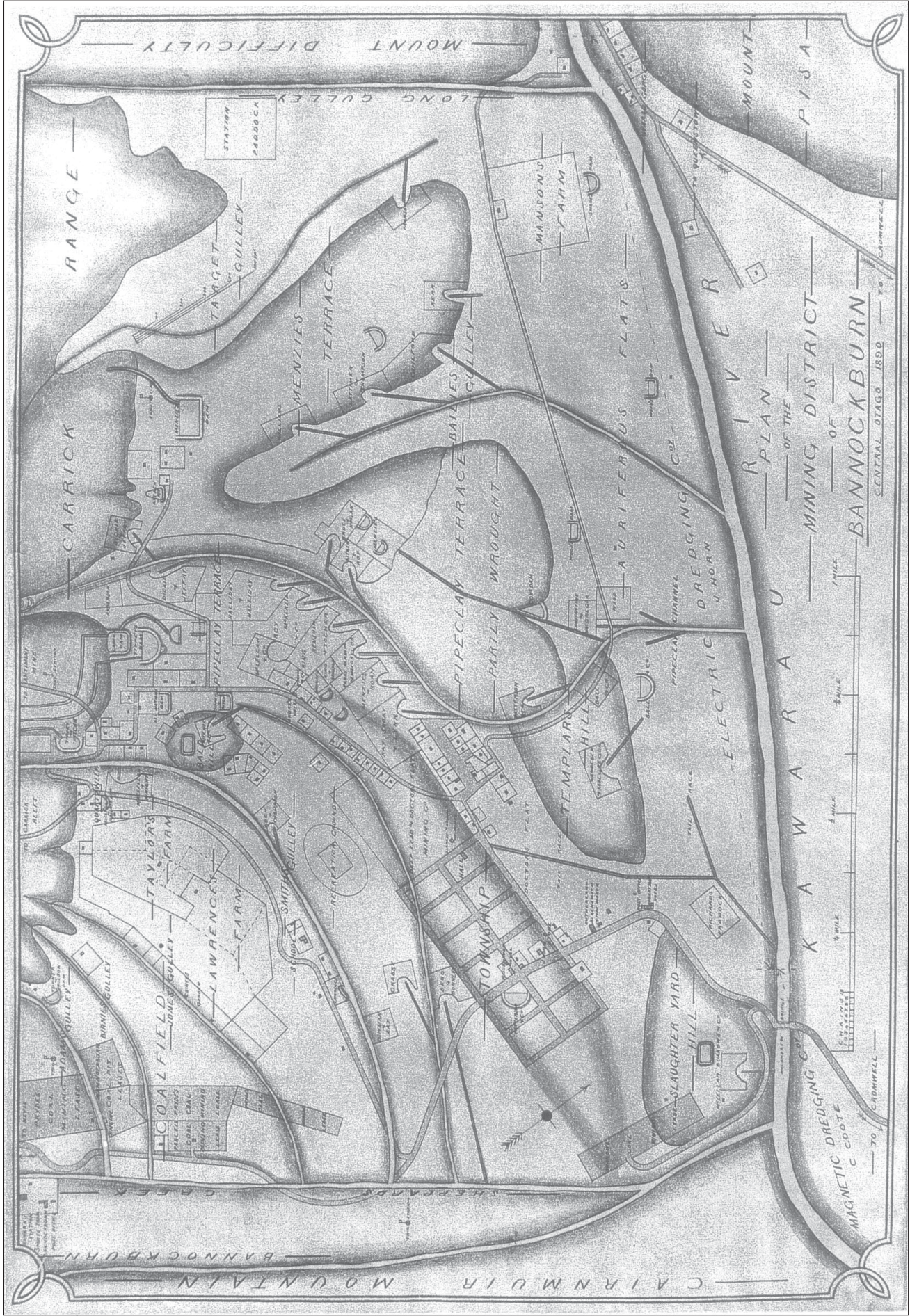


Bannockburn



Map produced for sale in 1890 by Andrew Farquarson Ridland of Bannockburn, a goldminer who worked on the Carrick Range, quartz goldmining. At least fifteen copies were hand-drawn and coloured, framed in gilt, and sold for 30 shillings.

