the western yellow pine type on the Colorado National Forest was effectively controlled by the continuation, in 1928, of work begun in 1927. In California arrangements were made to combat an extremely bad insect infestation on both National Forest and intermingled private timberlands through the sale of National Forest timber under conditions which require the purchaser to treat or remove the infested trees on 15,000 acres during the present winter and spring and, if the infestation continues, on 30,000 acres annually thereafter. Incidentally, the timber sale will salvage large quantities of insect-killed timber before checking and rot make it useless for lumber manufacture.

8. The fact that the timber sale business was maintained during the year, and probably even slightly increased, is really quite an accomplishment, but probably has no news value. With conditions in the lumber industry no better than they were, it is rather remarkable that the National Forest cut has not decreased sharply. There are several other things which might be mentioned, such as the beginnings of pulpwood shipments from Colorado to the Lake States, but publicity in regard to them is not desirable at this time, in view of the experimental character of the effort or our relations to the operators.

OPERATION

By Roy Headley

In the fields of administration, executive management, and organization long strides have been taken by the Forest Service during the year of 1928.

The scientific method is said to have been complete, as a method, in the writings of Galileo and has been a familiar discipline for centuries in the various branches of physical science, but the conscious application of the method to administrative problems is not more than a few decades old. It is going strong now in business and industry and the Forest Service has no apology to make for its development along this line. During the year the analysis of objectives, functions, methods, time requirements, etc., on our smallest administrative unit, the Ranger district, has moved ahead with vigor and confidence. A good start has been made on analysis of the Supervisor's job and the technique of planning for the most effective functioning by the manager of a National Forest. The surge of interest and activity on this last problem is such that there is some danger we may go too fast and fall into the pit of superficiality which has brought so many promising movements to an inglorious end.

At the Washington office end, analysis and overhauling of functions, uses of time, etc., have also been a live issue, and when the tumult and shouting are over, history will no doubt credit sizeable concrete accomplishments to 1928.

The accounting course of the winter of 1928 with its follow-up has forced most of us to think along unfamiliar and sometimes unwelcome lines. Time alone can tell the gain we have made in our understanding of our financial problems, but, at the very least, the old year can claim credit for a conscious, Service-wide attack on one of our major problems.

During the year, training experts met at Fort Valley, matched ideas, and formulated a statement of principles which should give illumination for some years to our efforts to evolve just the forms and amount of training which the Forest Service requires.

Taking the Service as a whole, the year has witnessed some notable gains in the control of standards and costs of forest improvements by the actual uses and use values to be obtained therefrom. High standards for the sake of high standards is losing its grip.

While our fire record is still nothing to write home about we can at least claim "progress", as shown by the following table.

AREA LOST BY FIRE IN THE NATIONAL FORESTS

Period	Average Gross Area (acres)	Area Burned Over 5-Year Period (acres)	Annual Average (acres)	Annual Percent of Gross Area
Cal. Year 1910-1914	188,576,733	7,113,720	1,422,744	.75
" " 1915-1919	177,430,345	5,321,995	1,064,399	.60
" " 1920-1924	181,767,439	2,662,173	532,435	.29
" " 1925-1928	184,147,947	*1,978,085	494,521	.27

* 4 year period, 1928 figures incomplete
Each one of these periods includes a "bad" year.
The figures are fair and they speak for themselves as to losses on the National Forests.

During the year, field classification and salary adjustments proved an insatiable

time eater. It led to new high levels of salaries present and prospective and resulted in the accumulation of records, ideas, plans for the future, etc., which will surely pay high dividends in benefits to the public service.

A fresh view was taken of fire control to determine what things most need systematic study in order to enable fire executives to meet their responsibilities. District Foresters and their associates gave a lot of hard study to the subject and whatever the tangible results of the survey may be, some better understanding of our fire troubles is sure to result.

