

SESSION II.
1921.
NEW ZEALAND.

WAIHI RIVER

(REPORT OF RIVERS COMMISSION ON).

Presented to both Houses of the General Assembly by Command of His Excellency

REPORT.

To His Excellency the Right Honourable John Rushworth, Viscount Jellicoe, Admiral of the Fleet, Knight Grand Cross of the Most Honourable Order of the Bath, Member of the Order of Merit, Governor-General and Commander-in-Chief in and over His Majesty's Dominion of New Zealand and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

The Governor-General's Commission, dated the 8th April, 1919, directed us to inquire into certain matters in respect of the Clutha, Orari, Rangitata, Waimakariri, Ashley, and Maerewhenua Rivers, and such other rivers as might be added thereto from time to time. The Governor-General's further Warrant, dated the 22nd July, 1919, added to the Commission the Waihi, Wairau, Waiau-uha, Taieri, and Aparima Rivers.

The time within which we were required to furnish our reports was extended by the Governor-General to the 7th June, 1920, further extended to the 7th December, 1920, and still further extended to the 7th March, 1921.

The present report deals only with the Waihi River. The reports on the Clutha, Orari, Rangitata, Waimakariri, Ashley, Maerewhenua, Wairau, Waiau-uha, Taieri, and Aparima Rivers have already been presented.

The Governor-General's Commission directed us, in respect of each river,—

- “(1.) To inquire into the cause or causes of the silting-up of the channel, the flooding of the adjacent lands by the said river, the erosion of its banks, and the damage to the surrounding country ;
- “(2.) To ascertain the nature and extent of the damage done to the lands adjacent to the said river, and what area of land is affected by such floods or erosion, or both, and whether it is practicable at reasonable expense to prevent such flooding or erosion, or both, either wholly or partially ;

- “(3.) To ascertain the best method of providing for the control of the said river and its tributaries so as to safeguard the lands affected, and to provide for the effective control and improvement of the said river and its banks;
 - “(4.) To ascertain the nature and extent of any drainage-works that may be required, and the best method of carrying out such works;
 - “(5.) (a.) To furnish estimates of the cost of such remedial measures as you may recommend should be taken for the effective control and improvement of the said river and its banks;
 - “(b.) To report what area or areas of land should be constituted a district in respect of which a rate may be levied to secure and pay the interest on and provide a fund for the repayment of any loan that may be raised to carry out any river-improvement works which you may recommend should be undertaken;
 - “(c.) To report your opinion as to what matters, if any, should be adjusted by legislation; and
 - “(d.) Generally, to report your opinion on all matters arising out of or touching the premises, including the question as to whether or not one or more competent authorities shall be appointed to control the whole or any portion of the said river, and what statutory powers should be possessed by such authority.”
- Our Commission also required us to report separately in respect of each river.

INVESTIGATIONS MADE.

Sittings, Evidence, and Inspections.—After examining the various rivers in Otago upon which they were directed to report, your Commissioners arrived at Temuka on the 2nd July, 1919, and on the following day proceeded with their investigations in connection with the Waihi River.

In company with Mr. J. E. McEnnis, Resident Engineer, Public Works Department, Christchurch, your Commissioners carefully examined the river from Geraldine down to its junction with the Haehaetemoana. The characteristics of this river are very similar to those of the Orari, but the tendency of the Waihi to dry up along portion of its course and to reappear later in vigorous springs gradually swelling into quite a large stream is even more marked. It would almost appear as if the springs had other sources than the Waihi itself, and it is quite probable that a great deal of the water escaping into the shingle bed of the Orari reappears in the springs in the Waihi.

TRAVEL OF SHINGLE.

Very little shingle travels in this stream, and no more than can be provided for by nature, if suitably assisted, as indicated below, instead of being thwarted as it is at present.

FLOODS.

Floods in this river are not aggravated to any great extent by melting snow, it being a very much shorter river and draining only sixty-five square miles, forty miles of which are above Geraldine. Naturally, with the smaller watershed the volume of flow per square mile is greater, and the floods more of a flashy character.

EXISTING WORKS.

In a few places stop-banks have been erected along the banks of this river and some of the acute bends have been cut off; but, on the other hand, its banks have been allowed to grow into such a condition as makes it an absolute impossibility for flood-waters—or even the waters of quite a moderate fresh—to be accommodated. To some extent this appears to have been brought about by the efforts of the landowners along the stream to obtain the maximum of grazing-area, parts of the legitimate bed of the stream having been fenced in, and the parts which have not been fenced in have been entirely obliterated by prodigious growths of willows.