Bannockburn Heritage Landscape Study

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Janet Stephenson, Heather Bauchop, and Peter Petchey

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CONTENTS

Abstract	9
<hr/>	
1. Introduction	10
<hr/>	
1.1 Testing the methodology	10
1.2 Bannockburn Heritage Landscape Study	11
1.3 Information sources and techniques	11
1.4 Concepts used in this study	13
2. Context	15
<hr/>	
2.1 The study area	15
2.2 Links to other landscapes	15
2.3 Cultural	16
2.4 Conservation management	16
2.5 Historic Places Trust Register	17
2.6 Central Otago District Plan	18
2.7 Archaeological sites	18
2.8 Historiography	20
3. Physical landscape	21
<hr/>	
4. Historic landscape	25
<hr/>	
4.1 Introduction	25
4.2 Maori interactions with the landscape	26
4.2.1 Tangata whenua information*	26
4.2.2 Routes	27
4.2.3 Archaeological information	28
4.3 Colonial exploration and pastoralism	29
4.4 Mining and mining-related settlements, 1862-1930s	31
4.4.1 Early mining in Bannockburn area	36
4.4.2 Water	37
4.4.3 Routes	37
4.4.4 Sludge	37
4.4.5 Quartz mining	37
4.4.6 Alluvial mining continued	39
4.4.7 Coal	42
4.4.8 Quartz and alluvial mining continued	42
4.4.9 Antimony	45
4.4.10 Mining in decline	49
4.4.11 The dredging boom	51
4.4.12 Gold mining during the Depression	52
4.5 Development of agriculture and horticulture c. 1910-70	54
4.5.1 Regional picture	54
4.5.2 Dividing the land	56
4.5.3 Small farming and orcharding	58
4.6 Economic stimulus 1980s-2003	61
4.6.1 The beginning of change	61

4.6.2	Subdivision	62
4.6.3	Viticulture	64
5.	Contemporary cultural values	66
5.1	Associations with the area	66
5.2	Cultural values	67
5.2.1	Tangata whenua	67
5.2.2	Why people came to live in Bannockburn	67
5.2.3	What residents value about the landscape	67
5.2.4	Personal maps	68
5.2.5	Awareness of historic features in the landscape	68
5.2.6	Stories in the landscape	72
5.2.7	Sense of community	73
5.3	Community concerns	74
5.4	Conclusion	77
6.	Analysis	79
6.1	Different scales in the landscape	79
6.2	Patterns and ordering in space	79
6.3	Main layers of the past that have physically changed the landscape	80
6.4	Important nodes, networks, and spaces	81
6.4.1	Moa hunting	81
6.4.2	Early pastoralism	82
6.4.3	Mining	83
6.4.4	Settling in	85
6.4.5	Popularity—urbanisation and viticulture	85
6.5	Dominant processes taking place today	86
7.	Landscape evaluation	87
7.1	What is distinctive about this landscape?	87
7.2	Key heritage significance	87
7.3	Integrity	89
7.4	Heritage value	92
7.5	Potential for interpretation and education	93
7.6	Robustness	94
7.7	What is currently protected?	97
8.	Conclusions	99
8.1	Conservation or sustainable development?	100
8.2	Suggestions for further consideration	101
8.3	Further research opportunities	106
9.	Acknowledgements	107
10.	Bibliography	108
Appendix 1		113

Heritage landscapes: A landscape approach to the identification, conservation and interpretation of historic and cultural resources
Tony Nightingale (Department of Conservation)

