

THE RECLAMATION OF SWAMP AND OVERFLOW LANDS.

Mr. E. T. Perkins, of the National Drainage Congress of the United States, gives an argument for national direction for swamps and overflow lands in the Journal of the Western Society for Engineers for February, 1913. A summary of the argument is as follows:—

The national problem of controlling and regulating the Mississippi, is only a part of the problem of our swamp and overflowed land of approximately 74,000,000 acres lying in almost every state in the Union. The vast benefits to be derived from the reclamation of this great area are too obvious to require comment. It is generally known that these acres possess wonderfully fertile soil, capable of producing great crops for many years without defertilization to any marked degree.

The United States Department of Agriculture touched on this subject in Circular No. 76, Office of Experiment Stations, on "Swamp and Overflowed Lands in the United States," issued in 1907. The circular (basing the acreage to be reclaimed at 77,000,000) states:

In those states where large areas of swamp land have been thoroughly drained by open ditches and tile drains, the cost ranges from \$6 to \$20 per acre, while in places where tile drainage was not required the average cost has not exceeded \$4 per acre. Judging from the prices which prevail in a large number of these districts where work of this kind is being carried on, it is safe to estimate that the 77,000,000 acres of swamp can be thoroughly drained and made fit for cultivation at an average cost of \$15 per acre. The market value of these lands in their present shape ranges from \$2 to \$20 per acre, with an average of probably \$8 per acre. Similar lands in different sections of the country that have been drained sell readily at \$60 to \$100 per acre at the completion of the work, and in many instances, when situated near large cities, they have sold as high as \$400 per acre. To determine whether or not it will pay to drain these lands, we have but to consider the following figures:

Cash value of 77,000,000 acres after thorough drainage, at \$60 per acre	\$4,620,000,000
Present value of this land at \$8 per acre	\$ 616,000,000
Cost of drainage at \$15 per acre	1,155,000,000
Value of land and cost of draining.....	1,771,000,000
Net increase in value	\$2,849,000,000

These figures, though large, are not fanciful, but are based on results obtained in actual practice in different sections of the country where work of this kind has been done.

Since this circular was issued by the Department of Agriculture in 1907 many swamp and overflow acres have been reclaimed; the cost of reclamation undoubtedly has risen with the general increase in cost of things, but the value of the land also has risen, so it may be conservatively supposed that the net result as figured in 1907 is approximately the proper figure for to-day, upon the assumption that 100 per cent. of these lands could be reclaimed, which of course we know to be impossible.

Now, the reclamation of the great bulk of swamp and overflowed acres is largely dependent upon the control and regulation of the nearest main river system and its tributaries.

From the headwaters to the mouth it is not possible to reclaim or correct one part without at the same time exerting

some influence, either for good or bad, upon the other portions.

This is a natural fact. When we try to subdivide one of the problems and solve each subdivision from our own limited viewpoint, and for our personal, selfish interests, we are making trouble for ourselves or someone else, or both. We are doing more; we are violating the laws of Nature which, before the arrival of man, established these drainage basins, and provided these drainage problems for us to solve. There is only one right solution to every problem; there may be found ways to find many answers, but only one of these can possible be the best.

Can we establish arbitrary boundaries, often in ignorance of existing physical conditions, ignoring natural problems and necessities, and say: "Here, this political body shall have jurisdiction, and there, that one?"

Physical, economic, social reasons demand that the reclamation of these 75,000,000 acres of swamp and overflowed lands, and the control of the waters that cause them, must be undertaken in a broad and comprehensive way—in a national way—and this cannot be done offhand.

There is no cure-all, no panacea. Careful investigation and study must be had that there may be developed a plan founded upon justice, equity, and good engineering. It must be constitutional, not only as regards the nation but as regards each state affected. In addition, every beneficiary, nation, state, corporation, individual, must in due proportion bear the expense of the improvement producing that benefit, either direct or indirect. With the insufficient data available I would hesitate to accept or reject at this time any particular plan.

But how shall we put into effect this general plan after we shall have formulated it?

The several states were granted all swamp and overflowed lands remaining unsold within their borders after September 28, 1850, for the specific purpose that the proceeds of their sale should be used in reclaiming them. So far as I know, Florida is the only state that is complying with the provision of the act, and except in Florida, practically all of these swamp lands have passed into private ownership in lots ranging from a few acres to many thousands, with the owners scattered about the world.

This condition of ownership is one of the difficulties that must be contended with. The Reclamation Act was designed to reclaim the federal lands of the West, and when private holdings were taken into a project it was by mutual consent and on a partnership basis. The government brings the water to the land after a certain percentage of the land owners in the project have agreed to join in its reclamation. No one is compelled to accept the use and benefit of this water if he has not so agreed, nor is he apt to be benefitted individually unless he does pay.

In the case of swamp and overflowed lands, however, it is not practical to drain or levee part of the land without affecting the rest; each tract of land will be benefitted whether the owner desires such benefit or not, or whether he wants to pay his share of the cost of reclamation. For this reason most of the states containing swamp and overflowed lands have passed drainage laws allowing certain majorities either of lands or owners, to form drainage districts and so compel all persons owning lands within the district that may be benefitted, to help pay the costs of reclamation.

Just as the states can help the individual land owners to organize their drainage districts, so can the federal government, in planning a complete system covering the entire drainage basin, by means of complete surveys and plans, work out efficient and harmonious plans for each individual