

# What The U.S. Forest Service is Doing

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Dist. No. 4  
Cedar  
Utah



Even-Aged Lodgepole  
Pine Coming in After a Fire



Logged With Care and Protected  
From Fire



Weeding Out  
Seed Beds,  
Watch Planting  
Station

THE importance of the forest in the life of the nation is a theme the magnitude of which is just beginning to be realized by the public at large. The aim of forest management should be the fullest possible utilization of all the resources of the forest, consistent with their perpetuation. The idea that the creation of a national forest means the withdrawal of the resources from use is a totally mistaken one. Perpetuation by wise use is the motto which must be kept ever in mind.

As a matter of administration, it must be recognized that many conflicting interests are involved, and the aim of the forester must be to guard against allowing one interest to encroach unfairly upon others. The principal resources connected with forest lands in the west are timber, water, minerals, and grass and other forms of forage. Of these, the first, second and last are to a very considerable degree subject to control by man, and the unwise use of one resource may not only interfere with its own perpetuation but with that of other resources of a totally different nature. For instance, anyone who has carefully observed conditions, knows that unrestricted grazing by any class of stock where there is keen competition for the range has an inevitable tendency to destroy not only the forage crop itself, reducing the carrying capacity of the ranges, but it injuriously affects the amount and regularity of flow of streams and in addition prevents and seriously interferes with the perpetuation of the forest cover by either natural or artificial means.

**PRESERVATION OF FORAGE.**  
On the other hand, the forage crop is a natural resource of immense value, indispensable to the continuation of the live stock business, which is fully recognized as one of the most important industries of the country. The production of live stock for the market is notoriously not keeping pace with the rapid increase in the country's population, and it is of extreme importance that the forage crop be utilized to the fullest possible extent, bearing always in mind that this use must be consistent with the use and perpetuation of other resources named.

The necessity for some kind of outside control to regulate the use of the various resources of the immense mountainous and timbered areas of the west led to the passage, in 1891, of an act authorizing the president to set apart as public reservations, in any state or territory, public land wholly or in part covered with timber or undergrowth. The number and area of the so-called forest reserves increased slowly until by act of Congress, effective in February, 1905, the administration of the reserves was transferred from the department of the interior to the department of agriculture and vested in the forest service.

Since that time the area reserved has increased by leaps and bounds, until

at the present time the national forests comprise an area of nearly 200,000,000 acres, equal in size to Texas and Ohio combined. Of the area named, nearly 27,000,000 acres are located in Alaska. The money value of the timber on the national forests is equal to twice that of the total combined equipment of the army and navy.

**ARMY OF FORESTERS.**  
The rapid growth of the forest service may be seen from the fact that 10 years ago the total personnel consisted of the forester, Mr. Gifford Pinchot, and nine others, of whom only two were professional foresters; whereas, at the present time, approximately 3,000 people are employed, of whom 250 are professional, trained foresters.

The national forests, as now established, conserve most of the water and one-third of the timber of the west. Under national forest management, loss from forest fires has been placed almost to a minimum, amounting to less than 3 per cent of the loss upon privately-owned lands. This is due entirely to the efficient system of patrol which is constantly carried on during the fire season by the forest rangers. The loyalty and devotion of these men in carrying on this work is beyond praise.

On the national forests were grazed last year a million and a half of cattle and horses and seven and a half million sheep and goats. These figures represent respectively 12 per cent and 21 per cent of the total amounts of these classes of range stock owned in the west.

Through the administration of graz-

ing on the national forests by the forest service, range wars within them have absolutely ceased. If no other result had been accomplished, the elimination of this fertile source of constant strife on the forests, with the attendant continual loss of life and property, would have gone a long way in justifying the action taken by the government.