Figures

1.	Bannockburn study area	14
2.	General location of some of the known archaeological features in the Bannockburn area	19
3.	Carrick Battery, Carrick Gold Mining Company, Smiths Creek, c. 1911	24
4.	The Young Australian water wheel and mine, Carrick Range	25
5.	Prehistoric routes and find-spots around Bannockburn	28
6.	Kawarau Station homestead	32
7.	Kawarau Station Pre-emptive Right, 1862	32
8.	Stone woolshed, Kawarau Station	33
9.	Kawarau Station and early gold rush, 1862/63	34
10.	Routes prior to 1864 in the Bannockburn region	35
11.	Sluicing, Hancock & Lawrence's Claim, Bannockburn	39
12.	Water races still in use around Bannockburn district, 2003	40
13.	General store, Bannockburn, 1910	42
14.	Bannockburn, c. 1899	43
15.	A view of Bannockburn today	43
16.	Coalpit, Bannockburn	43
17.	Map of Bannockburn in 1878	47
18.	Young Australian water wheel, Carrick Range	48
19.	Menzies Dam and Stewart Town	49
20.	Chinese miners, Potters Gully, Carrick Range	50
21.	Dredge at Shepherds Creek, Bannockburn	51
22.	Bannockburn sluicings and dredges, 1900	51
23.	Bannockburn, 1908	53
24.	Bannockburn, 2003	53
25.	Pastoral runs around Bannockburn, 1910	57
26.	Hancock's house, c. 1910	58
27.	The Bannockburn Arm of Lake Dunstan	61
28.	Settlement and vineyards at Bannockburn, 2003	63
29.	Vineyards and sluicings, Felton Rd, Bannockburn	65
30.	Personal map A	69
31.	Personal map B	70
32.	Personal map C	71
33.	Personal map D	71
34.	Ruin of stone building, Carrick Range	72
35.	Rachel and Fanny Short in front of their cottage	75
36.	Corrugated iron house and shed with lombardy poplars, Bannockburn	78
37.	Looking northeast from Bannockburn sluicings	80
38.	The main layers that changed the landscape	81
39.	Shearing in the Kawarau Station woolshed	83
40.	Carrick water race, Carrick Range	84

Boxes

1.	The story of the Bouakai	27
2.	Kawarau Station	32
3.	Scattered miners' huts	36
4.	Water races	38
5.	The township of Bannockburn	41
6.	Bannockburn coal mines	44
7.	Quartzville	45
8.	Carricktown	46
9.	Bannockburn in 1878	46
10.	Stewart Town	49
11.	Chinese miners	50
12.	Community development in Bannockburn in the late nineteenth century	52
13.	Jockey Jones	54
14.	John Patrick Parcell (1881-1976)	55
15.	Webs and layers model	82
16.	National classification model: Historic Places Act 1993	93
17.	International classification model: Australian Cultural Landscapes definition and Historic Themes Framework	94

Tables

1.	Sources of possible change to the Bannockburn landscape	95
2.	Robustness of key aspects of the Bannockburn landscape	97

Bannockburn Heritage Landscape Study

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ABSTRACT

The Bannockburn area of Central Otago was chosen as a suitable heritage landscape on which to trial a newly developed interdisciplinary methodology of spatial analysis, using connectivities between superimposed layers of history. The study area is a rich heritage landscape in which the key stories of Central Otago are clearly layered: Maori associations, pastoral runs, alluvial mining, hard rock mining, dredging, coal mining, subdivision of the stations, orcharding, small farming, the Clyde dam, holiday and recreational uses, through to today's increasing urbanisation and viticulture. The Bannockburn heritage landscape has a remarkable wealth and complexity, but it is a dynamic and evolving one, with many owners and interests. People living in and associated with the area today value the landscape highly for its historic, spiritual, aesthetic, cultural, economic and recreational attributes. Valued aspects include natural landforms, open tussock country, patterns of past activities, historic structures and features, stories, names, activities, and genealogical links. While aspects have already been lost over recent years, the heritage values of the landscape have survived surprisingly intact to the present. However, these are not highly robust. If development pressures and changes continue into the future as they are at present, only a few aspects of the landscape are likely to remain unchanged. Risks include physical loss of features from decay or destruction, loss of integrity, cumulative loss of parts of a system, and losses of meaning or significance. A sustainable development approach is likely to be the most successful way of considering the people and the landscape holistically. This would involve conserving the key aspects of the heritage landscape while also addressing social, economic and environmental sustainability. A fundamental requirement is shared recognition of values. Community-wide pride, respect, and stewardship should be seen as the primary means of achieving sustainable development. The study showed the value of the heritage landscape methodology, but also indicated areas for refinement.

Keywords: heritage landscape, layered history, spatial analysis, interdisciplinary, community participation, Bannockburn, Central Otago, New Zealand.

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1. Introduction

The primary purpose of this study was to trial a newly-developed methodology for investigating heritage at a landscape scale (Appendix 1). A secondary purpose was to produce a heritage landscape report on the Bannockburn area of Central Otago (Fig. 1).

1.1 TESTING THE METHODOLOGY

In the past, heritage management agencies in New Zealand have tended to focus on individual heritage sites and features. The idea of looking more broadly at heritage is relatively new in New Zealand but is consistent with international developments over the past two decades.

