

no steps should be taken to prevent Waikare Lake, and the swamp lands adjacent thereto and to the Maramarua and Whangamarino Creeks, from acting, as they do at present, as flood-relief reservoirs, until the question can be investigated as a whole by a competent authority after full data have been first obtained. From the limited information and data before us we are of opinion that everything should be done to keep down the flood-levels in the Waikato by permitting the surplus waters to spread over those areas over which they have spread in the past.

We are of opinion that either the law or its application is defective in allowing Drainage Boards to be formed having for their object purely local improvements, without any consideration as to the effect that such local works may have upon other portions of the watershed. We are of opinion that the whole of each river-basin should be dealt with as a whole by a competent authority representing the whole district, who should be advised by men skilled in the subject and capable of considering the questions that arise, both of drainage and of navigation, from other than a purely local aspect.

The works carried out by the Waikato River Board appear to be an example of works started on insufficient data and without a due appreciation of all the conditions appertaining to the river and its surroundings. The works were promoted with the desire that the water-level should be lowered at and above Mercer, so as to enable land-drainage works in that district to be effected; but insufficient cognizance was apparently taken of the effect which the works might have upon the navigation of the river or upon the land-drainage operations in the Aka-aka district. The work executed consists mainly in the construction of river-training groynes in the delta portion of the river at and below Kaitangata. These are indicated as "A," "B," "C," and "D," on the attached plan, recorded as M.D. 5354/E [not printed]. The groynes marked "A," "C," and "D" are not likely to do any good if they are left as they are, nor are they likely to do any harm, and they may be looked upon as a failure. In the case of groyne B, we concur in the instructions that, we understand, have already been given by the Government, but which up to the time of our visit had not been acted upon, that groyne B should be entirely removed so as to permit the northern channel of the river to revert, if possible, to its original condition.

We desire that fresh cross-sections should be taken in the delta portion of the river, upon the same lines as those taken in 1913 by the Land Drainage Branch of the Department of Lands so that an actual comparison might be made as to the change, if any, in the river-bed during the past three years, and so that conclusions might be drawn as to what effect, if any, the groynes built by the Waikato River Board have had. As the summer season, in which these sections would best be taken, passed without the work having been done, we decided not to seek a further extension of the time in which we have to report, but to reach our conclusions without such data. We are of opinion, after careful consideration of all the conditions, that there is no present justification for the expenditure of any large sums of money in an attempt to improve and deepen the river below Kaitangata so as to render the navigation of that part of the river independent of the tides.

It has been suggested that, when the Waiuku canal is built, if the trade increased to such a degree as to warrant its being done, it might be feasible to extend the canal from the Awarua Creek across the Aka-aka swamps so as to join the Waikato River, through lockage, above the Devil's Elbow, and thus avoid the difficult navigation through the channels in the delta. A similar extension of the canal system to the westward to a point in Maioro Bay, below the end of the present sand-shoaling of the river, might provide a canalization to permit of small craft reaching Port Waikato independently of tidal work and the troublesome navigation of the delta-channels. This necessity is so remote that we only place it upon record.

Between the Devil's Elbow, near Kaitangata, and a point above Mercer, the river, even at summer level, is navigable for steamers of moderate draught, and it is not until the stretch of river between Meremere and Huntly is reached that serious difficulty is experienced. It is upon this portion of the river, about 21 miles in length, that we are of opinion that improvement works might be carried