REPORT
OF THE
ATTAKAPAS NAVIGATION.

Honorable Senate and House of Representatives of the State of Louisiana:

In obedience to a resolution of your honorable body, requiring the State Engineer to examine and report on the practicability and probable cost of so improving Lake Chicot and Grand Lake, as to secure a permanent navigation through them, the undersigned begs leave to submit the following report.

Lake Chicot is six miles in length by a breadth of three, and Grand Lake about four miles in length by a breadth of ten. These Lakes are important from their connection with the Attakapas navigation. The draft of water in these Lakes is considerably affected by the tides and by the prevailing winds. The usual depth on the Lake Chicot is four feet at low tide, and about eight inches above that at high tide, when the wind is from the South, for several days; the draft of water in Grand Lake is two feet. The depth of the water on the bars in Grand Lake, is about one foot, and is subject to the same fluctuations, and from the same causes as in Lake Chicot.

The rise in these lakes, from high water in the Mississippi and its outlets, is one half foot.

At high tide the depth of the water in Lake Chicot is at high tide, in the low water channel four feet and eight inches; yet the available draft is scarce three feet and four inches.

This is owing to a large number of logs and stumps which are found chiefly lying near its head and just below its navigable inlets. The same is true of Lake Grand, with a small increase in the draft of the water. The chief object of inquiry to ascertain the practicability and probable cost of removing from a sufficient depth the above mentioned logs and stumps.

The logs can be removed without great difficulty by the machinery ordinarily used for sawing boats. The removal of the stumps would be attended with much more difficulty and labor, still it cannot be considered as impracticable.

As most of the stumps are those of cypress trees of considerable magnitude, they are very firm and solid, from the best of their exclusion from the atmosphere in which position they will last for ages. I conceive it would not be possible to remove them from their beds by any ordinary machinery.

There are two modes by which they could be removed. The most simple method of removing stumps under water, is to saw them off by a horizontal saw in a boat of suitable structure, and where it is not necessary to cut the stumps very low to the ground, this method is found both practicable and expeditious. I should not, however, feel disposed to recommend this plan in this case. These stumps, if any real advantages to be gained, must be removed at the very surface of the ground, and in the other lakes were cut down lower. This could not be done by a saw. Another mode is, that in an open lake it would be difficult to keep the boat sufficiently steady while sawing on account of the almost constant prevalence of some wind; and, for this reason, or not adopting this method, the State has no suitable constructed for the work.

The other method is to erect a water-tight barrier, called by Engineers a coffer-dam, in the stump, and then by pumping out the water to remove it by the axe or other suitable instruments. I judge it would cost more than the State would be disposed to erect for the sum to remove all those stumps, adopting but by this mode with a temporary structure, it could be done without great expense. The depth of water is not great, and the ground around the stumps is generally level.

This being the case, an octagonal structure made of strong plank about ten feet and twelve in diameter, could be prepared and suspended from the crane, and weighted and let down over the stump and then being embedded in the mud so as to form a soft and tight barrier to enable us to pump out the water and reconstruction. This could then be removed by the crane and used in another place. The ground should be somewhat uneven around the stumps, a casing of plank enclosing the above structure, could be driven into the earth and the water excluded by a tarred canvas and a shelf well battened.

I do not recommend this plan as it would cost nothing of consequence to the State, and only have the necessary tools, and I believe it would succeed. It is the opinion of an accurate practical man of the experiment of labor that would be required that this improvement, as we do not know exactly how many stumps would be encountered in this work, and a shelf well battened.

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I judge it could be effected by one of the State boats and its hands in a few days.

If the channels were thus cleared and marked out by permanent stakes, I think the navigation would be greatly deepened by the passage of boats and the increased force of the current. We might calculate on increasing the available draft of water two feet, and this improvement would be permanent, and although this would not be sufficient for all times, for large boats of heavy drafts, still it would be of very great advantage. This work, if done at all, must be done during low water and in weather.

Knowing that the expense of the improvement of the above resolution, was not merely to be a matter of consideration, but the navigation of the above lakes, but to ascertain what would be the cost of the improvement of the Attakapas navigation, which, I suppose, differs from what is required by the letter of the resolution, I have gone over the ground and examined the inlet of several bayous into Grand Lake, to ascertain whether we could not find a route by which Lake Chicot could be avoided entirely. I find that there are several bayous that would answer, but they have, for the most part, been cut by the Lake Chicot, and discovered that even if the Lake Chicot could be avoided, there are still obstacles of a serious character to be overcome. It had been stated that by opening what is called the little Bayou Range the great impediment at what is called "the traverse" on Grand River could be avoided. On examination, however, I found that though the direction of water on the little Atchafalaya and Le Romp still where Bayou and Lake Mangloire is the usual and undoubtedly navigation, and the water is subject to the same fluctuations, and from the same causes as in Lake Chicot.

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