

A Brief Review of Reclamation Work in North Carolina

By Joseph Hyde Pratt, Director, North Carolina Geological and Economic Survey.

The Eleventh Annual Convention of the North Carolina Drainage Association will be held in this city on April 12 and 13, under the auspices of the Association and the North Carolina Geological and Economic Survey. A great deal of interest is being manifested in this convention and a renewed interest is being taken in drainage and reclamation work in Piedmont and Eastern North Carolina. Because of these facts, it is felt that this is an appropriate time to briefly review the work that has been accomplished in this respect in this State.

About fifteen years ago there were in the eastern part of North Carolina approximately 3,000,000 acres of swamp lands, and from sixty to seventy-five per cent of the remaining lands of the coastal plain region, although being used for farm lands, were low and wet and consequently producing only about half crops. Soon after the re-organization of the North Carolina Geological and Economic Survey in 1905, which resulted in an extension of its duties, the problem of draining the swamp and flat lands of eastern and the overflowed lands of Piedmont North Carolina was taken under consideration. One of the first projects undertaken by the Survey was the drainage of certain lands in Beaufort County. This project demonstrated that much of the swamp area of the State could be reclaimed, and would make good agricultural lands when reclaimed; but there were no adequate laws in the State that would warrant or permit individuals undertaking drainage projects except on a very small scale on their own farms.

Realizing these conditions and also realizing what it would mean to Eastern North Carolina if these swamp areas were drained, the Director of the Geological Survey called a meeting of all interested persons in New Bern on September 9, 1908. At this meeting the many problems connected with drainage and reclamation work were discussed by the State Geologist, who presided at the meeting, by Senator Simmons, by Congressmen Small, Godwin, Thomas and Ward, and by engineers from the United States Department of Agriculture, and others. As a result of this meeting, the North Carolina Drainage Association was organized and a recommended drainage law was drafted, which the General Assembly of 1909 passed without a single amendment. This law has proven most effective in North Carolina and has been adopted practically without change by Virginia, South Carolina,

of the administration of this law. Under the drainage law more than 150 projects have been organized or proposed. Of this number, more than fifty have been districts embracing overflowed lands in the Piedmont section, including lands in Burke, Cabarrus, Catawba, Cleveland, Davidson, Forsyth, Gaston, Guilford, Iredell, Lincoln, Mecklenburg, Moore, Rockingham and Rowan Counties; more than one hundred have been districts in the Coastal Plain region, mostly swamp lands in Beaufort, Bladen, Camden, Carteret, Chowan, Columbus, Craven, Cumberland, Currituck, Duplin, Edgecombe, Harnett, Hyde, New Hanover, Onslow, Pamlico, Pender, Perquimans, Pitt, Robeson, Sampson, Tyrrell, Washington, Wayne, and Wilson Counties. Of these projects, seventy-five districts have been completed; twenty have been approved; sixty-one have been proposed and are either in the preliminary stages of organization or are held up for one reason or another; while nine have been abandoned as not feasible at the present time. The most stupendous single project

aggregate increase in the value of the reclaimed lands in the Piedmont section of the State of from \$225,000 to \$300,000, to say nothing of the added healthfulness and attractiveness of this region. In the Coastal Plain region over a half million acres of swamp lands have been drained which now have an average value of from \$50 to \$100 per acre as against a value of from 50c to \$2.00 per acre before drainage, or an aggregate increase in value of from thirty to fifty million dollars.

