

# FOREST CONDITIONS IN FLORIDA



SKIDDING, OR LOG WAGON



CABBAGE PALMETTO

**A** PRELIMINARY investigation of the forest conditions of Florida was made during the past winter by the United States Forest Service in cooperation with the state. The report is now completed and has been submitted to the governor for his consideration. It is hoped that the legislature may be able to incorporate at least some of the recommendations into law in the near future.

Florida occupies a prominent position among the timber and turpentine producing states of the country. It has, at present, a greater per cent. of its land in forest than any other state. Some of the finest stands of longleaf pine in the south are contained within its borders. The development of the forest industries during the past few years has been phenomenal. While the agricultural development in certain parts of the state will make permanent use of immense areas of cut-over land, the bulk of lands now being cut over will not be needed for agricultural purposes for many years to come. In the meantime the timber producing possibilities of such lands are being destroyed by repeated fires, turpentine, and reckless lumbering. The opportunity to organize and adopt plans of forest management should not be delayed until the forest lands have all been cut over.

Many states have temporarily developed at the expense of their forest interests and have realized too late the disastrous effects of wasting their forest resources.

The report of the Forest Service Examiner in Florida lays particular stress on the importance of a strong forest policy for the state. There should be a commission of forestry to have general supervision of the forestry interests of the state and to appoint a state forester. It should be the duty of the state forester, under the direction of the commission, to advise private owners in reference to forest management, to bring to public attention the damage done by forest fires, to formulate and put into execution a firewarden system to protect the forests from fires, to encourage more conservative systems of lumbering and turpentine, to investigate tax and grazing problems, and in general promote a healthy interest in forest preservation in the state.

The forest fire problem in Florida, as in other southern states, was found to be a most serious hindrance to the perpetuation of the forests. The practice of burning over the ground annually destroys all possibility of a young growth of pine to take the place of the mature timber when it is cut. Moreover, fires injure the standing timber, especially where the trees have been boxed, and destroy the vegetable covering of the soil. It has been demonstrated that repeated fires decrease the value of the forest for grazing purposes.

In order to check the annual fire evil, the report proposes a forest fire law for Florida which shall make it unlawful and punishable by fine or imprisonment, or both, for any individual or corporation to start fires on land not their own. The proposed law also makes every owner liable for damages resulting from the spread of fire from his own land to that of another. There are many other impor-

tant features in the proposed law, such as the appointment of firewardens, the use of spark arresters on locomotives and engines, and posting of fire notices.

The report furthermore recommends the establishment of state forests from tax lands and by purchase, as has already been done by many states in the country.

The forests of Florida have lasted longer than in many states, perhaps because the state has been more generously endowed with valuable growth. The need of forest preservation has not been so apparent in the past, but those who understand the present conditions in Florida and in other states should be alive to the necessity of taking some action to cut wisely what forests remain, and provide for regeneration on lands that have already been denuded. The report explains the present situation in detail and points the way for a wiser consideration in the future.

The south, with 27 per cent. of the total area of the United States, contains about 42 per cent. of the total forest area of the country. The forest area by states is as follows: Alabama, 20,000,000 acres; Arkansas, 24,200,000; Florida, 20,000,000; Georgia, 22,300,000; Kentucky, 10,000,000; Louisiana, 16,500,000; Maryland, 2,200,000; Mississippi, 17,500,000; North Carolina, 19,600,000; South Carolina, 12,000,000; Tennessee, 15,000,000; Texas, 30,000,000; Virginia, 14,000,000; and West Virginia, 9,100,000.

The south, it will be seen, has still much of the virgin forest of the country. This forest must be used of course, in order to meet the steadily expanding wants of the section. It must be used in such a manner, however, that the very most may be made from its annual cut, while at the same time this cut is being replaced by new growth. In this way its timber will remain a source of perpetual wealth.

The importance of forest conservation to southern interests is clearly understood by the people of the south. The future of the south is more nearly bound up in the plan of forest preservation, with its accompanying protection to watersheds, power-streams, and wood-working industries, than is anything now before the people of that part of the country. Not only is the protection of the watersheds, which will some day furnish the power to run all manufacturing establishments in the entire south, an important matter to the south, but the industries depending upon the forest products will also be benefited by the protection thrown about the remaining timbered area.

### Poor Woman.

"I am so sorry for Mrs. Flite," says the lady with the display of coral rings. "She is so unhappy since she came home from her summer trip. You know she left her husband at home all summer."

"Ah!" significantly breathes the lady with the two-dollar barette. "And did he carouse around and do things he shouldn't? These men!"

"That's why she's unhappy," explains the other lady. "He behaved himself and she was so in hopes she might have a chance to get a divorce this fall."—Life.

# MYSTERIES OF NATURE

By George Frederick Wright,  
A. N. L. D.

## Continent Tilted Up and Down

The level of the ocean is more constant than that of the land. The expanse of the ocean is three times as great as that of the land, and its depth more than ten times as great. If all the land should be sunk in the ocean, it would raise the general water level only about 300 feet. In general we may say with perfect confidence that the ocean beds represent portions of the earth's crust which have been sinking from the earliest geological times, while the continents represent those portions which, with many oscillations, have, on the whole, been rising. It probably is not true, as is often stated, that the areas of land and water have shifted places in past time, so that continents were found where the main ocean beds now lie, and oceans swept without interruption over the continental areas. Still there is the best of evidence that large portions of the existing continents were at various times below the level of the sea.