LANDS

By L. F. Kneipp

In Lands, the high spot of the year 1928 was in connection with Acquisition work under the Clarke-McNary Law. Early in the year the National Forest Reservation Commission approved a comprehensive future program of National Forest land purchases, totalling 9,600,000 acres; thus establishing a definite basis for future planning and administrative action. Later, the Woodruff-McNary law, approved April 30, 1928, was enacted, thus establishing a definite fiscal policy for the ensuing three years. Finally, the Commission gave specific approval to the establishment of seven new purchase areas in the Lake States, three in Louisiana, and two in eastern South Carolina, thus initiating the actual application of the policy of forest land purchases primarily for timber production and demonstration of sound forest practice, in contradistinction to the early policy of purchases primarily for the protection of navigation.

Another high point was the opinion of the Attorney General in the Northern Pacific Railroad Grant case, substantially confirming the position of the Forest Service.

Another distinctly forward step was the enactment by Congress of a law withdrawing the greater part of the lands within the Angeles National Forest from entry under the mining laws; thus putting an end to a gross misuse and abuse of the mining laws within that Forest.

Progress was made in placing under management and protection additional areas of unreserved and unappropriated public domain, to wit: Missoula National Forest 220,000 acres; Montezuma, 17,500 acres; Idaho Forest, 46,000 acres; Challis and Sawtooth, 26,480 acres; Challis, 54,000 acres; Gunnison, 6,120 acres. An addition of 27,840 acres also was made to the Crater Forest, but of this only 6,040 acres is publicly owned and that is O.& C. revested land for which the appraised value must be paid from National Forest receipts. However, the addition establishes an important precedent in that it may demonstrate the practicability of giving a National Forest status to over 400,000 acres of O. & C. land, now within National Forest boundaries and almost inseparably intermingled with National Forest lands.

Extension of the provisions of the General Exchange Act to all Spanish or Mexican land grants contiguous to National Forests in New Mexico; and to all lands within six miles of the boundaries of the Crater Forest, marked another important step in the betterment of the National Forests through consolidation and extension.

The land exchange work progressed smoothly and satisfactorily throughout the year. The cases approved by the Secretary in 1928 contemplated the reconveyance of 262,480 acres of land and the selection of 22,140 acres; the remainder of the selection value consisting of stumpage. If all these cases are consummated there will be a net increase of 240,340 acres in National Forest area. The acreage actually reconveyed in consummated cases during

the year was 126,245 acres, that selected, 32,800 acres; so that the actual net gain in National Forest area was 93,445 acres. Some of the consummated acreage is included in the approved acreage, as the exchanges were both approved and consummated within the year.

ENGINEERING

By T. W. Norcross

Judging the calendar year 1928 accomplishments by the mileage of roads constructed and maintained, decided progress was made. Data for the year are not available but in all probability the accomplishments will equal, if not exceed, those for the fiscal year 1928 when 1255 miles of road were constructed or bettered and 13,773 miles were maintained. The unit cost of construction or betterment was $1,447 per mile which compares very favorably with previous years. The work was handled much more efficiently and easily, both in the field and in Washington, due to the Congressional change in legislative policy. For the preceding year it was necessary to keep expenditures within a specified amount. This year that requirement did not hold. The apportionments to a State now constitute the maximum allowable expenditure.

The objective in the minor road work is to provide the road which at the least annual cost will render the required service and to construct and maintain the required road at the lowest possible cost. Decided progress towards the objective was made during the year. In the planning work not only the mileage of roads and trails but the standards now vary greatly between Districts and there is decided need for coordination. This is one of the objectives of the planning method first applied to the Florida Forest. Much work was done on this method during the year and many improvements made. The practicability and value of the method was thoroughly established and work has been started in several Districts.

Except for utilization roads, the service required by a road is measured in terms of elapsed time. Data earlier gathered in the field and showing the effect of curvature were worked up and the speed for various combinations of width, radius, and banking were determined. Field investigation was made to determine the effect of up and down gradient and of width on the speed of travel. It is believed that sufficient data have been secured so that conclusions may be drawn. As a result of all the investigative work, data will probably be available to permit the preparation of tentative specifications for designing roads for certain specified speeds.

Decided progress was made in the field in determining better methods of doing construction work and in using equipment which previously had not been thought practicable. The result as compared to earlier years is a better road for the same expenditure or a decreased cost for the same standard of road. The work of this character done in all Districts, but especially District 6, was excellent. District 5 continued with its use of heavy tractors and heavy graders in building low standard roads, improved its method, and decreased its cost decidedly.