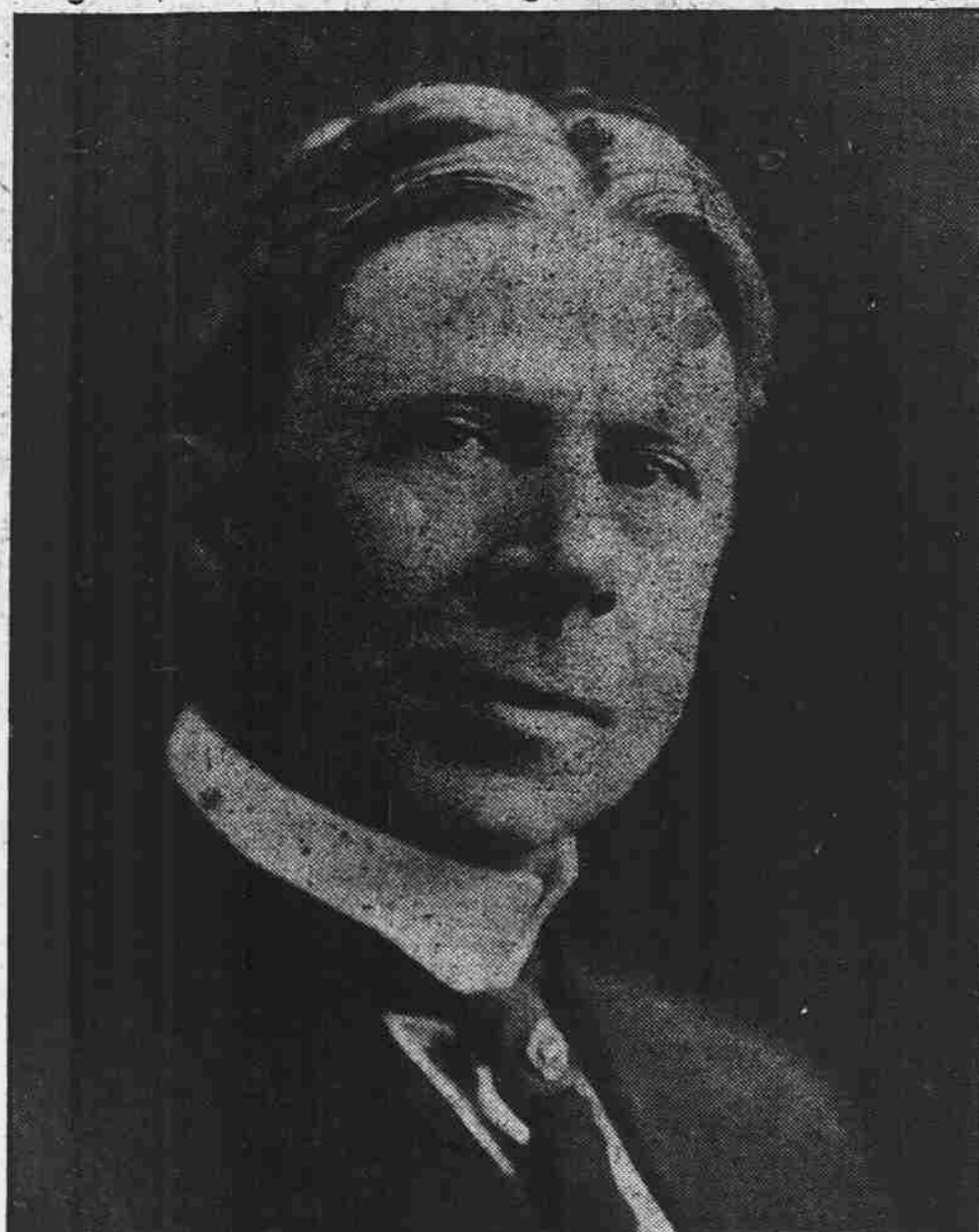
The increased value of these reclaimed areas from a health standpoint would more than offset what it has cost to drain them; but, from a commercial point of view, this is the least benefit that has been derived. These reclaimed lands are now recognized as the richest lands in the State. They will grow almost any kind of crops without fertilizer, including corn, cotton, grain, hay, potatoes, and truck crops, and the yield per acre is without parallel. In certain sections specialized crops can be grown, as for instance, strawberries in Pender and Columbus Counties, where it is reported that this land is selling for as much as \$1,000 per acre. Tobacco has been successfully grown on certain of these lands in other counties. Report comes from Beaufort County that one tract of reclaimed swamp land containing about 100 acres has been rented for the coming year for \$100 per acre for growing potatoes. A recent communication in regard to New Hanover County Drainage District No. 1 states: "This district has been completed about twelve months. Not only in an agricultural way are they reaping great rewards, but it has developed into a suburban territory. Homes are being built upon it. Already thirteen have gone up, each of which represents an expenditure of from two to four thousand dollars." Part of a letter from the Big Cold Water District of Cabarrus County in Piedmont North Carolina reads: "As much as seventy bushels of corn have been raised on the drained lands of this district without fertilizer. From the health standpoint the drainage has been a remarkable success. Malaria and chills have decreased, so the doctors say, seventy-five per cent."

Accessibility To Markets.
In addition to the fertile soil, the production of phenomenal crops, and the almost complete abolition of chills, malaria and fever, these reclaimed lands have the advantage of being accessible to markets. With the development of a State system of highway such as is contemplated under the operations of the newly enacted law, a more ideal farming section cannot be found anywhere than right here in North Carolina on the swamp and overflowed lands that have been drained. Most of the lands that have been drained are as yet unsettled, and the question of how best to bring them to the attention of desirable home seekers is one of the biggest problems following their drainage. This subject will constitute one of the chief topics for discussion at the coming convention.

