

Figure 11A. The Amuri runs in 1858, from Gardner (1956).

sheep and eightpence a head thereafter, and if sulphur was used in the dip, the meat became tainted (Gardner 1956).

Store sheep and cattle from St Leonards Station, Amuri, were sent in droves along the Main North Road in the 1860s and 1870s to Kaiapoi and Marshland for fattening before going on the Christchurch market (Gardner 1956). In 1871, 14 000 sheep were sent, and in 1872, 16 000. Large areas on St Leonards were cultivated and planted in English grasses or rape for fattening sheep, or in oats for the many horses on the station (Gardner 1956).

The West Coast market was difficult to access and droving to it from Amuri lasted only about 12 years. In 1865, the main route was over Harper Pass at the head of the Hurunui River (Gardner 1956). The Nelson Provincial Government also cut a track from Hanmer Plain to the Grey Valley so as to connect the Hurunui Plains with the valleys of the

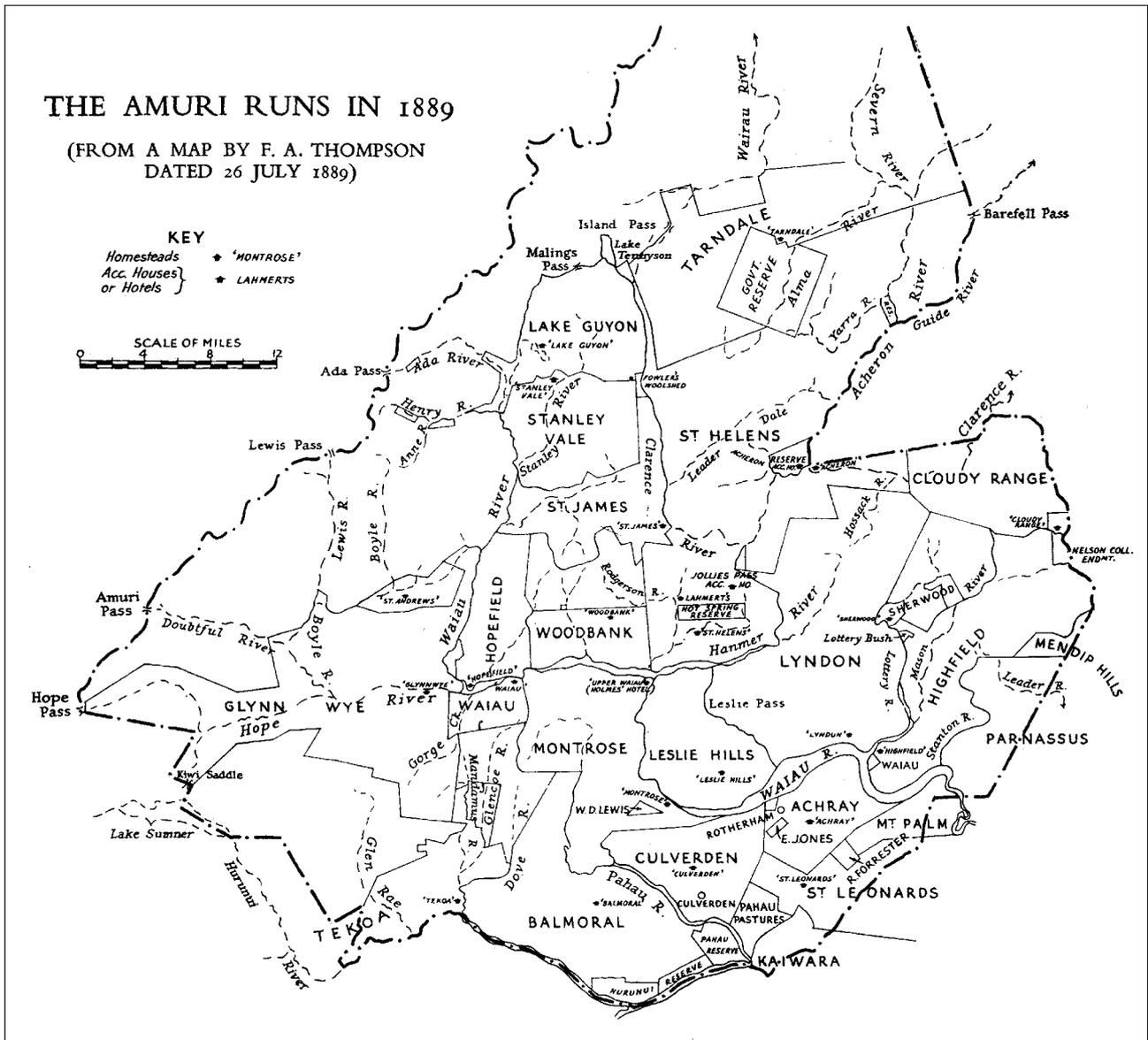


Figure 11B. The Amuri County in 1889, showing runs, homesteads and accommodation houses, from Gardner (1956).

Waiiau, Maruia and Ahaura Rivers (Gardner 1956). Runholder and writer Edgar Jones described the two passes:

‘There were two ways of going there [to the West Coast], one by Lake Sumner, over the Hurunui Saddle, and down the Teremakau [*sic*] to the Arahura, the saleyards for Hokitika; the other up the Doubtful river, over the saddle, and down the Ahaura to Greymouth or Reefton.’

(Jones 1933: 44)

He recalled that in fine weather the journey driving sheep over to the West Coast took c. 16 days, and about three coming back. The number of sheep taken was between 400 and 600. Sometimes delays were caused by floods and snowstorms (Jones 1933). After 1865, most of the rushes were to goldfields north of the Grey River/Mawheranui, and consequently the Ahaura Pass was used most frequently; the Hope, Lewis and Ada Passes were not used for driving stock (Gardner 1956). During the

late 1860s, fat stock were sent from Leslie Hills Station on the front country of Amuri, through the high country and mountains, to the West Coast goldfields. Between 1867 and 1869, c. 3000 sheep were driven over the ranges. Several mobs also went from Mendip Hills. By the late 1870s, traffic to the West Coast was diminishing and eventually, with the decline of the West Coast goldfields and population, it petered out (Gardner 1956).

3.2.9 Fencing

At first there were no fences. Shepherds and boundary keepers were employed to keep the high-country flocks together, and brushwood yards were constructed to enclose sheep at night and to keep out wild dogs (Beattie 1947). In Amuri, wattle was used at St Leonards Station in 1855 and at the Glens of Tekoa (Thornton 1986). As soon as possible, farmers began to use whatever materials came readily to hand (mainly wood, stone or sod) to construct fences (Hargreaves 1966). The post-and-rail method of fencing consisted of horizontal rails tapered at the ends passing through a series of holes in upright posts, with a minimum of three and maximum of six rails (Thornton 1986). Where timber was scarce, ditch-and-bank methods were employed. Here, a sod wall, c. 4 feet (1.2 m) high, was built like a stone wall, adjacent to a ditch up to 6 feet (1.8 m) wide and 3 feet (0.9 m) deep. A hedge, usually gorse, was generally planted on the sod bank (Pawson 2001). In the 1860s, sod fences were built at Fairlight Station near Garston in Southland (Thornton 1986). Both post-and-rail and ditch-and-bank methods proved expensive because labour was scarce and much was required (Hargreaves 1966). Stone was used to erect walls wherever it was plentiful, and in Central Otago, schist was also employed widely for fencing (Thornton 1986).