But, while this is true, it seems equally certain that during the subsidence of these areas below the sea level, they existed either as shallow water borders of the main continental areas or as internal seas. For example, the great depth of sedimentary rocks which cover the Mississippi basin, extending from the Allegheny mountains to the Rocky mountains, are shallow-water deposits. So shallow, indeed, was the water during long periods that it was little more than a swamp in which the vegetation that formed the numerous seams of coal could grow and flourish. But the level was not constant. After a large accumulation of vegetable matter that could be turned into coal had taken place, there was a slight and very gentle sinking of the whole area, so that mud and sand were brought in from the neighboring higher lands to form a complete covering for the coal; so that when it was turned into rock it was able to protect it, and preserve it for future ages. This process of slow but irregular sinking of the Mississippi basin continued until thousands of feet of sedimentary material had been washed into it, as the Mississippi is carrying sediment into the Gulf of Mexico at the present time. These successive strata, like the leaves of a book, record the various downward movements of the long coal period. In other countries, especially in England and China, there is the same record of long-continued downward movements of continental areas during the coal period.

If this downward movement had continued always, the coal would have been inaccessible beneath the depths of the sea, where, indeed, much of it does still remain. In Nova Scotia the best seams of coal are mined many miles and at a depth of many hundred feet below the bottom of the sea. In England also some of the best seams of coal are followed out underneath the sea, and it is supposed that coal veins are continuous from southern England to the continent far beneath the bottom of the Dover strait. But fortunately the downward motion of the coal area was in due time arrested, and the contrary movement begun, which has brought this priceless material within easy reach of men in the mountains of Pennsylvania and China, in the hills of England and in the plateaus of the central and western states of America. Other illustrations of great changes in land levels are too numerous to be mentioned in detail. In Colorado there was a gradual subsidence of land below sea level during the carboniferous and cretaceous eras until from 12,000 to 15,000 feet of sediment had accumulated over the sinking area. But at the end of that period the area began to rise, and this rise has continued until the present time, when it stands many thousand feet above the level of the sea.

Similar witness to such changes of level is borne by extensive sedimentary rocks containing abundant sea shells of late geological age, which are found at a height of 10,000 feet above the sea on the Pyrenees, the Alps and the Caucasus mountains, and at a height of 14,000 feet upon the mountains of central Asia. A map of the eastern continent during the early part of the tertiary period shows a great Mediterranean sea covering all central Europe and extending into Asia, submerging the highlands of Tibet and most of the mountains of Turkestan. But that this was not a general subsidence of the continents is evident from the simple fact that these areas are covered with sedimentary strata. If mud and sand and

gravel are deposited in water there must be some area not far away from which they could be derived.

While these general facts concerning changes in land level in ancient geological times beyond all question are very impressive, less attention than they merit has been given to the facts showing that corresponding changes are still going on, and have produced striking results within recent times, and point to interesting conclusions with reference to the future. In connection with the glacial period, which is the most recent of all the geological epochs, these changes of level are very evident, and connect themselves with the early history of mankind. At the close of the tertiary period, which culminated in the glacial era, the central and northern part of North America stood at a level of 2,000 or 3,000 feet above that at present occupies. This is proved by the existence of innumerable channels now deeply buried by glacial debris, or extending out into the ocean across the shallow, submerged shelf of the continent both upon the Atlantic and Pacific coasts. In Illinois, in Ohio and in central New York these buried channels are found down below sea level, showing that the land must have been very much elevated to allow the streams which crossed these rocky gorges to make their way to the sea from these distant inland points. The cities of Cleveland, O., and Syracuse, N. Y., are built over such buried gorges. The Delaware, the Hudson and the St. Lawrence rivers then emptied into the sea, running through deep gorges or canyons, which crossed a level coastal plain. The fjords of Greenland and of Norway and of the Pacific coast of North America bear similar testimony, since they probably, in most cases, mark the lines of ancient rivers which coursed through them to the sea when the land was so much elevated that what are now the bottoms of these channels were occupied by rushing mountain torrents. In short, these floods are drowned river valleys.

But at the close of the glacial period the land levels in all this northern region were much lower than at the present time. On the southern coast of New England sea beaches were thrown up about fifty feet higher than those which are formed now. Along the southern shore of Maine the land had sunk so much that sea shells are found in clay deposits 250 feet above the present sea level. The Champlain and St. Lawrence valley was so much depressed that whales sported in salt water over the site of Middlebury college, Vermont, and seals ventured into an arm of the sea extending far up into the Ottawa river, while at Montreal modern sea shells are found 500 feet above present tide water upon the top of the mountain which gives the city its name. Going farther north the indications are that upon the shores of the Arctic sea post-glacial subsidence amounted to 1,000 feet. Everywhere across the continent there is cumulative evidence that this post-glacial subsidence was as extensive as the glacial region, and that it increased in amount from south to north. This is a very important consideration to be kept in mind in working out glacial and post-glacial problems. This differential northerly depression at the close of the glacial period caused the great lakes to flow at first into the Ottawa river across Lake Nipissing over the site of North bay into the Mattaway river, and so into the Ottawa along the line through which the Canadian government is talking of building a ship canal, and which is already utilized by the Canadian Pacific railroad. This pass is now less than 100 feet above the level of the lakes.

(Copyright by Joseph R. Bowles.)

### He'll Make a Citizen.

"That man couldn't interpret a single passage of the constitution."

"Yet you naturalized him, judge."

"Well, he was away up on the bathing averages. I guess he'll make a good American."

### To Please Her.

"I didn't want anyone to know I was here," she remarked as he found her in the parlor.

"It's all right," he assured her, "I'll keep it dark."

### Grudging Praise.

"Did the critics say anything favorable about your performance of Hamlet?" "Yes," answered Mr. Stormington Barnes. "They admitted that I had selected a pretty good play."

# DOCTOR ADVISED OPERATION

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