In July 2002, the Department of Conservation (DOC) developed a pilot methodology which laid out a series of steps for studying heritage landscapes. Its purpose was to facilitate the identification, management and interpretation of landscapes which may have multiple historic sites, many stories and close community relationships with the land. It was recognised that identifying, interpreting and managing heritage at a landscape scale would require different techniques to discrete heritage sites (e.g. individual buildings or archaeological sites).

The Bannockburn Heritage Landscape Study was undertaken to trial this methodology in the field. Bannockburn was chosen because it is a landscape with known heritage values (particularly relating to gold mining), relatively clear geographic 'edges', an easily identifiable community, and was an area within which DOC managed several properties.

An introduction to the landscape approach and a copy of the methodology, written by Tony Nightingale (DOC), is attached as Appendix 1.

The general approach of the methodology was to examine the inter-relationships between human pasts and the environment over time. The study was to encompass cultural perceptions, practices, traditions and stories, as well as the physical expressions of those relationships. The information gathered was to include physical environment (both natural and culturally modified), the history associated with the area, and contemporary values. The methodology then required that this information be brought together, and laid out certain analytical and evaluative steps to be followed. Finally, key issues were to be identified and recommendations made.

The team was encouraged to take a deliberately experimental approach to testing the methodology. As some new waters were being tested, an exploratory approach was needed, particularly in how to bring together information from a range of sources and link it to the landscape. The exhaustive list of questions in the analysis and evaluation sections was not followed in a step-by-step fashion—instead an attempt was made to cover the thrust of the questions within a relatively simple analytical framework. Many discussions

were held about the steps of the methodology, about how best to engage with the community, how best to analyse the information, and how to present the findings in ways which would be interesting and useful. All of the team members have found the experience enriching, and can see many advantages in engaging in such cross-disciplinary landscapes studies.

1.2 BANNOCKBURN HERITAGE LANDSCAPE STUDY

This heritage landscape study is the outcome of applying the methodology in the study area. As stated in the methodology, it aims to assist in identification, interpretation, and management in the following ways:

Identification. The study offers an understanding of the landscape both spatially and as it has evolved over time through human interaction. It identifies relationships between physical features in the land, both where these evolved simultaneously and where they evolved sequentially. It also provides information about the relationships between people and the landscape, both in the past and today. It attempts to identify key heritage features, stories and traditions in the Bannockburn landscape.

Interpretation. The study provides an overview of the history and heritage features of the landscape. This material will be of assistance in developing future interpretation in the area.

Management. The study identifies current developments which may potentially affect key heritage features in the landscape. It describes those aspects of the landscape which are highly valued by community members, and their concerns about actual or potential degradation of the landscape. It makes recommendations as to how heritage values in the landscape could be better sustained.

We trust that the report will not only be a useful source of information for the Department of Conservation, but will also be read by those who have an interest in the future of Bannockburn and its rich heritage.

1.3 INFORMATION SOURCES AND TECHNIQUES

The same reasons that make Bannockburn a feasible landscape study (a relatively distinct area with geographical and historically identifiable features) have led to its past being relatively difficult to trace. Its physical boundaries—surrounded by mountain ranges and cut off by a fast-flowing river—have limited its development. The main transport routes bypass it; and as the Nevis mining area declined, even fewer people traversed the Carrick-Cairnmuir-Clyde route. It is the tag-on end of the Cromwell Basin as a land area, and settlement has been largely focused on the north side of the Kawarau River. The nearby township of Cromwell has subsumed much of the discussion about historical identity, and even now Bannockburn, it could be argued, still remains a dormitory suburb of that town (and possibly of Queenstown as well). Histories tend to speak of Cromwell without teasing out the local distinctiveness of surrounding towns.

Despite its rich history and popularity, there is a surprising lack of published material on the history or landscape of the Bannockburn area. J.P. Parcell's *Heart of the Desert* (first published 1951) was the most detailed source of historical information, although it focuses more on Cromwell. Paula Cody's unpublished manuscript 'Dammed Lands: Cromwell 1947-1999 A story of survival' (2001) aided with more recent historical information.

There is also a lack of comprehensive information regarding the archaeology of the area. Archaeological sites along the Kawarau and Clutha Rivers were studied as part of the Clyde Dam project, as part of the assessment of the risk of inundation by the hydro-lake (Higham et al. 1976). Bannockburn largely escaped this intensive archaeological investigation, as the majority of its archaeological sites were above the flood level, although N. Ritchie recorded a number of sites in the area during the dam project. A few individual sites have been investigated as a requirement of the Historic Places Act, but the reports are limited to those particular features.