Wire introduced from the late 1850s had a very heavy gauge (No. 4 black iron) and was difficult and expensive to transport (Thornton 1986), so was not suitable for fencing. Furthermore, before staples were introduced in the late 1860s, wooden posts had to be drilled to take the wires (Thornton 1986). Where timber or schist was unavailable, heavy cast iron posts had to be carted in, by bullocks wherever possible. Despite these drawbacks, in 1863 iron wire fencing was put up at Clent Hills Station in the Canterbury high country, and in 1865 at Blue Cliffs Station, tenders were called for an 8-km-long fence with iron standards, six wires and 15 strainers to the mile (Thornton 1986). Wire imported in the late 1860s (No. 8 galvanised) was lighter, cheaper and more durable, and this, in combination with the availability of staples, meant that wire fences became more common (Thornton 1986).

At that time, with the average weight of sheep decreasing and fleeces losing condition owing to overstocking, flocks were culled to get rid of surplus animals (McAloon 2002). Some were slaughtered and boiled down for tallow, while others were driven over cliffs or killed and buried. For example, at Glenmark in 1870, 12 000 wethers were killed for boiling down (McAloon 2002). Later, in the late 1870s, high-country runholders often responded to declining stock numbers by splitting blocks into fenced paddocks. Grazing land was rested and pastures were better

managed (Hargreaves 1966). Wire fencing in tussock country reduced the need for shepherds and boundary keepers and checked the spread of scab (Hargreaves 1966). By 1879, barbed wire was being imported into New Zealand (Hargreaves 1966). Whereas in 1851 c.30 500 acres (c.12 353 ha) were fenced in New Zealand, in 1881 c.16 000 000 acres (c.6 480 000 ha) were fenced (Hargreaves 1966).

3.2.10 Boiling down plants

E.G.T. Gooch rendered down the first batch of surplus Kaikoura sheep for tallow on 9 October 1869 at a plant in Fyffe Cove. A description of the boiling down plant, for steaming carcasses under pressure, is included in J.M. Sherrard's history of Kaikoura District:

'A large shed, about 50 feet long by 20 broad, with a huge vat, resembling an egg, apparatus for generating steam, and adjacent yards, together occupy the whole area. The vat formed of quarter inch iron plates, firmly riveted, is about seven feet in diameter by fourteen in length. Its weight is about four tons; and it is capable of containing the carcasses of about 400 sheep. To support such an immense weight four very strong castings are secured by twenty screw bolts, at about equal distances round the vat, the bottom of which is nearly five feet from the ground. The castings referred to rest upon four uprights of seasoned Kohai, about twelve by twelve, very strongly braced and bolted together, and resting upon the bedrock. The top of the vat is about twenty feet from the ground. The carcasses to be operated upon will be passed up to a stage, where a man or two will drop them in. The tallow will flow off, by means of two large taps placed in the side of the vat, into large troughs, to be washed, previous to being casked. The refuse from the vat can be allowed to fall out of its end into a truck which will convey it by a tramway to the beach. The boiler is vertical, internally fired, and the steam is super-heated, before passing into the vat. The boiler standing on an iron frame without brick work has been erected a few yards from the vat, and the steam will pass into it by means of suitable pipes. The slaughter house, 36 by 18 is detached, and every attention has been paid with regard to cleanliness ...'. (Sherrard 1966:178)

Gooch's plant was used by Kaikoura runholders until the Sheep Act 1878 imposed stringent anti-scab measures (Sherrard 1966). New plants were then also constructed on some of the sheep stations.

At Benmore Station, northern Otago, boiling down began in May 1870 (Pinney 1981). One man killed the sheep, five to seven men boiled, a night boiler man kept the pot simmering, four men washed the skins and three men sorted them. Tallow was taken in casks to Oamaru by wagon. The boiling down season finished in July. In 1871, 2849 sheep, averaging 17 kg, each yielded 4 kg of tallow. Station hands were fed the legs and the tongues, and some legs were salted (Pinney 1981).

In 1864, the Amuri District carried 237 000 sheep; 6 years later there were 428 000 (Gardner 1956). By 1869, the price of wool and sheep had fallen (Gardner 1956). Lyndon, St Leonards and St Helens Stations established

boiling down works to offset falling prices (Gardner 1956). John Tinline at Lyndon bought his vat and steam generator for 'boiling down' from Melbourne (Gardner 1956). Two hundred sheep were disposed of daily. The average weight of tallow from each was c.8kg, the legs were smoked and cured as hams, and the skins were scoured. Tinline expected to process 10 000 of his own sheep in the first season. J.H. Davison, manager at St Leonards, with the help of his blacksmith improvised much of his equipment on the station and adapted the dipping apparatus (Gardner 1956). Unfortunately, the valves cracked, the vats leaked and the pump broke. In 1870, a steaming vat was made for the station by Andersons of Christchurch (Gardner 1956). Timber was used for fuel; boiling down 11 000 sheep took 2400 m of timber. In 1874, 200 sheep were sold to the Canterbury Meat Export Company for preserving (Gardner 1956). At Greenhills, Kaikoura, the powdered residue of meat and bone was spread as fertiliser (Sherrard 1966). In 1883, between the Conway River and Kekerengu, 25 000 sheep were still being boiled down every year because there was no sale for them (Sherrard 1966). In the late 1880s, boiling down plants would fall into disuse with the growth of the frozen meat industry, the opening of roads and the eradication of scab (Sherrard 1966).

3.2.11 Gold mining

Archaeologist Jill Hamel wrote that the major Otago gold rushes between March 1861 and mid-1864 'were politically significant, involving thousands of miners, but archaeologically left few traces' (Hamel 2001: 129). She also said that 'There is an important anthropological distinction to be made between the gold rushes and the more settled mining of subsequent years which created nearly all the existing gold fields' sites' (Hamel 2001: 127).

For example, although Goodgers Flat in the Lindis Valley was covered with hundreds of tents with stone or sod walls and sod chimneys when the first Otago gold rush occurred in March 1861, within a year only disintegrating walls and irregular mounds and potholes from the diggings remained (Hamel 2001). The tents of the shopkeepers who followed the miners also left few signs. Subsequently, Goodgers Flat was ploughed.

The next rush, at Gabriels Gully in May 1861, was larger and far more prolonged (Hamel 2001), but the physical remains were later totally destroyed by hydraulic elevating and outwash from sluicings upstream (Hamel 2001). This was despite the fact that at the time, according to contemporary observer Charles Money, there were 'canvas and galvanised iron stores, public-houses, restaurants, shanties of all descriptions and with every conceivable name, scattered around in all directions; while advertisements of nigger minstrels, goldbuyers' prices and placards, were flaunting everywhere' (Money 1972: 9).

The Dunstan workings (Clutha gorges, Kawarau Gorge, Bannockburn and the Lowburn section of the Clutha River/Mata-Au) and the workings in the lower Nevis, Arrow, Shotover and Skippers Rivers were mostly on river banks and were later erased by flooding, dredging or the construction

of hydro dams (Hamel 2001). Some physical remains can be found at Murphys Flat, Trimbells Gully, part of Bendigo Creek, Brackens Gully, upper Cardrona, Campbells Creek, and Golden Gully at the Serpentine (Hamel 2001).

The first water races for sluicing claims were built in early 1862 (Salmon 1963). Miners who came from Australia quickly adapted their skills in race building to the New Zealand high-country terrain. By 1863, c.120 miles (c.193 km) of head races had been cut, supplying many reservoirs (Hamel 2001). Hydraulic nozzles, for aiming a forceful jet of water onto a rock face, began to be used a few years later (Hamel 2001).

Some Maori became involved in prospecting for gold. For example, in 1862 Raniera Taheke Ellison of Kai Tahu and Te Ati Awa joined the Otago rush, and he and two companions, Hakaraia Haeroa and Henare Patukopa, discovered gold at what became known as Maori Point on the Shotover River (Anderson 1993). The European miners present were unable to swim across to a likely, tantalising beach, but the Maori did, and Ellison struck gold (Olssen 1984).

