

across country generally; the overflow disappeared into the scrub. As soon as the country was cleared of this forest the river began to tear into it, and I have no doubt that as the roots rotted away the damage began to be serious. In 1861 the Provincial Council voted £2,000 for repairs at the breach; subsequently more money was voted from time to time. There was a very extensive piece of work done later. An engineer from Nelson was employed to deal with the breach, which had become very serious, and he advised the erection of a sort of cradle composed of timber crossed and recrossed, built up to a considerable height, and filled with stones; but, unfortunately, he did not provide a bottom to this cradle, with the result that it collapsed. It was above the breach a short distance. Later on there was a scheme of piles and anchored trees. Some of the piles are still to be seen. In 1914 I surveyed up the line of piles, but that line of piles is very much to the north of the present stream. It was called the "log dam." The Provincial Government spent about £11,000. £7,500 appears in Appropriation Acts; we cannot trace the other. In the early days there was a forest at Grovetown, where we used to go down to get out timber. It was flooded at times—flooded by the Wairau overflowing at the Opawa breach principally. The greater part of it at that time was flax-swamp, with little hollows through which the flood would run. These affected the road, and during my Superintendency I had posts erected so as to warn persons with their traps on the road from Grovetown to the Ferry. I think there were some on this side of Grovetown. I had them erected wherever it was necessary. The Provincial Government put a bridge up there. I think that the Wairau Plain should be controlled by one body only, and the aim of that body should be to make the Opawa and Wairau Rivers carry a fair proportion of water. I do not know much about Grovetown before the breach took place. None of the works at the breach were satisfactory. At a lower breach called "Leary's breach" a large bank was built—Seymour's bank: it was satisfactory. The groyne was built to stop all the water from reaching the Opawa, but was only partly successful. If it had not been built all the overflow of the Wairau would have gone down the Opawa. It stopped a large part of the water, which benefited all the lands as far as Blenheim. The effect of a groyne appears to me to affect the flow of the water about three times its own length—certainly not more. I did not take levels—only in 1904. There has been a great deal of shingle here. By 1917 it was all dry ground. I think it possibly had no effect except to stop that channel. It has stopped a considerable body of water. All the farms below Renwick, possibly as far as the Opawa Bridge, are benefited.

FREDERICK REDWOOD. (No. 9.)

Farmer, Spring Creek. Resided in district since 1863. I have about 330 acres now and the mill, valued at £35,000. The country was all overgrown with fern, manuka, &c. I know the Grovetown locality well. Whenever there was a big flood it used to come down the breach between Grovetown and Dodson's place. The width would be from the Opawa Bridge to Dodson's sandhill. Paul's bank starts about a mile and a half from the breach on the Opawa River. There were protective works put up by the settlers to keep the water in the channel of the Opawa. That eased a good deal of the overflow to Grovetown. More cultivation took place and more banking. The River Board came in and began to further bank and protect the Opawa. The first big flood came over my property in 1868. We were again flooded within the last two or three years, higher than ever before. The November flood went over land which had not been flooded since 1868. The last flood came from the Wairau River. The breach at Leslie's did not affect us at all. It got back into the Wairau at Pigou's. The flood backed up Spring Creek and came on to us, and also from Matthew's breach. Our place has not been flooded for fifteen years. The Spring Creek was not banked before the flood of 1904. The breach above was caused by the Opawa not taking its fair share of water. The Wairau is narrowest at Gregory's Bend. This brings more gravel down, and tends to raise the river-bed. The bed is clear for three or four miles. There is growth in the river towards Tuamarina. I suggest that the best way would be to divide the waters between the Wairau and the Opawa Rivers. If the farmers had been willing to give their land to the River Board the Board would have been able to construct the works out of their revenue. The gravel will not pass the tidal level. Smale's bank caused the water to back up in Spring Creek.

PHILIP RUSH. (No. 10.)

Residing at Grovetown; settler. Lived in Grovetown since 1848. I know it has been very subject to floods. The Wairau flowed into the Opawa at the top end of Fox's Island, and came all over the country; it used to come through by the Opawa breach. The water came from the Wairau in the direction of the Middle Road, at the top end of Fox's Island. It came down generally across the country. The country was all vegetation—viz., flax, manuka, and scrub. The Picton Road did not suffer as it does until the gravel came down the Wairau and filled it up. I put posts in from Blenheim to Grovetown; that was somewhere in the sixties. The embankment scheme was set going to limit the spread of water. It was successful until the bank broke from the Wairau River: that was in the November flood. Before the banks were built Blenheim was subject to floods. I suggest that the water should be divided and that both rivers take their share, and a relief channel cut to White's Bay. Rose's overflow is the salvation of Blenheim.

ROBERT MCCARTNEY. (No. 11.)

Residing at Dillon's Point; farmer. I am the owner of Section 2. I have been sixty years in the district. The effect of the harbour-works is that the flood-waters get away very much quicker than before. I notice it by the decreased height of the flood-water and increased velocity of current—4 or 5 knots. The current is faster than a man could walk. I agree with the rest of the witnesses