Much Yet To Be Done.
Although the progress made in drainage and reclamation work in the State has been wonderful, yet there is still a great deal to be done. More than 2,000,000 acres of swamp lands in Eastern North Carolina yet remain undrained, of which at least 1,250,000 can be successfully drained and will make agricultural land as productive as that already under cultivation. The people in this region are proceeding with the work. Every few days requests come to the Geological and Economic Survey for information in regard to the formation of districts, in regard to methods of procedure under the drainage law, requesting that an engineer be appointed, and similar information. Only a few days ago an attorney for a district in Duplin County wrote: "I am filing a petition in Duplin County for the drainage of Stewart's Creek and its tributaries. The district will be named 'Duplin County Drainage District No. 2.' I am



CORN on reclaimed muck land near Elizabeth City. These men are interested in the work of the N. C. Drainage Association which meets in Elizabeth City April 12 and 13.



HON. JOHN H. SMALL,

President North Carolina Drainage Association and for the past 22 years Congressman from the First North Carolina District. Congressman Small was one of the organizers of the Drainage Association and has kept in close touch with the drainage movement since, especially the legal side of it.



MARSDEN J. PERRY, chairman of the Board of Directors of the Norfolk Southern R. R. is shown in a field of corn on muck land after drainage. Norfolk Southern men are directly and indirectly interested in many drainage projects in Eastern North Carolina.

working up several other drainage districts and will let you hear from me from time to time."

The Use of Tile.

The subject of tile drainage has not yet received the attention that it merits. It is estimated that from sixty to seventy-five per cent of the lands now under cultivation in the Coastal Plain region, not counting the drained swamp lands, could be greatly improved as agricultural land by the use of tile. The fact that the land is too wet and that its drainage is inadequate is indicated by water standing on it after rains, by the hardening and cracking of the sur-

face after it dries, by it breaking up into cakes and clods when ploughed, and by the growth of plants commonly found in wet places. More has not been done in the way of tile drainage because the lands can be cultivated as they are and the farmers do not realize the significance of tile drainage or feel inclined to go to the expense that would necessarily be involved in putting it in. Tile drainage must be done largely by single individuals. It costs more per acre in comparison with the benefits than the drainage of the swamp lands costs. However, the tiling of these low wet lands would at least double their productivity and at the same time greatly reduce the

amount of labor necessary to cultivate them. The State Department of Agriculture is interested in tile drainage and Commissioner Graham and one or two of his drainage engineers are planning to be at the drainage convention to lead a discussion on this subject.

The Convention Next Week.

In addition to tile drainage and the bringing of desirable settlers to North Carolina to take up the reclaimed areas, the maintenance of drainage ditches and canals, the marketing of drainage bonds, and certain phases of the drainage law will be discussed at Elizabeth City on

the 12th and 13th of April. It is planned to make the convention as practicable as possible by taking a trip to some drainage district in the vicinity and give the delegates a chance to see some of the drained lands, or perhaps some in process of being drained.

It is hoped that this brief review of the progress and results of reclamation work in North Carolina will serve to stimulate still more interest in the continuance of this great undertaking, and that it may possibly come to the attention of people outside the State who may be interested in taking up some of these lands.



CORN and peas on reclaimed land in Eastern North Carolina. This land was a swampy wilderness until drained.

Georgia, Florida, and probably other Southern States. The law has been amended in certain minor respects to overcome difficulties that could not be foreseen at the time of its passage. At the recent session of the Legislature an amendment was passed definitely declaring drainage districts political subdivisions of the State, so that now there can be no question about the exemption of drainage bonds from federal income and other taxes. This amendment should strengthen the market for North Carolina drainage and reclamation bonds and thus give an added impetus to the already fine results achieved under the operations of this law.

More Than 150 Projects.
The North Carolina Geological and Economic Survey has largely had charge

ject was the drainage of Mattamusket Lake, which embraced over 100,000 acres and had to be drained by pumping the water out, as the bottom of the lake was below sea level. The Ohio banking house that drained the lake has the lake bottom now in a state of development. A model town is being built, roads constructed, and a part of the land is being made ready for cultivation. In all, more than \$2,000,000 is being spent on the development of this one project.

Increased Value of Lands.

Approximately 30,000 acres in the Piedmont region have been successfully drained. This land is now the best farming land in the Piedmont region and is worth from \$100 to \$200 per acre as against a value of from \$20 to \$25 per acre before drainage. This means an



THE type of steam dredge commonly used in cutting canals in drainage districts in Eastern North Carolina.

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