Chinese goldminers arrived in Otago from 1865, initially from Victoria, Australia, and later from China (McKinnon 1997). Mostly they worked as diggers on small claims and they were skilled at water race construction (McKinnon 1997). Chinese camps sprang up either on the field or on the outskirts of a town. Most notable was the Chinese camp at Lawrence. This had a hotel and other boarding establishments and two joss houses (where joss or incense was burnt to remember ancestors) (McKinnon 1997). Two other examples were the settlements near Arrowtown (where the ruins still stand) and at Round Hill mine in Southland (McKinnon 1997).

3.2.12 Mixed-crop livestock farming

Within regions of extensive sheep farming were areas of more intensive farming. For instance, after the gold rush, some Central Otago goldminers turned to agriculture, and water races built originally for sluicing in the high country were used for irrigation (Hargreaves 1966). Growing grain and raising livestock were common semi-subsistence activities, and specialised fruit production also began. The first commercial orchard in the Central Otago high country is said to have been planted near Clyde in 1864, with others following at Conroys Gully, Alexandra and Coal Creek (Hargreaves 1966). Market limitations were reduced when the railway arrived at Lawrence in 1877 (Hargreaves 1966). Mixed-crop livestock farming was primarily a South Island phenomenon. By the 1860s, areas were appearing on the Taieri-Tokomairiro Plains southwest of Dunedin (Hargreaves 1966). By the 1870s, with the extension of railways, mixed-crop livestock farming was expanding and extensive pastoral farming was being displaced and pushed further inland (Hargreaves 1966).

3.3 LAND TENURE

3.3.1 The transfer of high-country land from Maori to Europeans

On the northeastern tip of the South Island, in March 1847, agreement was reached between Governor Grey and the Ngati Toa chiefs for the Wairau Valley (Evison 1993). The Government was to pay £3000, spread as instalments over a number of years. Ngati Toa retained substantial reserves in the district. Also included in the Wairau Purchase, at the request of Ngati Toa, was the eastern coast of the South Island as far south as Kaiapoi (Evison 1993). Harry Evison commented: 'In selling Kaiapoi *pa* to the Governor, Ngati Toa were recorded in the Wairau Deed for all time as having been the owners of it ... Te Rauparaha's victory then would be regarded as permanent' (Evison 1993: 235-236).

In May 1848, Governor Grey announced that he had 'discovered a principle' for separating Maori tribes from their 'waste lands' (Evison 1993). From that point on, he required tribes selling land to surrender an entire block and then rely on the Government to provide them with what it considered 'an adequate portion' as official reserves (Evison 1993). This would be regarded as a gift from Government.

On 12 June 1848, Native Secretary Henry Tacy Kemp, who had been commissioned by Lieutenant Governor Edward John Eyre for the Kai Tahu sale of the Otakou Block, met with the Kai Tahu leader Te Matenga Taiaroa and other Otago and Canterbury chiefs and heads of hapu on board the HMS *Fly* at Akaroa, Banks Peninsula (Evison 1993). According to the Deed read out in Maori, Kai Tahu agreed to sell all the land along the east coast of the South Island:

'...beginning at Kaiapoi where Ngati Toa sold, and at the boundary of Whakatu [Nelson], continuing on to Otakou, joining the boundary of Symonds's purchase, continuing from this ocean until it reaches the mountains of Kaihiku, then continuing on to the other ocean at Lake McKerrow (Milford Haven).'

(Kemp's Deed 1848, cited in Evison 1993: 261)

The payment was to be £2000, paid in instalments. The Deed promised Kai Tahu all their mahika kai and kaika nohoanga (Evison 1993).

Historian Harry Evison wrote that when Kemp sent his report to Eyre, he attached a 'translation' of the Deed, which was to become the official version. It was different in meaning from the Maori text that he had read out to Kai Tahu on board HMS *Fly* (Evison 1993). Whereas Kemp had informed Kai Tahu that they would receive large reserves when the land came to be surveyed, according to the translation the provision of Maori reserves was to be at the Government's discretion. Maori were to receive only their kaika nohoanga and other small areas (Evison 1993). In 1848, Kai Tahu were awarded reserves totalling 6359 acres (c. 2575 ha) (Evison 1993).

In December 1849, Walter Mantell (who had been appointed to the office of the Commissioner for Extinguishing Native Titles) sailed to Otago to pay the Otago chiefs £1000 for the final instalment of Kemp's Purchase,

due for payment on 12 December 1849 (Evison 1993). Mantell prepared two fresh parchments as receipts, one inscribed in English, the other in Maori. They had different meanings (Evison 1993). In his Maori-language receipt, Mantell avoided any mention of Kemp's Deed Map and the boundaries shown on it. In official (English-language) terms, the Kai Tahu Block meant the block shown on Kemp's Deed Map, which (unlike the Deed itself) encompassed the West Coast and the mountainous interior between east and west. Evison wrote:

'Those who could not read would also follow the words of the Maori version when they heard them. The meaning of the Maori version ... would give the chiefs the impression that they were signing for payment for the sale of the area that they had agreed to sell Kemp, - not for the larger area shown on the Map, which they had objected to when shown it by Mantell at Akaroa in 1848.' (Evison 1993:328)

Some chiefs and heads of hapu signed at Koputai (Port Chalmers) on 17 December 1849 and at Akaroa on 28 December 1849 (Evison 1993). The English receipt became the official version; the Maori version was never published (Evison 1993).

In mid-1850, after the New Zealand Company gave the British notice that they were surrendering their Charter and ceasing operations because of poor profits, the British Parliament passed the Canterbury Association Lands Settlement Bill. This transferred to the Association the Company's former right to dispose of all the 'waste and unappropriated land' in the Canterbury Block on 14 August 1850 (Evison 1993). The new Act confirmed the Association's price of £3 per acre for the purchase of land, and £1 a year per 100 acres to lease unsold land within the block (Evison 1993).

3.3.2 Land administration in Canterbury and Otago

The original Canterbury Block, promoted by members of the Church of England and established jointly by political theorist Edward Gibbon Wakefield and the Canterbury Association's resident agent John Robert Godley in 1850, extended from the Waipara River in the north to the Ashburton River/Hakatere in the south, and from the coast to the dividing ranges (Evison 1993). Within this block, conditions of land tenure were set by the Canterbury Land Settlement Act 1850, enacted by the Imperial Parliament, and waste land was to be sold at £3 an acre (Evison 1993). The entire Canterbury Province was twice as large, extending north from the Waipara River to the Hurunui River, and south from the Ashburton River to the Waitaki River (Hensley 1971).

By the time the New Zealand Company had stopped operating in 1850, not much land had been sold at this price and it had become obvious that sheep runs would be more profitable than small farms (Evison 1993). New Zealand Company rules allowed land to be leased for pasture within its settlement blocks (Evison 1993).

In December 1850, the first four ships of the Canterbury Association arrived at Port Cooper (which was renamed 'Lyttelton' after their chairman, Lord Lyttelton), carrying 782 passengers (Evison 1993). At this time, the

annual rental for these pastoral leases was £1 per 100 acres (Evison 1993). In May 1851, Godley relaxed the rules and pastoralists were able to lease land from the Association on a year-to-year basis at a fraction of the original rental, beginning at one-twentieth (Evison 1993).

Later in 1851, Governor Grey issued his regulations for the pastoral leasing of Crown land outside the New Zealand Company's Canterbury Block, which included high-country land, and Otago Block, which was 400 000 acres (162 000 ha) of coastal and hill country centred on Dunedin (Evison 1993). Grey's terms were far more favourable than Godley's. The cost of a Crown depasturing license was to be £5, and the annual rental was based on the number of sheep the runholder carried on the land, at one penny per head (Evison 1993). The runholder was given 5 years to build up his flock, and was then permitted 2 acres (0.81 ha) for each sheep. The Crown leases were for a 14-year term. The runholder was obliged to erect specified buildings as improvements and to have the land stocked to a certain level with sheep or cattle within a year or more (Evison 1993). From October 1851, Crown pastoral leases were issued by commissioners appointed by Governor Grey (Evison 1993). In February 1852, the Canterbury Association introduced leasehold regulations allowing for pastoral runs within the Canterbury Block of up to 20 000 acres (8100 ha) at Godley's reduced rental. Fifty-two runs had been taken up within the Canterbury Block by the end of 1852, half of them by Canterbury Association settlers (Evison 1993).