On an administrative level, Bannockburn has the misfortune to straddle two survey districts, meaning that there are times when maps stop halfway through the township, making analysis decidedly more difficult.

Despite these frustrations, a great deal of information was eventually assembled from a wide variety of sources. As members of a multi-disciplinary team (historian, archaeologist, planner), we each focused on our particular area of expertise but worked closely together.

Heather Bauchop, historian, focused on the historic research. The sources used for historical information include well known histories such as J.P. Parcell's *Heart of the Desert*, as well as invaluable material collected by some of the local historians and genealogists, and interviews with members of the local community. Maps, plans, photographs, and other material such as directories and electoral rolls were also used to help make the history 'come alive'. Information from all of these sources is brought together to create an overview of the history, rather than a detailed account linked to individual sites.

Mapping of physical information was undertaken by Peter Petchey. His sources of information included a variety of survey plans, other plans, topographical maps, aerial photographs, and the NZ Archaeological Association archaeological site recording scheme. Local residents and others also provided useful information or provided clarification.

Information about contemporary values and issues was gained mainly through face-to-face interviews. Janet Stephenson was primarily responsible for this part of the information-gathering, aided by the other team members. Interviews were carried out with twenty current, past, and intermittent (crib-owning) community members. The interviews also provided a great deal of information about the recent history of the area which was not available from any other sources. Kaumatua Huata Holmes shared his great knowledge of tribal history and associations. The long-term links between the University of Otago and Bannockburn through the geography field schools, professional work and personal associations meant that staff and ex-staff were able to assist with some specialist information about the area (e.g. climate, soils, vegetation). Interviews with Department of Conservation staff, and Central Otago District Council staff and consultants, were also invaluable.

People to be interviewed were largely selected through the ‘snowball’ technique—that is, one interviewee would suggest others to talk to, and those people would refer us on to others, until we started to find ourselves coming full circle. The interviews were an excellent source of information about heritage values and issues of concern. We became aware, however, that when people speak about landscapes they can only convey those things that can be expressed in words. Aspects of the landscape that might be better conveyed in other ways are missed. A technique called ‘cognitive mapping’ was therefore used to try and elicit community views in another form. Local interviewees were invited to draw (freehand) their own map of the Bannockburn area, showing the places and features in the landscape that they considered to be particularly important. There were at least two interesting precedents of hand-drawn maps of the Bannockburn area—the Andy Ridland map of 1890 (see Frontispiece) and a sketch done by John Parsons Jnr in 1974. Four maps were provided by community members, and are included in this report. The parsons map was unfortunately too large to be reproduced here.

Towards the end of the study, an Open Day was held at Bannockburn in the Bowling Club rooms. The purpose was to present the main findings of the study back to the community and to seek further feedback. Approximately 30 people attended, staying for up to 2 hours. As we had hoped, people corrected or affirmed what we presented, and also added more information and stories to what we already had.

In all, a very wide variety of sources was used, including published and unpublished written material, maps, drawings, photographs, and oral interviews. Interviews with community members were undertaken on the basis that specific comments would not be attributed to the source in the published report. Thus where information used in this study has been provided by local informants, this is stated but the name of the informant is generally not indicated. Notes from the interviews have, however, been retained, so any future researcher may revisit the source.

Our purpose in this study was to take a ‘landscape’ approach. However, we found that we often needed to delve into details (specific dates and locations, for example) in order to properly understand the history and associations of the area. A great deal more material was therefore canvassed than appears in this report. At the same time, there were many areas of detailed history which we were unable to go into because of the generalised nature of the methodology. By the end of the study, it was clear to us that a number of other studies or books could and should be produced from the wealth of material available. We look forward to seeing these emerge in due course.