For first line defense against fire, a road at times will give the required service at less expense than a trail. At other times the trail is the better investment. A method has been evolved which makes possible determination simply by the use of graphs and tabulations. Certain changes of course may have to be made to meet specific conditions but the application of this method for general conditions should be both practicable and result in decidedly better use of available money.

Road signs for the Forest roads have now been standardized with a few exceptions.

These signs are so related to the standard sign for the U. S. Highways that the traveler will not be confused. On the other hand, the signs have been adapted to meet peculiarly Forest conditions and to give the Forest Service credit for the signing work which it does. A sign manual is proposed but preparation cannot yet be started.

District 1 has continued its excellent work in determining the practicability of the airplane survey method for Forest mapping and for photographs of the Forest land. Many improvements in this method were made and decided value should be secured from the work. Engineering's participation in this was restricted very largely to the working up of the photographs into a map. This required much original work.

Topographic and other surveying has been continued in four Districts and while decided progress was made, the needs are not being met. The General Land Office has assisted decidedly in giving us the maps and surveys that we desire but the progress made by the Geological Survey in the work is very disappointing and decidedly unsatisfactory. The difficulty is the lack of appropriations. The urgent Forest needs are far from being met.

The work done by Mr. Bonner in his bulletin on Water Powers of California is probably one of the greatest contributions to water power development in the United States but particularly in the National Forests that has ever been made. Much of this work was done on his own time. Not only has decided aid been given to existing and prospective developers and to the general public, but, with the report available, the cost of certain Forest Service work in the future will be simplified.

The amount of water power work for the Federal Power Commission still continues heavy in California, is increasing in District 6, and is holding about the same as earlier for the other Districts. Cooperation with the Federal Power Commission has continued excellent. Work on Forest Service cases has required considerable time, several revocations or extensions of time being made and several complicated cases handled. A policy was worked out to coordinate roads and water power and also a difficult adjustment between a railroad, Forest and water power use was made.

RANGE MANAGEMENT

By C. E. Rachford

The question - What are the outstanding accomplishments in Range Management during the past year - should be answered by a citation of facts and figures. Frankness compels the admission that we do not have the information available at this writing, since most of the data upon which we could base a conclusion have not been received from the field.

The recognition accorded Range Management in 1928 in the various administrative plans developed, analyses made, etc., gave it a permanent and rightful place in administration. It is no longer the orphan in Forest administration but occupies a dignified position among our activities. In line with according Range Management the proper place in administration, special attention was given to a more careful analysis of the problems involved and adjustment in carrying capacity estimates and allowances were made. It may be said that the program of adjustments completed last year established authorizations on a fairly permanent and stable basis. We still have some overstocking on important watersheds, and localized overgrazing and the necessity to reduce numbers in order to provide for special conditions and interests will continue to arise.

Much of the success in range management during the past year has been due to a better knowledge of forage requirements. Progress in obtaining this knowledge through a close study of experimental enclosures, quadrats, observation stations, etc., has been most note-

worthy during 1928. A better understanding of the science of range management has been secured.

As in the past, progress in range management is largely dependent upon our ability to correlate the needs of the forage, livestock industry, and related interests or resources. These needs are recognized in the range management plans which have been developed during the past year. I wish that definite statistics were available to support my belief that of 8000 ranges or more on the National Forests, more than 70 per cent has been covered by range management plans. I hope to be able to show when the figures are available that not only is this estimate conservative, but that the plans are actually applied on a majority of ranges for which they have been developed.

The year 1928 has emphasized the fact that the same intelligence in the stocking of ranges with game animals should be exercised as in the stocking of ranges with domestic livestock. The urgent need for a reliable method of determining numbers and an estimate of capacity is most apparent. It is just one of many administrative studies in range management which impels thoughtful consideration and makes the work more interesting.

Final settlement of the range appraisal question was one of the outstanding accomplishment in Range Management in 1928. The Secretary of Agriculture has approved the recommendations of the Forest Service in the only appeal taken to his office. The settlement of this question leaves the way open for more constructive work.