3.3.3 'Squatting'

The Wakefield system in Canterbury was challenged by the appearance of an increasing number of Australian squatters from 1851 (Hensley 1971). The term 'squatter' was applied to graziers who settled without legal title on areas outside official settlements, and came from Australia, where squatting had been widespread since the 1830s (Condliffe 1959). The squatters had been driven out of Australia by severe drought over several seasons (Hensley 1971). In May, Godley disobeyed his instructions as the Association's agent and, because Australian squatters were bringing in much-needed capital and stock, allowed them to have pasturage rights on the same terms as the Canterbury Association's settlers (Hensley 1971). Historian G.C. Hensley noted that the Australian squatters:

'... were self-made, often of Scottish descent, canny, hard-bitten, with a good "eye for country" and the practical knowledge to put it to use. Their experience was an invaluable infusion for colonists from England who, whatever their enthusiasm for its possibilities, had little idea of the techniques of working a sheep run.' (Hensley 1971: 33)

Pastoralism fared better than agriculture in Canterbury, despite Canterbury Association antipathy toward an industry 'leading to the scattered and disintegrated sort of society which the Wakefield system had been designed to prevent' (Hensley 1971: 31). By 1853, almost all the unoccupied land on the Plains had been taken up, and new runs were being formed in the gorges, river flats and ranges of the high country (Hensley 1971). The Canterbury Association aimed to prevent the emergence of large

runs because this would undermine the system of settlement formulated by Wakefield. According to this system, land was bought cheaply from Maori, and sold at a price 'sufficient' to keep it out of the reach of wage-earners, to attract capital from well-to-do immigrants and absentee investors (McIntyre 2002). Profits were used to finance the venture, which provided free passages for workers (McIntyre 2002). Hensley wrote that 'Wakefield dreaded the growth of squatting on the Australian model, with its social irresponsibility, its huge tracts of land locked up from settlement, and its neglect of both the civilising pleasures and benefits of community life' (Hensley 1971: 31-32).

Under the Crown Lands Ordinance (New Ulster) 1849, which was extended to the whole of New Zealand (exclusive of the Canterbury and Otago—New Zealand Company—Blocks) by the Crown Lands Amendment and Extension Ordinance 1851, an end was to be made of unauthorised squatting (Gardner 1956). According to Gardner (1956), henceforth:

- No person could depasture cattle upon or occupy the waste lands without a licence
- The Commissioner of Crown Lands could grant runs able to carry 25 000 sheep
- One head of 'great cattle' was reckoned to be equivalent to six sheep or 'small cattle'
- The annual licence fee was £5, and the licensee was to pay as well 'one pound for every thousand sheep above five thousand which the run shall be estimated as capable of containing'
- The licences were for 14 years, the run had to be stocked within 6 months or was subject to forfeiture, and the licensee was granted a pre-emptive right over 80 acres of his run as a homestead site, which he could purchase at the upset price of £1 an acre

3.3.4 Provincial Council rule

By 1853, after the colonising associations had been wound down and their duties assumed by provincial councils, land was sold by the Crown at £1 an acre, with higher prices in the former Wakefield settlements (Evison 1993). On 4 March 1853, Governor George Grey issued Waste Land Regulations authorising the sale of Crown 'waste land' outside the Canterbury and Otago Association Blocks, which included high-country land, at 10s and 5s an acre (Evison 1993). He was opposed to the land policies of the 'class settlements' of Otago and Canterbury, which he said sought, by their artificially high land prices of £2 and £3 an acre, to restrict access to land (Evison 1993). His aim, ostensibly, was to break the Wakefield system and to assist the small farmer onto the land, but in reality the new regulations helped to facilitate land monopoly. Those areas outside the Otago and Canterbury Blocks, such as South Canterbury, provided cheaper pastoral licences, lower annual rentals, compensation for improvements and pre-emptive (prior purchasing) rights. Consequently, pastoralists, including many from Australia, snapped up these areas (Condliffe 1959). Land aggregation dates from the passing of the regulations and the provincial legislation based on them

(Condliffe 1959). Speculators and pastoralists bought up large areas in the South Island (Condliffe 1959).

The Empowering Ordinance of 1853 gave provincial superintendents the authority to settle all local matters of administration as they saw fit (Hensley 1971). G.C. Hensley wrote that 'Although its substance had been recommended by Governor Grey in a circular to all the provincial governments, the Canterbury version certainly conferred rather wide powers on the Superintendent' (Hensley 1971:24). He described the situation:

'The General Government at Auckland was in a state of unobtrusive chaos; it had no regular communications with the southern provinces, no legislature, no money, and even (after Grey's departure in December 1853) no Governor. In these circumstances it was useless to debate whether Canterbury's "seizure of power" was inadvisable or illegal. It was simply inevitable.' (Hensley 1971:24)

Land was the core of provincial politics and finance. The provinces aimed to open up and settle waste lands, which were regarded as a source of funds for development (Hensley 1971). 'Hence the first and most pressing object of the Provincial Council's concern was to gain the control of its own waste lands' (Hensley 1971:34).

3.3.5 Hapu and iwi response to the land purchases

Rivalry was intense among and within the various iwi and hapu as to who had the mana over different areas and the right to sell to the Europeans. Some Maori became hostile and threatening to leaseholders whom they believed were trespassing on their mahika kai and kaika nohoanga (Evison 1993). Evison wrote: 'Seeing that the conflicting tribal land claims in Te Wai Pounamu were something of a hornet's nest Grey handed the whole business over to Donald McLean, who he had put in charge of organizing a Native Land Purchase Department' (Evison 1993:353).

McLean, now Chief Crown Commissioner for the purchase of Native Lands, held fast to Grey's rule that no land could be bought in the northern half of the South Island without the consent of the conquering Ngati Toa chiefs. Hence, on 10 August 1853 at Wellington, McLean concluded with Ngati Toa the South Island purchase for £5000 (Evison 1993). Evison noted that:

'According to the Deed, Ngati Toa were acting "conjointly" with "Ngatiawa, Ngatikoata, Ngatirarua, Rangitane and Ngaitahu". £2,000 was paid to Ngati Toa at once, and the rest was to be paid later in instalments which Ngati Toa would share with the "conjoint" tribes.' (Evison 1993:354)

Realising that the southern Murihiku chiefs were becoming impatient while waiting for their payment for the Murihiku purchase and beginning to deal directly with squatters who wanted land, Walter Mantell had his Murihiku Deed signed by the Otago chiefs at Dunedin a week later (Evison 1993). Mantell had been sent by Governor Grey in late 1851 to make the Murihiku purchase. This purchase was to include all the

South Island south of Kemp's and the Otago purchases. In February 1852, Mantell asked for Charles Kettle to survey the reserves and draw up the completed plans by May (Evison 1993). Kettle completed his work in April, when most Maori inhabitants of Murihiku were absent for the titi season. Out of the Murihiku Block of 7 million acres (2 835 000 ha), he allocated seven permanent Maori reserves amounting to 4875 acres (c.974 ha), with an average size of 33 acres (c.13.4 ha) per person (Evison 1993). This vast Murihiku Block, comprising the whole southwest portion of the South Island, from the Nuggets on the east coast to Milford Sound on the west, was purchased on 17 August 1853 for £2600 (Sorrenson 1990).