1.4 CONCEPTS USED IN THIS STUDY

Heritage landscape is a new term for New Zealanders and is not immediately understandable. For the purposes of this study, a **landscape** consists not only of the **physical environment** (both its natural and human-created elements) but also cultural perceptions, practices, traditions and stories, and the relationships between people and the land. **Cultural perceptions** include the perceptions of the landscape held by tangata whenua, pakeha, other ethnic

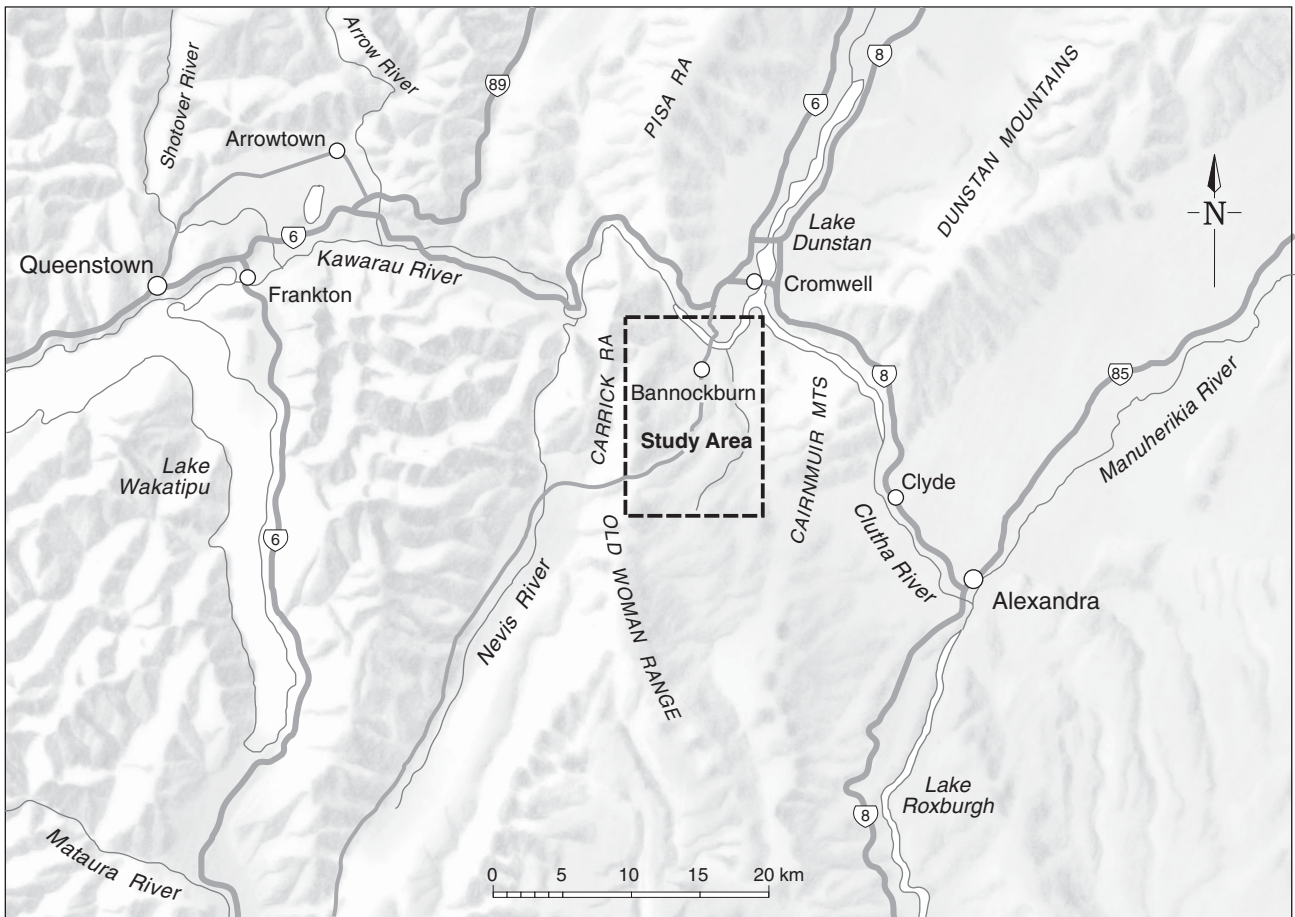


Figure 1. Bannockburn study area, with present-day roads shown.

groups, landowners, land administrators, and communities. **Practices** include land uses and community activities including agriculture, fishing, and hunting as well as spiritual, religious, social, and recreational activities, and patterns of spatial organisation. **Traditions** include beliefs or associations with the landscape. **Stories** include history, folk lore, myth, and any accounts of change over time.