That the regulation of grazing on the national forests is beneficial to the industry is now almost universally conceded. The old charge that the service is charging excessive rates for grazing has for the most part disappeared with the demonstration of the fact that the grazing fees on the forests do not average more than one-third as much as the prices charged for grazing upon private lands within their limits or adjacent to them. When the forests were created, they were for the most part found to be stocked to a far greater extent than their permanent carrying capacity justified. Overstocking resulted inevitably in the depletion of the ranges, and decrease in the number of stock permitted became necessary on many of the forests. As a result of the national forest administration, range conditions have steadily improved. This improvement has, however, occurred rather in the form of an increase in the weight of the stock than in the number grazed. The protection given has enabled the stockmen to improve the grade of their stock and raise better animals, and it has lessened the losses from straying and other causes. On many of the ranges which were overgrazed at the time of their inclusion in national forests, the damage has been stopped by requiring the stock to be handled properly, and by keeping it off the ranges until the forage crop was fit for use. In many cases, the reduction which it was thought as first would have to be made have been avoided, and the ranges have improved under the properly regulated grazing with the number of stock upon them that had been causing serious damage while there were no restrictions in the use of the range.

**WAR ON PESTS.**  
An additional way in which the forest service grazing administration has greatly benefited the live stock industry is in connection with the extermination of predatory animals, particularly coyotes, wolves, bobcats, mountain lions, and bears. It is the opinion of many wool growers throughout the west that 10 per cent of their flocks are killed annually by predatory animals.

The losses in cattle and horses are also very large. It is not unreasonable to estimate the total loss to all classes of live stock at several millions of dollars annually. To reduce and ultimately eliminate this loss, the forest service has spent many thousands of dollars in the employment of professional hunters and in deterring forest rangers for the purpose of exterminating predatory animals. The results accomplished have been thoroughly appreciated by the stockmen, who have also accomplished much along the same lines.

The value of the forest as a conservator and regulator of stream flow is now quite generally recognized. This is especially true in Utah, where the great majority of the national forests were created upon petition of the people affected, in order to secure the regulation of grazing upon important watersheds and thus check the immense damage being done. Two of the best examples of this are the Manti and Fillmore forests. In the case of the former, as a result of unregulated grazing, severe floods occurred annually early in the spring. As a result of these floods severe erosion and washing occurred in some places and in others considerable areas of agricultural land were deeply covered with material carried down from the mountains. The value of the streams for irrigation purposes was greatly decreased, owing to the fact that the melted snow from the mountains went off with a run early in the spring thus greatly shortening the irrigation season and materially lessening the amount of late water available for that purpose. It was practically impossible to make use of

the water for domestic purposes on account of the great amount of silt in suspension and the befouling of the stream due to the existence of too many sheep upon the headwaters and their bedding in many instances upon the very banks of the streams. Practically the same conditions existed upon the Fillmore national forest.

**FLOOD DAMAGE LESSENED.**  
Since the creation of the national forests, according to the testimony of the settlers, conditions have steadily improved. The Manti forest was created in 1903 and since that time the number of stock has been greatly reduced and better methods of handling brought about. One of the first acts in the administration of the forest was to totally exclude all stock from the forks of Manti canyon and as a result the area is now well covered with vegetation. Since stock has been kept out of the forks of Manti canyon, no serious floods have occurred. On the other hand, in the canyons immediately north, south and east in which stock is grazed, destructive floods have followed heavy rains. During August this past summer, a great amount of rain fell over the entire area of the Manti forest, containing intermittently during the whole month. At this time terrific floods, carrying with them large quantities of mud and boulders occurred in the canyons north, south and east of Manti canyon. No conclusion seems possible other than that the immunity of Manti canyon from flood damage was to a very considerable extent due to the fact that the practical exclusion of stock had allowed the growth of a sufficient

amount of vegetation to prevent the severe erosion which occurred in the other neighboring canyons. As a direct result of the floods, damage was done amounting to approximately \$20,000. In many places roads were totally destroyed and the transportation problem on the Manti forest became so serious that it was necessary for the forest service to contribute \$1,000 to assist in repairing the roads in co-operation with the settlers and other forest users.