Evison wrote:

‘Mantell had set up one section of Kai Tahu against another. By deferring to the Otago chiefs’ *mana* in calling them to sign the deed first, he was now in a position to present the Murihiku Kai Tahu, who were his main potential opponents, with a *fait accompli*.’

(Evison 1993: 356-357)

On 5 February 1857, disappointed that they had not received more money, land or reserves, the chiefs of Kai Tuahuriri signed the deed surrendering to the Queen their rights to North Canterbury for £200, and then a final £100 (Evison 1993). According to Evison:

‘...they decided to grasp at what they saw as their last chance of retrieving the one thing essential to their *mana* in North Canterbury—the acknowledgement by the Queen of their *rangatiratanga* over the block to be sold, which the signing of the deed would confirm.’

(Evison 1993: 378)

3.3.6 Small farms and large runs

There were two classes of early European settlement: vast pastoral holdings (typically in the high country) and small holdings (often in the hill country or lowlands) where farmers took up seasonal and part-time employment elsewhere. Closer settlement was hampered by inadequate transport and the fact that cattle and sheep grazing were the only economically viable types of farming before refrigeration was invented (McLintock 1966).

The ‘hundreds’ were recommended by the Otago Provincial Council and proclaimed by the Governor of the colony. A ‘hundred’ was a block of arable land that could sustain 100 families and the system was based on a policy of dividing a large piece of agricultural land into small holdings of 50-200 acres (c.20-80 ha). Land purchasers were obliged to spend a sum equal to 40 shillings per acre. On payment of an annual licence fee, owners were able to run stock on the unsold portions.

The first three hundreds for Otago were proclaimed in October 1854. They were called ‘the Dunedin’, ‘the Tokomairiro’ and ‘the Clutha’ (McLintock 1975).

3.3.7 The provincial system of land administration

Under the New Zealand Constitution Act 1852, the South Island was divided into the three provinces of Otago, Canterbury and Nelson. By late 1853, runholders had taken up the plains and foothills of Canterbury and Otago (Evison 1993). Marlborough was created in 1859, and Southland in 1861 (only to be re-absorbed by Otago in 1870) (Evison 1993).

By 1856, the provinces had effectively gained for themselves the right to legislate on and administer Crown lands. Pastoralists manoeuvred political and administrative institutions to advance their own interests. The 'Compact of 1856' recognised that the disposal of waste lands (that is, uncultivated lands, such as those in the high country) was a function of provincial councils (Condliffe 1959). By the end of 1856, it was abundantly clear that the future of Canterbury Province lay with runholding rather than agriculture. Whereas wool exports in 1855 had been valued at £20,000 compared with £22,000 for agricultural produce, in 1856 wool was worth £70,000 and agriculture £20,000 (Hensley 1971).

The Waste Lands Act 1858 set down the general conditions by which Crown lands could be dealt with by the provinces and, subject to the approval of the governor, virtual control was wrested away from central government by the provincial councils, which were dominated by pastoralists (Condliffe 1959). The price of land could now only be changed by the governor on the recommendation of the superintendent and provincial council (Condliffe 1959).

Setting up a run began by stating vague boundaries, paying rent and stocking with approved numbers (McAloon 2002). The Canterbury Provincial Council merely required that within 6 months on each run one sheep should be placed for every 20 acres (8.1 ha) (Scotter 1971). In 1856, J.B.A. Acland and C.G. Tripp took up 115 000 acres (c. 46 600 ha) between them at Mount Peel, but only purchased the 240-acre (c. 97-ha) homestead block (Scotter 1971). Some Amuri high-country runholders, in order to guard against predatory raids from rivals, took sections in the front (most fertile) sections, some protected the Hanmer River boundary, and others the Waiau River frontage (Gardner 1956). Further sections were acquired at a more leisurely pace, once the immediate threat had been reduced (Gardner 1956).

In Canterbury and Otago, in areas taken by the early associations, land was sold at the uniform price of £1 an acre in Otago and £2 an acre in Canterbury (Condliffe 1959). Outside these areas, pastoral leaseholders strove to maximise opportunities created by Grey's regulations of 1853 and the Waste Lands Act 1858 (Condliffe 1959). Each pastoral leaseholder could apply for a pre-emptive right over 250 acres (101.25 ha) around his homestead and 50 acres (20.25 ha) at the locations of significant improvements such as fences, out-stations and other buildings and plantations. Anybody else wanting to purchase this land had to deposit a tenth of the price for the entire section with his application, and the leaseholder had 1 month in which to exercise his prior right of purchase (Scotter 1971).

In the high country, as elsewhere, pre-emptive rights were used to secure desirable locations on runs: 50 acres (20.25 ha) for each shepherd's hut and 38 ½ chains (c.850 m) of wire fencing (Condliffe 1959). Fences were erected near waterways, shepherds' huts constructed and occupied by 'dummies', sections useful to the runholder were enclosed or 'gridironed', and the best parts of the run were purchased or 'spotted' (Condliffe 1959). Pastoralists gradually took control of their extensive holdings with the minimum capital outlay (Condliffe 1959).

Although the Otago land regulations were revised in 1855 in an attempt to give security and protection to both agricultural and pastoral interests, the hundreds system was sabotaged by speculators who had no intention of spending 40 shillings an acre in improvements (Condliffe 1959). Assuming that popular agitation would eventually ensure a change in the law, they purchased and monopolised large areas of land (Condliffe 1959).

3.3.8 The Kaikoura and West Coast claims of Kai Tahu

In November 1858, Donald McLean appointed James Mackay Jr as an acting Land Purchase Commissioner, with instructions to settle Kai Tahu's Kaikoura and West Coast claims for £150 or £200 each (Evison 1993). Ngati Kuri asked for £10,000 in payment for their rights to the Kaikoura Block, and they wanted to keep the 150 000-acre (60 750-ha) block between the Tutaepuaputa (Conway) and Kahutara Rivers for their own sheep and cattle runs (Evison 1993). This block was already leased by three runholders. Ngati Kuri eventually accepted £300 and some small coastal reserves totalling c. 5625 acres (c. 2278 ha) for their claims (Evison 1993). The Kaikoura Purchase Deed was signed on 29 March 1859. The largest reserve at Waipapa and Mangamaunu was a long, precipitous coastal strip that Ngati Kuri wished to keep to provide access to seafood and fishing grounds, and because of the karaka groves. Although they, like other iwi and hapu, did not have sufficient land for runholding, their mana had been preserved because their tribal boundary was acknowledged to have extended from Te Parinuiowhiti inland to the headwaters of the Waiau-toa (Clarence River) above Rangitahi (Lake Tennyson), then along the mountain ranges to the Main Divide above Hokakura (Lake Sumner) (Evison 1993).

With 'great reluctance' and 'after weeks of argument', the West Coast chiefs signed the Arahura Deed on 21 May 1860 on behalf of the Kai Tahu tribe (Evison 1993: 388). Eight million acres (3 240 000 ha) passed to the Crown, for which the chiefs accepted a payment of £300 and 10 345 acres (c. 4190 ha) in reserves.

By 1859, Maori tribal title to land had been almost extinguished in the South Island, except for a few reserves still belonging to Maori (Evison 1993).

