

## RESEARCH AND EXPERIMENTAL WORK

It is proposed to establish a network of areas throughout New Zealand for the purpose of demonstration, experimental, and research works, to be carried out in association with other interested Departments. Some areas have already been set aside in connection with the study of the "high country" problem of the South Island, and the acquisition of reserves in the Blenheim, Esk Valley, East Coast, and Whangamomona districts, is in hand.

## INSPECTIONS

Field inspections have been continued, and during the year Council members have had the opportunity of visiting the Canterbury, Hauraki, Bay of Plenty, Gisborne, and Taranaki districts, and gaining at first hand an appreciation of local conditions and problems.

## EDUCATIONAL AND PUBLICITY

An active educational and publicity programme is proposed, and an officer recently appointed for this work is now engaged on the compilation of the necessary data and the preparation of a scheme of campaign.

## RIVER WORKS

The following is a brief résumé of the principal activities in the various districts:—

*Whangarei District.*—There are no major river problems in this district, but numerous small improvements and maintenance works are necessary, mainly stream clearing and straightening, and drainage. Little work has been done during the year.

*Auckland District.*—No new river problems have emerged during the year. Investigations have continued in the Lower Waikato, and normal maintenance was carried out on the Waihou and Ohinemuri Rivers Improvement Scheme. The work of stop-banking the tidal area in the Matatoki district (Ryans) was completed. The Taupiri River and Drainage Board has continued its drain-improvement work in the peat area.

*Taumarunui District.*—The work of raising the stop-banking on the Wanganui River in Taumarunui Borough is well advanced. Concrete protection work along 9 chains of the river-bank through the borough has been authorized but is yet to be commenced.

*Tauranga District.*—Little work other than several aerial surveys has been carried out. A very heavy inundation occurred in the areas adjoining the lower reaches of the Whakatane and Rangitaiki Rivers following heavy rains which occurred at the end of February. The construction requirements following this flood are mostly protection works to check river-bank erosion, notably in the Whakatane River.

*Gisborne District.*—No work has been undertaken during the year. A particularly heavy flood was experienced in the Waipaoa River early in March, and heavy inundation occurred over a wide area of the Poverty Bay flats. Flood conditions were accentuated by the fact that the mouth of the Waipaoa River had travelled several miles along the sea-coast. Consideration is now being given to improvement works both by the construction of a cut near the mouth to give the river a quicker outfall to the sea, and by further cut-offs in the vicinity of Ormond.

*Wanganui District.*—The Lower Rangitikei River is giving concern and is now a severe threat to the north bank. A comprehensive survey has been carried out of the lower reaches with a view to initiating improvement works early in the coming year.

*Napier District.*—The only new work of importance initiated was the survey on a very complete scale of the Waipawa and Tukituki Rivers system. The survey is practically complete, and it is hoped that a scheme of improvement work will be in readiness for the newly-elected Catchment Board.

*Wellington District.*—There has been considerable activity on the Manawatu River. The Whirokino Cut, which will shorten the course by approximately  $5\frac{1}{2}$  miles in the vicinity of Foxton, is practically completed, and it is hoped this work will have a profound influence on flood and drainage conditions in the lower river. A contract has also been let by the Manawatu-Oroua River Board for the construction of the lower Taupunga Cut above Shannon. Fairly heavy flood damage to the stop-banking system from the previous year has been repaired.

In the Otaki River heavy earthworks were carried out by opening up new channels in the river-bed and building earthen embankments across old courses to prevent the river taking charge and causing damage to borough property.

Work was carried out in the Ohau River below the State highway, comprising the clearing of the river-bed and building a low stop-bank on the right bank to protect farm property.

Repair work was carried out in the lower Ruamahunga River to stop-banks damaged in the 1942 earthquake, and further repair and erosion protective work in the vicinity of Masterton.

*Nelson District.*—Heavy protection was carried out on the right bank of the Takaka River to protect a danger point near Takaka. A survey was carried out with a view to designing a scheme to eliminate flooding.

*Greymouth District.*—In the Hokitika River a piled retard has been built across the south branch above the railway bridge to check a tendency of the branch to develop and take the whole river. Up-stream (Miss Moyrihan's) an embankment has been built across an old course to confine the flow to the main channel. A scheme at the Camelback for the protection of Koiterangi has been initiated.