REFERENCE No. 1.

To inquire into the cause or causes of the silting-up of the channel, the flooding of the adjacent lands by the said river, the erosion of its banks, and the damage to the surrounding country.

It may be said that in the case of this river practically the only cause of the silting-up of the channel has been its utter neglect, or worse than neglect, in that willows have not only been allowed to grow but have actually been planted in the bed. This has caused silting-up and consequent flooding, and to a very slight extent erosion of the banks. It is quite probable that flooding occurred even before this choking of the bed was brought about, because the natural banks of the river are ill-defined and low.

REFERENCE No. 2.

To ascertain the nature and extent of the damage done to the lands adjacent to the said river, and what area of land is affected by such floods or erosion, or both, and whether it is practicable at reasonable expense to prevent such flooding or erosion, or both, either wholly or partially.

No figures could be obtained to show the extent of the damage. As floods sweep over the lands bordering the river, the destruction of crops and the smothering of the grass is inevitable. Flooding in this river is, however, inextricably bound up with that in the Orari. The occasions when the Waihi has caused the greatest amount of damage have been when the waters from the Orari have flowed into it, and, of course, out of it again.

For the reasons given above, it is impossible to say what area of land is affected by the floods in the Waihi alone, but it may be said that it is practicable at reasonable expense to entirely prevent such flooding.

REFERENCE No. 3.

To ascertain the best method of providing for the control of the said river and its tributaries so as to safeguard the lands affected, and to provide for the effective control and improvement of the said river and its banks.

The works recommended by your Commissioners are as follows :—

- (a.) To clear out the willows from a channel of adequate width throughout the whole length within which it is infested.
- (b.) To cut off the worst of the bends so as to increase the gradient.
- (c.) To erect levees on each side of the stream wherever the flood grade, raised as it will be by this confinement, comes above the natural banks.

REFERENCE No. 4.

To ascertain the nature and extent of any drainage-works that may be required, and the best method of carrying out such works.

No drainage-works are required for the straightening of the course of the river as indicated above, which will naturally improve the drainage of the surrounding lands.

REFERENCE No. 5.

- (a.) *To furnish estimates of the cost of such remedial measures as you may recommend for the effective control and improvement of the said river and its banks.*

The estimated cost of the works as recommended above by your Commissioners cannot be ascertained until the detailed works are set out on the ground, but should be quite moderate.

- (b.) *To report what area or areas of land should be constituted a district in respect of which a rate may be levied to secure and pay the interest and provide a fund for the repayment of any loan that may be raised to carry out any river-improvement works which you may recommend should be undertaken.*

The Geraldine County should be the district in respect of which a rate may be levied to secure and pay the interest on and provide a fund for the repayment of any loan that may be raised to carry out the river-improvement works recommended by your Commissioners.

As in the case of the Orari River, the lands to be rated should be classified in accordance with the River Boards Act, the bulk—if not the whole—of the rates being drawn from an area to be fixed by the County Council after a full investigation as to the lands likely to benefit.

(c.) *To report your opinion as to what matters, if any, should be adjusted by legislation.*

Your Commissioners are of opinion that the only matter requiring legislation is the vesting in the County Council of the beds of the river—not only the present bed, but such width as is found to be necessary to adequately carry the waters to be dealt with; this land to be acquired under the provisions of the Public Works Act, in any case where it is not possible to reach a mutual understanding between the landowner and the County Council.

(d.) *Generally, to report your opinion on all matters arising out of or touching the premises, including the question as to whether or not one or more competent authorities shall be appointed to control the whole or any portion of the said river, and what statutory powers should be possessed by such authority.*

This question is answered by our recommendation that the Geraldine County Council should be the authority to control the whole of the river and its banks, and for this purpose the County Council should have all the powers of a Drainage Board.

This our report, which has been unanimously adopted, we have the honour to respectfully submit for the consideration of Your Excellency, together with the transcript of the evidence taken by us in the course of our investigations, and the original Commission, dated the 8th April, 1919, and Warrants dated the 22nd July, 1919, and the 17th February, 1920.

Given under our hands and seals this 5th day of March, 1921.

F. W. FURKERT, Chairman.
ASHLEY J. HUNTER, } Members of
F. C. HAY, } Commission.

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