3.3.9 Leasehold, freehold and transience

In Canterbury during the 1860s, half the stations passed into other hands, some several times (Scotter 1971). After 1861, a dramatic increase in Canterbury land sales occurred, partly because of strong interest from Australian and British investors (Scotter 1971). By late 1866, over 500 000 acres (202 500 ha) had been freeholded in Canterbury Province, mostly on the lowlands (Scotter 1971). High-country land remained predominantly Crown pastoral leasehold, although there were pockets of freehold. Canterbury historian W.H. Scotter wrote:

‘In the history of farming, land sales were more closely connected with the extension of agriculture than with pastoralism. Nevertheless rural land was bought for a variety of reasons: by runholders when their pre-emptive rights were challenged, by speculators securing land needed by runholders and therefore saleable at a profit, by land agents buying desirable freehold for resale on terms to farmers, and by farmers able to finance themselves.’ (Scotter 1971: 206)

In the Amuri District, Kaikoura, by 1864 there was virtually no accessible Crown land worth purchasing on the plains and foothills to the western edge of the Hanmer Plain (Gardner 1956). Some runs still had large areas of leasehold land and these were often cut off by carefully selected freehold blocks; the Amuri high country was still Crown pastoral leasehold. Many of the leasehold runs changed hands rapidly as the harsh winters of the Amuri high country and pervasive scab took their toll on flocks and farmers (Gardner 1956).

There was a tacit acceptance by the populace and politicians up to the late 1860s that waste lands in general could not be put to use for a more profitable market than for wool and that, therefore, the squatter and his interests should be protected (Hearn 1971). Hence, up to this time, pastoralists wielded disproportionately powerful political influence. The system of pre-emptive rights came under heavy criticism during Canterbury’s 1866 election campaign (Scotter 1971), and the Canterbury Waste Lands Act 1867 cracked that dominance by declaring that no further pre-emptive rights would be granted (although those already awarded under the 1856 regulations were validated) (Jourdain 1925).

3.3.10 The sheep scab scourge

Although the essential condition of retaining a depasturing licence was putting stock on a run, there was nothing in the regulations to stop a scabby sheep from counting as one head of ‘small cattle’ in stock returns. Consequently, all Amuri runs were infected to varying degrees by the end of the 1850s (Gardner 1956). By 1860, the runs were becoming overstocked and re-infection was more likely (Gardner 1956). Infected stragglers roamed the high country (Gardner 1956). The situation was aggravated during the gold rushes with the increased movement of stock (Gardner 1956). Sometimes, infected flocks were driven across runs without advance notice being given to the landholder.

By late 1863, scab was at its worst in Canterbury; 192 000 sheep were certified as unclean (Scotter 1971). From this time in Canterbury, strong measures were taken. The Provincial Council increased the number of inspectors to five, ordered the construction of sheep dips on all runs, many of which were in the high country, and increased fines (Scotter 1971).

The Nelson Pastoral Districts Fencing Act 1863 was passed to encourage fencing in the Amuri District, thus isolating scabby sheep and ground. It also gave legal means to coerce neighbours into fencing common boundaries. In 1864, Robert Heaton Rhodes of St Leonards aimed to have a ring fence around his run (Gardner 1956). Despite such precautions, travelling stock on the roads remained a potential menace. Rivers were relied on as 'a moat defensive' (Gardner 1956: 248). The Scab Act 1863, passed in conjunction with the Fencing Act, imposed a levy of a halfpence per head on sheep, and the money was used to pay inspectors (Gardner 1956). This Act was limited in its effect because it was only directed against the movement of scabby sheep, not scab itself (Gardner 1956). Although it made it compulsory to give notice before shifting sheep and provided for penalties of up to £100 against the owners of scabby sheep who let them wander onto clean runs, there were no fines for actually keeping scabby sheep on a run. Splits occurred on the Nelson Provincial Council between runholders who were sufficiently wealthy or energetic to stamp out the disease on their land, and those with fewer means or less resolve: 'The owners of clean flocks found their movements and their markets restricted by laws enacted against their scabby neighbours, and they demanded that the offenders should either clean up or get out' (Gardner 1956: 250).

The Nelson Scab Ordinance of 1865 could be used only when Amuri runholders gave their consent to its proclamation (Gardner 1956). Whereas the Canterbury Ordinance was mandatory, that of Nelson was permissive—the Provincial Council handed over to the district the power to decide whether or not to implement the drastic measures (Gardner 1956), and the owners of scabby runs who resisted were sufficiently powerful to stop the penal clauses being proclaimed (Gardner 1956). The situation changed during the late 1860s, when some 'scabby' runholders made more vigorous efforts to clean their flocks (Gardner 1956). By about 1870, the front country runs were clean while the higher country above the Waiau River was still infected (Gardner 1956). Up there, stray scabby sheep became lost in the half-burnt beech forest, and the owners of small high-country runs had neither the money nor the expertise to clean their flocks or to make a complete muster of their country (Gardner 1956).

3.3.11 The rabbit menace

At first, the multiplication of rabbits went unnoticed, but by the early 1870s numbers exploded (Hargreaves 1966). The financial returns of runholders declined, the quality of fleeces deteriorated, and the yields of wool dropped (Hargreaves 1966). Three rabbits were said to eat as much as one sheep (Hargreaves 1966). In 1873 in Kaikoura, where both inland and seaward high-country ranges were situated, runholders tried to organise a petition calling on the Provincial Government to declare rabbits as vermin and to find a way to raise money to get rid of them, but most smallholders:

‘...balked at the idea of paying for measures which they felt certain would vastly benefit the squatters without proportional reward to themselves. This deep-rooted and enduring distrust killed any chance of a board being established when the Rabbit Nuisance Act 1876 provided the legal machinery for this to be done.’

(Sherrard 1966:188)

It would be 70 years before the first rabbit board, with jurisdiction between the Conway and Clarence Rivers (which embraced the Seaward Kaikoura Range) was constituted. As long as farmers were not legally coerced to eradicate rabbits, and as long as those who were trying to eradicate them could not agree on a uniform policy, the plague of rabbits continued to spread (Sherrard 1966). In 1875, more than 120 000 skins, 80 000 from Swyncombe, on the seaward high-country range, were shipped from Kaikoura (Sherrard 1966). Some groups argued that closer settlement would aid control of the pest, and consequently referred to the rabbit as ‘the people’s friend’ (Hargreaves 1966). That sentiment was not sound financially, however. During this period, small farms were economically viable only on fertile, low country with access to markets (Hargreaves 1966).

3.3.12 The Native Land Court and Kai Tahu rights

Early in 1867, several Kai Tahu applied to the Native Land Court to have their individual rights of succession in their Maori reserves certified. Soon other Kai Tahu lodged claims for mahika kai and parts of Kemp’s Block that they considered had never been sold to Kemp (Evison 1993).

On 20 April 1868, the first Native Land Court to be held in the South Island opened in Christchurch before Chief Judge Fenton. The results of the various cases were complex, but when Fenton gave his judgement he said that he was prepared to award Kai Tahu such pieces of land and fishing easements as were agreed to by the Crown, to bring their average up from 10 acres (4.05 ha) to 14 acres (5.67 ha) per head (Evison 1993).

In Dunedin, beginning on 14 May 1868, the Native Land Court heard another series of Maori claims concerning rights of succession and disputes over reserve rights (Evison 1993). After hearing and adjudicating on several individual cases, Fenton applied the Order of Reference in Otago as he had done in Canterbury (Evison 1993). Claimants under

Kemp's Deed were awarded land to bring their average up to 14 acres a head, and 2100 acres (850.5 ha) was awarded in Otago (Evison 1993). Although Chief Judge Fenton's awards provided for an increase in the allocation of land to Kai Tahu, for some time this was only in theory because the Court had no power to compel the provincial governments to allocate this land promptly (Evison 1993).

In the high country, the destruction of mahika kai continued as pastoralism expanded (Evison 1993). Burning off, roading, drainage and diversion of streams for water power contributed to their disappearance. The clash between Te Maiharoa and local runholders and the Crown near Omarama was a flash point of Maori frustration and grievance at the loss of their high-country mahika kai that they never believed had been sold to Kemp (McIntyre 2005).