A larger number of range improvements were constructed in 1928 than during any other year since the creation of the National Forests. Conflicts between grazing, game, recreation and other interests have been adjusted without serious complaints or appeals.

Decentralization of work, resulting in the placing of more responsibility on the field organization, has materially reduced the number of appeals to the Washington office.

Range reconnaissance has been simplified and placed on a good sound business-like basis.

Cooperation with local livestock associations, game organizations and commissions has been greatly improved.

With close studies of range conditions comes the realization of opportunity for better work. While the results in 1928 were encouraging, 1929 completes the first half of the 10-year permit period and it is hoped will be the banner year in Range Management accomplishments.

PUBLIC RELATIONS

By Ward Shepard

The Branch is still in the process of "finding itself," of coordinating its activities, and of directing them into the most promising channels. Consequently, though there has been steady progress in the development of State cooperation and of educational methods and materials, as well as in more effective Branch organization, much of the work of the past year has been the unspectacular job of discussion and clarification of ideas and objectives.

Fairly general agreement has been reached on these principles:

(1) The larger, though by no means the sole, job of the Branch is outside the existing National Forests. The National Forest PR job, however, remains an important one.

(2) The work of the two Divisions, though differing in detail, is directed to the same end - forestry extension, - and is, therefore, logically joined together.

(3) The execution of PR work should be decentralized as far as possible.

(4) PR work should be developed more systematically on the project basis.

What is necessary in the way of organization and financial support for carrying on the work is not yet clear and probably will only become clear as the work progresses.

In the National Forest Districts there has been a healthy growth of PR activities. Among the important developments are the increasing participation of the field force as a whole in PR work, the extension of local fire campaigns, and the development of "show me" activities for key men.

Division of Information

Considerable time and effort of the Division of Information during the past year have been devoted to assisting in the formulation of the proposed public forestry inquiry by means of a Federal Commission, previously mentioned in the Bulletin. A proposal for such a Commission, including a "six-point" program, has been worked out, approved by the Secretary, and transmitted to the Hoover Committee on Recent Economic Changes. The purpose of this plan is to obtain adequate recognition of the place of the forest problem in the Nation's economic structure, to assist in stabilizing the forest industries, to extend the cooperative forestry program by a more determined effort to abolish forest destruction, to consider the feasibility of public requirements to that end, to complete the cooperative fire protection plan, to greatly extend public forest ownership, and to make the public forests more fully productive, especially through more adequate fire protection and a larger planting program.

There are still important hurdles to be leaped before the inquiry is assured; but assuming it is made, it might well be the means of giving new impetus to forestry.

During the year much effort has been spent on problems of internal organization and of adjustment of the educational work to the Clarke-McNary Cooperative Program. A detailed analysis of objectives and methods of Forest Service educational work was made, and supplemented by discussions in numerous Branch conferences.

Mr. Peters personally gave much thought to the better coordination of the work of the two Divisions. To this end, he planned to have the Clarke-McNary Inspectors take a larger part in educational work and to spend a good deal of time in helping the States to develop their own educational programs. This is in line with the general movement to reduce the "retail" work of the Branch through decentralization of detailed educational activities.

Progress has been made in working out methods and materials for reaching landowners with usable information on better forest practice, as will be noted in the following discussion of some of the educational work of the Branch.

The year was a particularly active one in motion pictures, under Mr. Kylie's direct supervision. The films "Forest and Health," "Forest and Wealth," "That Brush Fire," and "Forest Fires" were released early in the year. Scenes were made for a film on "Selective Logging" in the Lake States; "New Woods for Old," a film on handling farm woodlands in the Southern Appalachians; "On a Thousand Hills," a District 4 grazing picture, chiefly on sheep range management; and "Green Pastures," a District 3 grazing film, principally on cattle range management. In addition, District 5 made a three-reel film, "What Price Fire," and District 1 made a one-reel film on "Slash Disposal in Northern Idaho" as a means of bringing public support to the Idaho forestry law. A preliminary draft of a scenario for a three-reel film to replace "Trees of Righteousness" has been made, and general plans were made for a two-reel film on forest destruction as an economic and social problem.