**PURER WATER.**  
The principal object sought to be accomplished by the creation of the Wasatch National forest was the protection of the watersheds upon which the city of Salt Lake is dependent for water for domestic and municipal use. That the forest service administration has been of great value along these lines, will, I think, be fully admitted by the citizens of Salt Lake. In fact the benefits already derived have been so great that a plan of co-operation has recently been worked out between the city on the one hand and the forest service on the other, whereby a considerable area of city lands are to be included within the forest and protected and administered as such, the city bearing a reasonable proportion of this expense and sharing also in the cost of reforestation. The watersheds which have been denuded by forest fires which occurred before the national forest was created.

From an economic point of view, it is an absolute necessity for a well-defined plan for the protection and perpetuation of our forests is plain. Our industries wholly or partially dependent upon wood, pay the wages of more than one and one-half million men and women. The present forest area of the country is but little more than half the former area. Of the present forest area, but one-fourth is publicly owned, containing one-fifth of all the timber standing. Of the area publicly owned, 70 per cent is in the national forests, under a scientific system of forest management, whereas of the lands in private ownership, this is true of less than 1 per cent. Under present conditions, we are taking from our forests each year not counting the loss by fire, three and one-half times their annual growth. By reasonable thrift, we can produce a constant timber supply beyond our present needs, and with it conserve the usefulness of our streams for irrigation, water supply, navigation, and power. To bring about this condition so far as the national forests are concerned and at the same time to endeavor by co-operation and education to bring about the same condition outside the national forests is the problem with which the forest service is now confronted. The problem is for the most part an educational one, so far as the general public is concerned, and progress is naturally slow. However, the results accomplished during the past four years lend color to the hope that within the next few years the United States may take its place with the civilized nations of the older countries in the general application of scientific forestry practice on all lands which are chiefly valuable for the production of timber crops. Especially in Europe has the practice of scientific forestry been in existence for centuries. That this is true is not, however, the result of any superior degree of foresight, but as a matter of economic necessity, following a long period of wasteful exploitation. This history is now repeating itself in the United States, and that the ultimate result will be the general practice of scientific forestry, the same as in Europe, is not to be questioned.

## Unique Collections for the Deseret Museum

**A**FTER being stored away for nine years in boxes and dark vaults, the wonderful exhibits and relics of the Deseret Museum, which tell the history of ages, will soon be unpacked and occupy a permanent home in the Vermont building, the site of the old adobe building where the collections had their home so long under Prof. Joseph L. Barfoot. In its comfortable and elegant new home the mummies will be given a chance to stretch themselves, so to speak, the birds to cleanse their plumage and the geological specimens to tell their story. The educational and industrial history of Utah, as well as the natural phenomena of the country, are to be found in these exhibits, which are a valuable asset to the state and a subject of importance to the student and scientist.

The museum will be located on the top floor of the building, which will be ready for occupancy about the first of the year. Under the direction of Dr. James E. Tallmadge, museum curator, the exhibits will be unpacked and placed in order. Since the museum has been without a home numerous valuable collections have been added to it. Its growth for years to come is now assured and the museum will no doubt become one of international reputation with the field which it has at hand to

contribute specimens. The museum was founded in an early day and at times it has had a hard struggle.

Joseph L. Barfoot was a scientist of some repute in the early days. He devoted all his time to the study of scientific things and wrote a great deal on the natural phenomena of the country. In his excursions about the country he collected exhibits and in this way greatly enlarged the museum. His collection included a canoe which was found on the shore of the Great Salt Lake and believed to be the canoe which was used by Kit Carson, the scout and frontiersman, before the pioneers arrived here. He started a collection of coins which have been added to, until now it is valued at \$7,500. He also had a collection of the fauna and flora of the country, geological specimens and minerals.