Mackay recalled that as early as 1847, in a dispatch to Secretary of State for the Colonies Earl Grey, Governor George Grey had emphasised the importance of uncultivated lands to Maori, including those in the high country, when he pointed out that:

'The Natives do not support themselves solely by cultivation, but from fern-root, from fishing, from eel-ponds, from catching birds, from hunting wild pigs (for which they require extensive runs), and by such-like pursuits: "To deprive them of their wild lands, and to limit them to land for the purpose of cultivation, is in fact, to cut them off from some of the most important means of subsistence".'

(Grey 1847, cited in Mackay 1891: 2)

3.3.13 Overview

In Canterbury between 1858 and 1867, the total number of sheep rose from fewer than 500 000 to 2 500 000 (Scotter 1971). By 1865, there were several large flocks. For example, in that same year, W.B. and R.H. Rhodes sold the Levels Run with 82 000 sheep on it (Scotter 1971). During 1867, 11 million pounds (c. 5 million kg) of wool worth £627,678 was exported (Scotter 1971). Until the 1870s, almost all the sheep on the runs were merinos (Scotter 1971).

By 1857, 3 300 000 acres (1 365 000 ha) of Canterbury land were held by pastoral lease, of which 700 000 acres (283 500 ha) were under general government regulations (Scotter 1971). Around 750 000 acres (303 750 ha) were added that year under provincial regulations as new high-country runs were taken up and established sheep farmers expanded their holdings (Scotter 1971). By 1860, almost all the sheep country in Canterbury had been taken up.

The demand for sheep almost ceased as new runholders satisfied their stocking requirements (Scotter 1971). A steady decline in the price of wool continued throughout the decade to 1870. Many high-country runholders began to realise that their costs were too onerous and that they had borrowed too much money (Scotter 1971).

By 1870, Kai Tahu, with reserves mainly in small holdings of 14 acres (5.67 ha) or fewer, obtained work in the new economy as shearers

and labourers (Evison 1993). The small pieces of land that Chief Judge Fenton had awarded in 'final satisfaction' of their claims had not yet been allocated by the provincial authorities (Evison 1993: 434). Kai Tahu increasingly began to lease their land to Europeans because the areas they had been allocated earlier were too small, poor or isolated to farm as economic units (Evison 1993).

3.4 SUMMARY

3.4.1 General historical features

- Transfer of most South Island land from Maori to European ownership
- Widespread destruction of mahika kai and kaika nohoanga
- Exploitation mostly of existing natural resources, but Europeans also began to introduce exotic plant species to improve pasture
- Small-scale 'Native Reserves' were established
- Large-scale grazing of sheep and cattle and amalgamation of land by Europeans developed mainly on tussock lands
- Stock numbers increased through extension of pasturage for grazing
- Mainly wool produced (little use of meat)
- Construction of homesteads and other station buildings from materials available nearby
- Near self-sufficiency on the land
- Establishment of Crown pastoral leasehold lands on both low- and high-country areas
- Provincial government land administration led to land legislation in the different provinces becoming confusing and inconsistent
- Transport and communications poor
- Animal pests, such as rabbits, and exotic plant species, such as gorse, invaded
- Scab spread rapidly, with increasingly stringent legislation to control it, but provincial variations undermined these efforts
- Fencing was absent or limited at first, but became more widespread from the late 1860s
- Mining, especially for gold, quarrying and sawmilling

3.4.2 Key physical resources

- Early high-country homesteads, woolsheds, stock yards and other buildings
- Constructions of local natural material: stone, clay and timber
- Early manufacturing and quarrying for construction; bricks, pre-cut timber and limestone
- Some early grand houses
- Extraction of materials, such as peat and timber, for fuel marked the landscape
- Shepherds', musterers' and boundary keepers' huts
- Early fences, including post-and-rail, ditch-and-bank, stone and then heavy gauge wire
- Early historic trees, shelter belts, orchards or plantations
- Washing pens, dipping casks, tanks and troughs, boilers, old dipping solutions and/or their containers, draining stages, and sites of early tobacco plantations
- Boiling down plants (slaughter houses, vats, boilers, troughs and tramways)
- Mines, quarries and sawmills
- Water races for mining converted to irrigation ditches
- Early bullock tracks, bridal trails or pack tracks
- Fords, ferry crossings and early bridges
- Accommodation houses
- Stock reserves and droving routes
- Sledges, drays and wagons
- Early railway lines
- Presses for processing rabbit skins and zinc-lined cases for transport

4. 1870s–1880s: Development and degradation

4.1 LANDSCAPE MODIFICATION

4.1.1 Rabbits

From the 1870s, rabbits became a scourge in Otago, Southland and Marlborough. Beattie noted that the hills at Wantwood Run in 1877 were ‘moving with rabbits; sheep had no hope of thriving, as the rabbits devoured all the feed’ (Beattie 1947:32). Over 100 rabbiters with guns were employed, and they earned twopence per skin (Beattie 1947). By 1881, rabbit numbers were increasing alarmingly at Morven Hills and Benmore Stations in northern Otago (Pinney 1981). Benmore hired three professional rabbiters. At first, no poison was laid for fear of destroying the weka, but by October ferrets could be found all over the station (apparently after two had escaped), and they began slaughtering the birds (Pinney 1981). Soon cats were released as well, and in 1885, 7 stoats and then 25 weasels were let loose in the district (Pinney 1981). Despite the laying of poison at Benmore from around 1883, rabbits were rampant by 1886 (Pinney 1981). That year, 3535 pounds (c.1603 kg) of dry oats were laid with 50 pounds (c.23 kg) of phosphorous. By 1888, 687 ferrets had been let loose. Between September 1888 and April 1889, 71 403 rabbit skins were counted, and in May 1890 four poison gangs were hired (Pinney 1981).

In the 1880s, rabbits invaded Canterbury from the north and south (Holland et al. 2002). There, as elsewhere, they caused serious erosion and soil depletion by eating pasture and digging up tussocks. Rough, high-country land provided ideal breeding grounds for them. This depredation, in combination with burning off, turned vast areas of the high country into barren waste land. There was an alarming decline in the acreage and nutritional value of Crown pastoral leasehold grasslands (Holland et al. 2002). In 1887, Otago Province lost £32,803 in rental income when tenants abandoned 414 000 acres (167 670 ha) of former grazing land (Holland et al. 2002). During this time, through the 1880s, droughts increased in Marlborough, Canterbury and Otago (Brooking 1996). Stock numbers fell dramatically (Holland et al. 2002).

By 1883, the rabbit plague was costing the colony c.£1.7 million a year, and Central Government introduced thousands of stoats, ferrets and weasels (Grey 1994). These did not solve the problem. Rather, these introduced feral creatures killed New Zealand’s flightless birds as well as rabbits (Grey 1994).

4.1.2 The impact of refrigeration

The advent of refrigeration in the 1880s was a turning point. The frozen meat industry demanded breeds of sheep different from the merino (Hatch 1992), which was bred mainly for wool. From the 1880s, sheep were crossbred to yield both meat and wool (Hatch 1992). Different breeds were suited to different areas. For example, in the Mackenzie Country, merino and Romney were farmed as they suited the altitudes of the high country (Hatch 1992). Leaseholders sowed permanent pasture, which meant that sheep runs could be much smaller because permanent pasture fed many more sheep per acre and each sheep, producing both meat and wool, earned more income (Hatch 1992). Meanwhile, more labour-intensive methods were employed and more fences were built (Hatch 1992). Beforehand, sheep had been moved only a few times a year, but from this time they were moved from paddock to paddock to gain the greatest possible nutrition from the grasses (Hatch 1992). Supplementary winter feed (usually turnips or swedes) was grown because pasture grasses grew slowly in winter (Hatch 1992).