Under the supervision of Mr. Hutchinson, of District 5, the photograph collection was overhauled and 27,000 photographs discarded. He also devised a new filing system,

which will be put into effect as soon as the necessary help can be obtained. Progress has been made in obtaining fine series of activity photographs by providing Mr. Shipp with carefully planned "scenarios," for his trips in Districts 2 and 3.

A series of radio programs, principally on the handling of farm woodlands and better utilization of farm timber, have been sent out, under Mr. Randall's direction, over 139 stations which cover the entire country with the Department programs and reach approximately five million farmers.

By relieving Mr. Everard of research editing, the Branch is now in position to devote more effort to popularizing forestry methods among landowners by leaflets and similar material. During the past year, progress has been made in this plan by increasing material of this type in the Forest Worker, by extending its circulation, and by the preparation of several popular leaflets.

Division of State Cooperation

Four special projects of general interest and significance engaged in by the Division of State Cooperation during the calendar year 1928 are as follows:

1. The Mandan Conference was a meeting of twenty-four men engaged in dry land forest planting and especially in Clarke-McNary Law cooperation from Colorado, Kansas, Wyoming, Nebraska, Montana, and North Dakota. South Dakota and Canada were also represented. The meeting was initiated by the Washington Office and successfully carried through by District 2 working with State Forester Cobb of North Dakota and Mr. Wilson, in charge of tree planting at the Mandan Station. Its purpose was to standardize cooperative distribution of forest planting stock. The results of the conference are indicated by resolutions passed aiming at: 1. Definite objective, such as a windbreak for each farm and such woodlots as needed; 2. Optional production by State or commercial nurserymen with view to harmonious relations; 3. Prior agreements between recipient of trees and State as to cultural methods; 4. Inspection prior to distribution and after planting; and 5. Close cooperation between State forestry agencies.

The Proceedings of the Conference have been mimeographed and a small number of copies are still available for distribution.

2. The Development of Cooperative Fire Protective Associations in the South. The forest protective association in the South is one of the most significant recent developments in forestry. The projects in Florida and Mississippi are striking examples of joint planning by the Government, the State, and the private owner in organizing for the protection of private lands with real participation by the three parties. The principal accomplishment along this line has been the establishment of a policy of State supervision with the blocking out of natural protection units of such size as will permit economical and effective handling in several rather than single ownerships. Conditions are of course very different in different States and there is a decided limit to which standardization should be carried. The main principles are now, generally speaking, agreed upon, and practice is being satisfactorily shaped in conformity with these principles.

3. Revision of the Scheme of Allotting and Reimbursing Clarke-McNary Funds to the States. This has resulted in making it possible to notify the States concerning their allotments for the ensuing fiscal year at a much earlier date and with greater certainty than heretofore, and the revised plan of reimbursement has met with hearty commendation from all quarters.

4. Development of State Programs. An initial step has been taken looking toward this development, namely, a canvass of the significant statements on State forestry policy for each State in the East through the District Inspectors. Every opportunity has been

taken to emphasize the desirability of formation of State forestry policies and programs and in certain cases, such as Louisiana and Virginia, statements of policy have been written jointly by the State and Federal men.

South Carolina, Delaware, Illinois, Indiana, West Virginia, Georgia, and Florida initiated cooperation either in fire protection or distribution of trees during the year. The accomplishment in Florida is worthy of note because of the close cooperation of the State Forester and District Inspector in the formulation of plans and of a forestry policy for the State which were presented to the State Forestry Board and adopted. This instance represents an outstanding case where it was possible for the Federal Government to have a representative on the ground at the beginning who could be of direct assistance in initiating the work. Plans for South Carolina and for West Virginia have been developed in a similar manner.

YE EDITOR DISCOVERS

The flood report, prepared under the direction of Mr. Sherman and submitted to the President through the Secretary of Agriculture on February 9, has been presented to the Senate and the House of Representatives through the Vice President and the Speaker, respectively, and has been ordered printed.

