

The fact that in 1902 the railway-bridge was reduced in length from 3,000 ft. to 1,700 ft. would tend to silt up the bed some distance above the bridge and cause scouring under the bridge. Nothing very decided, however, appears to have been noticed since that date.

The river-bed is very much overgrown with gorse, willows, and broom, while evidence showed that before the progress of settlement it was a clean river except for tussocky islands. The presence of exotic vegetation cannot but tend to silt up the river, and it is essential that a sufficient width of river-bed to accommodate the river should be kept permanently clear.

FLOODS AND FLOOD-DISCHARGE.

It appears that in 1868 an extraordinarily heavy flood occurred. If such a flood were to occur again the damage would be enormous, owing to the fact that the surrounding country is now densely settled, whereas in 1868 it was very sparsely populated.

In 1897 a flood broke over the river-bank near the Mount Thomas ford.

In 1905 the flood-waters, dammed up by the railway embankment, overflowed and came through into the Cam and found their way down to Woodend. A considerable amount of damage was done to the railway-bridge. This appears to have been the greatest flood since 1868.

In 1917 there was a fairly large flood.

It was stated in evidence that recent floods, though in volume less than those of 1868 and 1905, have nevertheless risen higher in the Lower Ashley. This will no doubt be due to the choking-up of the river-bed, and also to the rise in the level of the shingle, due to the first cause.

CHANGES OF REGIMEN.

Apparently the principal change that has occurred in the character of this river has been the overgrowing of the shingly river-bed with vegetation since the advent of white settlement, the worst class of vegetation being willows, gorse, and broom. The felling and burning of the bush in the headwaters, estimated as having covered between 6,000 and 10,000 acres, has resulted in a great deal of denudation, with the consequence that an added load of shingle has been thrown into the river, causing silting-up wherever the current has been choked by the vegetation referred to, or by other obstructions such as bridge approaches. The shingle in this river-bed is not very large, and this makes the growth of the vegetation fairly prolific.

LOCAL BODIES INTERESTED.

The local bodies interested in the control of the Ashley River are the Sefton-Ashley Drainage Board, the Rangiora County Council, the Rangiora Borough Council, and the new special local authority which your Commissioners have recommended in connection with the control of the Waimakariri River.

Your Commissioners consider that this new body will be interested in the control of the Ashley River because evidence showed that in times of very high flood the water has escaped from the Ashley River and run into the low country lying to the north and west of Kaiapoi. It is therefore essential for the safety of this country that the Ashley be kept within its banks.

The Railway Department is also interested in controlling the river so that its flood-waters are passed safely under the railway-bridge just north of Rangiora, and also in its control below the railway-bridge, as if it overflowed on the north side it would probably injure the railway-line to Culverden, which for a long distance is now built at a level considerably below that of the river, with which it runs roughly parallel.

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.

Your Commissioners consider that any silting-up which has occurred has been due partly to increased denudation as the result of bushfelling and burning in the headwaters, but more especially to the unrestricted growth of gorse, broom, and