4.1.3 Acclimatisation of exotic plant species

Exotic grasses and the new breeds of sheep thrived only at lower altitudes in the high country, while at higher altitudes runholding continued almost unchanged (Hatch 1992). Whereas in Canterbury and Otago Provinces smaller sheep farms evolved on the alluvial shelf between the coast, lower valleys and foothills, taking advantage of the new exotic pasture plants and sheep breeds, sheep runs continued to dominate on the higher foothills, lower mountains and higher valleys of the Central Otago and South Canterbury high country (Hatch 1992).

New Zealand's native grasslands had by now been irrevocably altered by decades of human intervention. With the introduction of exotic flora and fauna, there was no turning back the clock. In the high country, species such as rabbits, gorse and thistles became invasive (Dominy 2001). Because of the shortage and high cost of labour, little was done to eradicate these pests (Hargreaves 1966). If pastoral land was taken out of production, ecological chaos would ensue (Dominy 2001).

4.1.4 Dividing the landscape

In Canterbury in 1878, the greatest area of pastoral land was in Geraldine County (1 250 000 acres; 506 250 ha), mostly in the Mackenzie Country (Scotter 1965). In 1883, the Mackenzie Plateau was made into a separate county (Scotter 1965). In the 1 050 000 acres (425 250 ha) of Amuri County, only 1% of the farms were less than 5000 acres (2025 ha): 15 workmen's holdings and seven other freehold properties (Scotter 1965). Most of the freehold land was divided into 19 runs of over 5000 acres; 400 000 acres (162 000 ha) were still Crown pastoral leasehold land (Scotter 1965). The entire Cheviot area was divided into three great freeholds averaging more than 60 000 acres (24 300 ha) in

size, with 137 000 sheep. In Ashley County, the area of pastoral leasehold land exceeded that of freehold land, and the great runs consisted of land under both tenures.

In the 1870s, Ashburton County was still characterised by great empty expanses: the mountains, upland basins and plains were devoid of plantations of exotic trees (Scotter 1965). However, more land (454 000 acres; 183 870 ha) had been bought here than in any other county, and all types of farms could be found (Scotter 1965).

Geraldine had the greatest number of sheep (over 800 000), but Ashley, Selwyn and Ashburton all had over 600 000 (Scotter 1965).

4.2 PHYSICAL REMAINS

4.2.1 Fencing

By the 1870s, wire fencing was expanding rapidly after the introduction of lighter, cheaper No. 8 spun wire in the late 1860s. Fencing throughout Ashburton County was fairly evenly divided between wire and earlier materials. Because of the cost of wire fencing, farmers were still building sod walls, and over 200 of the 1000 houses were of sod construction (Scotter 1965). In Amuri and Cheviot, almost all the fencing was made of wire (Scotter 1965).

The significance of this technological development cannot be underestimated (Hargreaves 1965). The era of exploitative grazing was coming to an end. With increasingly intense subdivision and use of land, farmers needed to curb the spread of scab, cull their sheep, reduce the number of shepherds and replenish the soil to maintain profitability (Hargreaves 1965). The new fencing wire enabled them to do so (Hargreaves 1965). In the high country, snow fences increasingly traced high-country contours, and were often continuations of natural features, such as creeks or ridges (Dominy 2001).

4.2.2 Homesteads and other station buildings

Homesteads on large high-country estates became bigger and grander, and were frequently made of imported materials (Dominy 2001) (Fig. 12). Their surroundings, too, became lavish. In 1886, John Rutherford's estate at Opawa on the upper Hakataramea River had 25 acres (c. 10 ha) of grounds, half of which were trees and the rest gardens and fishponds. Janet Holm wrote that the 'grass tennis court and a bowling green were surrounded by other lawns set with twelve fishponds, connected by miniature waterfalls and full of perch, trout and enormous goldfish' (Holm 1992: 74).

The most common station configuration was one of encompassment, with boundaries within boundaries and the homestead at the centre (Dominy 2001). Spatial divisions were symbolic of the social order. For example, at Double Hill Station, which was taken up in 1858, the original cob cottage homestead was built at the hub. Two other cottages were

Figure 12. Grasmere Station, 1872, a typical high-country homestead of the era, with a post-and-rail fence across the middle foreground.

Photo courtesy of the Alexander Turnbull Library, Wellington, New Zealand (reference number 32235 ¼).



subsequently built, with the new frame homestead being constructed around the third. The homestead was positioned in the central cluster of buildings, with outlying station workers' buildings a suitable distance away and apart. The woolshed was built in 1882, with pit-sawn beams, hand-cut rails and no nails. It had 22 stands for the shearers. The first shearers' quarters and stables were built of cob around the same time (Dominy 2001).

4.2.3 Rabbit containment and destruction

Methods used to curb the spread of rabbits were shooting; distributing poisoned (usually phosphorised) wheat, oats and carrots; plugging burrows; closing water runs; fumigating warrens with carbon disulphide; releasing dogs, stoats, weasels, ferrets and cats; and erecting rabbit-proof fences (Beattie 1947; Holland et al. 2002).

Canterbury was threatened by rabbits from the north and the south. Since 1882, there had been an explosion of rabbits in Marlborough, and by 1886 they were invading Canterbury in force (Scotter 1965). Rabbiters' huts mushroomed throughout the province (Scotter 1965). Under the Rabbit Act 1886, two districts north and south of the Waiau River were gazetted under the control of the North Amuri and the Hurunui Rabbit Boards, respectively (Scotter 1965). In 1886 and 1887, there was a disturbing rise in the number of rabbits in the Amuri District north of the Waiau River. Rabbits invaded from Tarndale via the upper Clarence River and swarmed over St James and St Helens Stations, mainly because the Bank of New Zealand in January 1886 had abandoned the Clarence runs when mortgagors gave them up, leaving the land unprotected (Gardner 1956). As with the scab epidemic, the Waiau River divided the Amuri District and protected the southern half (Gardner 1956). In January 1887, the Hurunui Rabbit District between the Waipara and Waiau

Rivers was proclaimed, and in March the Amuri Rabbit District comprised the rest of the Cheviot and Amuri Counties north of the river (except for Leslie Hills). In northern Amuri, runholders were encouraged to use stoats, ferrets, weasels and cats to control rabbits (Gardner 1956). (The district would eventually be abolished in 1891 because it was ineffective in keeping down rabbit numbers.)

The southern Hurunui area was almost free of rabbits, and the Hurunui Board endeavoured to keep it that way by no longer relying on the Waiau River itself to protect the Hurunui Rabbit District against rabbits from the north (Amuri): it constructed a rabbit-proof fence along the river in 1887 (Scotter 1965).

The fence ran along the south bank of the Waiau River from the sea to Mouse Point, and from the upper Waiau Bridge across Jacks Pass to the Clarence River and on to Lake Tennyson, over Maling Pass and into the headwaters of the Waiau River (Gardner 1956; Ian Hill, DOC, pers. comm.) (Fig. 13). Sheep owners were rated at a penny an animal to pay for it. Between the river and the fence, a narrow piece of land was left, which could be easily patrolled. Completed in 1889, the fence was over 78 miles (c. 125.5 km) long and constructed of materials drayed and packed from Culverden and Port Robinson. Although the Hurunui Rabbit Board hired ten rabbiters, the pests still got through the flood gates, across the snow-buried line in winter, and through the exposed west flank (Gardner 1956). Stock owners to the south of the Waiau line were losing confidence in the efficacy of the fence by 1890 (Scotter 1965).

Realising that one line could not provide adequate protection, runholders on Balmoral and other stations erected private fences through the 1880s and 1890s (Gardner 1956) (Fig. 14). Despite these measures, flood gates and road gates gave rabbits access to runs, and the numerous

Figure 13. Aerial oblique of the landscape setting of the rabbit-proof fence by the outlet to Lake Tennyson. Rabbits that managed to cross the river were caught behind the fence and exterminated in the course of regular patrols by rabbiters.
Photo courtesy of Kevin L. Jones, DOC.