This report was prepared in response to a request from the President based upon the clause in the Flood Control Act in which Congress directed the President to call upon the Secretary for additional information as to the effect that the forests have upon floods. A number of investigations were made by the Forest Experiment Stations as to the amount of water absorbed and held by the forest litter. This was supplemented by other data from many sources as to the effect of forests in increasing the water holding capacity of the soil and the approximate amount of water absorbed by the trees from the soil during late winter and the early growing season when floods are much in progress. The net result indicated that the forests of the Mississippi as they are at present constituted are responsible for approximately 1.65 inches of water in depth over certain portions of the watershed, which under a full forest and with adequate forest management would come up to 5 inches. Translated in terms of flood height on the Mississippi, in accordance with General Jadwin's data, the forests as at present constituted are responsible for reducing the height of the flood crest some 15 inches, which under full forestry practice could be increased to some 55 inches. This would indicate, on the basis of the Army Engineers' statement, a storage capacity equivalent to 1½ reservoirs, which under full forestry practice could be increased to 4.6 reservoirs.

The report as it went to the President has some 1500 pages, including about 75 pages of text prepared under Mr. Sherman's direction. Reports of the Individual drainage basins prepared by Zon, Demmon, McCarthy, Ash, and Wolf - an appendix which constituted by far the bulk of the paper - describe conditions in each of the individual drainage watersheds throughout the entire Mississippi Valley.

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The establishment of the headquarters of District No. 9 has been approved by the Forester, and the new District will center in Milwaukee. In addition to the approval of the headquarters the Forester has authorized a District organization including two Assistant District Foresters, a combination Administrative Assistant and Fiscal Agent, and the necessary clerical and stenographic help. In approving the organization, the possib-

bilities of working out a plan whereby the work of the different Branches could be combined was given thorough consideration and the proposed integrated organization is the result.

The Clarke-McNary work in the Lake States will be centered in the District office and it will be the responsibility of the District Forester to correlate this activity in as far as possible with the District work.

It is anticipated that forest practice in the ten units that will be established as a result of the purchase program will be very intensive on account of market conditions and proximity to the center of lumber consumption of the United States. A considerable portion of the work will involve an intensive program of planting and silvicultural operations. Purchase work will be initiated on 5 newly approved units within the next 60 days.

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Under the administration of Francisco Salazar as chief of the Forest Service of Mexico the first lookout tower in that country has been erected in the Chihuahua Mountains. This is a wooden tower more than 100 feet high. With the cooperation of Daniel Galicia, a private forester, Mr. Salazar plans to build several lookout towers on the mountain tops surrounding Mexico City.

MOVIES TO SHOW NEED FOR REFORESTATION

Clarence Brown, noted motion picture director, is in Yosemite National Park selecting locations that will be used for propaganda by the American Reforestation Association, known also as the Green Cross. Brown has offered to donate a short "special" to put before the public graphically the economic waste and the marring of scenic beauty through the destruction of forests. This film will be used to awaken the people to a realization of the need for drastic legislation against cutting down trees without some definite plan of reforestation. This work will be started as soon as Brown has finished directing "Carnival of Life," starring John Gilbert and Greta Garbo. - D. 5 News Letter

"Indoor Sports During the Blue Snow: While assigned to grazing reconnaissance on the Mt. Taylor District of the Manzano Forest, the writers were, on April 5, snowed in at the old Canyon Lobo Ranger Station, and the most important duty presenting itself was figuring up the status of the D-3 personnel listed on an old 1922 organization chart which still clings to the wall. A total of 22 members are listed for the D.O. Of this number, 9 have transferred as follows: 5 to the Washington office, 2 to Madison, 1 to the Bureau of Plant Industry and 1 to a Forest as supervisor and 1 has retired. 12 or 54½% are still in the D.O. but only 9 of these are in their original positions. A membership of 135 is listed under Forest personnel. Of this number, 3.7% are deceased, 40 or 26.6% have resigned or have been otherwise separated from the Service, making a term average of 33-1/3%. 60 or 44.4% are still on the same Forest, 44 or 31.8% are in the same place and position, 5 men have been promoted to supervisorships and one transferred from the District Office to a supervisor position, 3 supervisors have been transferred to the District Office and one of these has gone on to Washington. This covers a period of five years, plus. If there are any other snowbound parties, we should be glad to know what happened the five years previous." - J.C.N. & R.W.H.

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