

country this method of settling the people is by far the best in the peculiar point of view the surveyor looks at the question.

The maps are kept in rolls—the old Canterbury ones being in size 8' × 10', but later maps are reduced to the size of circuit traverses, ranging from 3' to 4' square. The field-books are all in good order and registered, the contents being indexed.

Lithograph plans are made of the districts, and these are used as application maps by the public, but where not lithographed a mounted tracing is used instead. Thus there is no necessity for the public having access to and so deteriorating the condition of the working plans. Hence the recent plans are in good order, but those constructed during the Canterbury administration are not so, being broken, cracked, and in shreds.

There are no Crown grant index maps, but another method is substituted in due routine, though it has not the advantage of showing the granted and ungranted at a glance. The District Surveyor plots his work on the district maps in the office, and at the same time makes a separate plot, which is recorded on a file of section plots. Here the name of the grantee is given, the acreage, name of surveyor, and name of the officer who makes the plan on the Crown grant.

My opinion, as noted at the time on the work of the Westland Survey Office, is as follows—viz., that considering the densely-wooded nature of the country, the present system of survey, whose introduction is due to Mr. Mueller, is a sound and practical one, the plans and records based on it being reliable; with the limit of error possible in such a rough country, where surveying is little better than underground “driving.” To bring the work into conformity with the operations of the general survey certain alterations may be effected at leisure, such as the placing of all future work on true meridian, the extension of true bearing and distances to more points than have yet been observed. And it is necessary that these points should be more numerous than in open country. Crown grant index maps on 20-chain scale should also be commenced, wherein the granted sections should be plainly coloured, the name of the grantee and acreage also being inserted. Without this being done occasional mistakes in intricate surveys cannot be avoided.

Several practical modes of covering the province by standard survey present themselves, into which I need not here enter, further than suggesting that the summits of the secondary spurs and the open beds of the rivers give facilities for this.

The present major triangulation should as soon as practicable have bases measured in connection with it, after which its bearings can be reduced to true ones of each circuit.

The work of Westland stands as follows:—

	Acres.	
Major triangulation ...	805,700	On magnetic meridian mathematically reduced.
Spotting section survey ...	54,000	Mathematically reduced.
Section surveys in hand ...	9,000	In 25 localities, and spread over 150 miles.

On leaving Hokitika I crossed the mountains, and returned to Wellington *via* Christchurch.

It was not till November that I could proceed again with my inspection, and for which purpose I set out for Auckland. Having arrived there by sea, I called at the Provincial Survey Office, on the 13th of that month.

AUCKLAND PROVINCIAL SURVEYS.

Here Mr. Tole expressed his desire to give me every information in his power, but he informed me at the same time that, though he held the office of Chief Surveyor, this was nominally only, his time and responsibilities lying entirely in the appointment that he held as Commissioner of Crown Lands. I therefore did not enter on an inspection, but confined my request to the filling up of two returns. It appears that all the original provincial survey records had been burnt in a conflagration that took place some years ago.

From the returns, as filled up by Mr. Tole, I extract the following synopsis of work for the provincial branch of the Auckland surveys:—

	Acres.	
Minor triangulation ...	60,000	Mathematically reduced.
Block section survey ...	2,500,000	Mechanically plotted.
Spotting section survey ...	30,000	
Section surveys in hand ...	9,130	In 51 "localities," spread over an area of 230 by 30 miles.

I next called at the Confiscated Lands Office, where I met Mr. Andrew Sinclair. This gentleman informed me that, though he was officially denominated Chief Surveyor of Confiscated Lands, yet his real charge consisted in the sale and disposal of them only—that in fact he had nothing to do with the surveys for ten years. Thus he had no technical information to give.

NATIVE LAND SURVEYS.

I then called on Mr. Theophilus Heale, Inspector of Surveys under the Native Lands Act, who informed me that the initial point of all surveys under his supervision was Mount Eden. There were three principal bases, one in Kaipara, one in Poverty Bay, and one in Hawke's Bay. True meridian was determined at each of these places. The initial station on Mount Eden is marked by a built pedestal, and all finished triangulation has been mathematically reduced on the meridian and perpendicular to that. But the actual observations for true meridian and latitude were made at his private residence, which was connected with Mount Eden by triangulation. From thence all the principal stations reached by the operations have their latitudes and longitudes calculated geodesically.

The Native Land Claims surveys have amounted to about 5,900,000 acres, whose sizes vary from $\frac{1}{4}$ of an acre to 150,000 acres, but they have not been under the control of triangulation till lately. Their inaccuracy is admitted, though they have been brought into accordance by means of the maps covered by triangulation. This accordance is effected by tying the corners of the separate claims to