The collection was kept on exhibit in the long old adobe house and after he died his wife took charge of the things and many valuable pieces were added to it. When she died George Reynolds was given charge of the exhibits in order to preserve them. Then a gentleman named Ford was given direct charge of the museum and acted in the capacity of curator for a number of years. He was employed on the temple while it was in the course of construction and died from injuries sustained by a fall from the first story.

Mr. John Scofield was appointed curator of the museum afterwards but during these years it grew slowly. When the old adobe house was razed to the ground the museum was sacked and

stored. It remained in storage for a number of years and was later exhibited in the Temple building.

Under the direction of Dr. James E. Tallmadge, who was appointed curator about this time, the museum prospered and became of national repute for many of its valuable collections of geological exhibits. The Salt Lake Literary and Scientific society had become the possessor of the collection, and this society proceeded to secure a permanent home for the museum and raised money for the purchase of collections and exhibits. One of the most important additions made at this time was the exhibit of samples of the seeds of salientia discovered in Wayne county. Exhibits of this mineral were sent all over the country to various museums. The museum possesses numerous models of extinct animals. These were purchased by the society and are a credit to the institution.

The Temple building the collection was moved to fine new quarters in the building on Second North street between First and Second West streets. There the museum occupied an entire floor and was visited by tourists and scientific men who passed through Salt Lake. When the Literary and Scientific society endowed the chair of geology in the state university, and turned over this building and much of its contents as part of the endowment fund, the exhibits were packed and have been in storage ever since.

Among the historic relics which graced the exhibits for years was the old maple wood chair in which the Prophet Joseph Smith sat for months while translating the gold plates. His single shot pistol which he had when he

was murdered by the mob at Carthage, was also in the museum for a number of years.

Before President Brigham Young died he presented the museum with the long barreled Kentucky rifle which he carried on his journey across the plains. It was a rifle of the flint lock pattern and was considered the most valuable weapon which the pioneers brought to Utah.

In the early days many of the farming implements, tools, dishes and domestic articles were of home manufacture. The museum has a unique collection of these things which were sent from various parts of the territory as exhibits. Among this collection are several sheets of paper, the first manufactured west of the Missouri river. Thomas Howard manufactured the paper by hand and the first issue of the Deseret News was printed on it. The paper was made out of rags. In the first place the rags were torn into strips and then ground up in a machine, something after the pattern of a sausage grinder. After the rags were reduced to fragments, they were soaked in water. A screen was placed in the water and after being manipulated with considerable skill, a fine coating of the rag pulp would be collected on the screen. This was partly dried in the sun, then carefully removed and subjected to pressure and the rays of the sun. For many years this paper served the purposes of the pioneers.

The museum has a collection of home-made pottery which is crude and old but served the purpose in the early days. It was moulded of clay then dried and glazed, by being subjected to heat. There is also a collection of home spun articles and spinning

wheels which were manufactured here in the early days. The first plow which was used in Salt Lake valley is also among the exhibits.

O. F. Due, a florist, presented the museum with an excellent collection of seals and stamps of royal families and noblemen. The impressions were taken in wax. These form one of the unique exhibits to be seen there. The museum has quite an extensive exhibit of birds which inhabit this part of the country and also a large collection of insects.

When mining operations were begun, the museum succeeded in obtaining a fine assortment of minerals. From year to year this collection has been added to and when it is put into place again in the new quarters it will probably be one of the best in the state.

W. W. Willis, a missionary to India, contributed a snake skin to the museum which he brought from India with him. While traveling on foot with an Indian guide he encountered the reptile and managed to kill it. He preserved the skin but the species was never determined.

The museum has a small but very valuable collection of pottery from Central America. Some of the specimens, it is said, are the best to be found anywhere in the country. In recent years the museum has been presented with a collection of pottery and implements which were found in the land of the cliff dwellers in southern Utah. The institution has a number of mummified bodies which were collected from the mounds of cliff dwellers. While this section is not as large and extensive as the exhibit at the university museum, the specimens are considered among the best ever found in this country.