Heritage in this study is used in the sense that it refers to ‘the evidence of the past, such as historical sites, buildings, and the unspoilt natural environment, considered collectively as the inheritance of present-day society’ (Collins English Dictionary, Second Edition).

A **heritage landscape** is a landscape, or network of sites, which has heritage significance to communities, tangata whenua, and/or the nation.

The landscape methodology uses the concept of layered webs to analyse and highlight key relationships between physical remains, key stories, and contemporary associations (see Box 15, p. 82).

As development and subdivision make their own marks on the landscape, the older continuities become fainter, and their cohesion as a physical aspect of the past become more difficult to establish. A landscape approach, recognising the interconnectedness of physical remains and stories associated with the land, can help to bring together understanding about the different traces of the past on the landscape, and how and why it is valued by people today.

2. Context

2.1 THE STUDY AREA

The study area is located in Central Otago, at the southern end of the Cromwell Basin (Fig. 1). Bannockburn township is located at 45°05′S, 169°11′E. It was recognised from the beginning that it would never be possible to draw hard lines about the landscape because perception, history, human movement, and the physical features of the land are continuous. It was important, however, to limit the focus of the study to a reasonably confined area while not preventing discussion of the broader landscape where this was appropriate.

It was necessary at an early stage to define the physical area that the study would encompass. This was chosen as a rough rectangle which ran along the Kawarau River, up Bannockburn Creek and up to Duffers Saddle, along the Carrick Range to Mt Difficulty Station and so back to the Kawarau River, an area of some 110 square kilometres. Although it was necessary in the course of the study to refer to places and activities which occurred in the wider Central Otago region or in nearer places, the study area itself has remained as it was first defined.

2.2 LINKS TO OTHER LANDSCAPES

The study area is an element of the much wider landscape of the Cromwell Basin, and the even wider landscape of Central Otago. There are physical similarities at all of these scales, both in terms of the physical landscape (e.g. underlying rock types, tussock-covered mountains, climate) and the historic landscape (pastoral farming and gold mining occurred throughout many areas of Central Otago). All of the activities that occurred were also supported by wider physical networks (e.g. roads and railways), economies, legislation, and systems of governance.

The links between the study area and other landscapes have varied over time. Its physical isolation created by the surrounding mountains and the Kawarau River was not really broken until a reliable bridge was built across the river in the mid 1870s. Even then, the track to Cromwell was over notorious sand flats, which made access difficult. Prior to this, the main access was from Clyde over the Hawksburn Saddle, or possibly in from Garston via the Nevis Road, or across the Kawarau River on a punt. These first two links are still present, although they are fairly rough and weather-dependent. The main physical link today is across the Kawarau River to Cromwell, now only 8 km by bridge and sealed road.

A particularly close link is evident with the Nevis. The Nevis Valley was mined over a similar period to Bannockburn, and around 600 people lived in the Valley in 1866. Bannockburn was its closest link to another settlement, and there appear to have been strong social and economic ties between the valleys. However, this link has not been examined further in this study.

2.3 CULTURAL

Tangata whenua for the area include people associated with Te Runanga o Otakou, Kati Huirapa Runaka ki te Puketeraki, and Te Runaka o Moeraki. Of Kai Tahu, Kati Mamoe, Waitaha, and Rabuva'i descent, the iwi still retain strong connections to the land, and this is borne out by names and stories of the area. Physical traces (archaeological sites) in the study area and in the vicinity also tell of occupation of the area by Maori as far back as the moa-hunter period.

Central Otago not only provided access to the pounamu sources further west, but was also a seasonal source of resources such as moa, water fowl, and eels. Silcrete and porcellanite were quarried from Central Otago outcrops for making tools. One of the best known moa hunter sites is in the Hawksburn Valley just east of the study area.

The Bannockburn area was settled by Europeans from the establishment of Kawarau Station in 1858. An interesting characteristic of the area is that families tend to 'stick around'—there are some families who have been established in the area for many generations and whose descendants still live in the community, and others with family links who have returned. The past twenty years have seen an influx of new people into the area, particularly since the early 1990s. The community therefore reflects a range of 'knowing' of the landscape and its history, from those who draw from long family or personal engagement, to those who have a particular interest in the area's heritage and have made a point of researching and collecting information, and to those who have spent a shorter time in the area (but are frequently no less passionate about it).

As well as being a place where people live, work, and commute from, Bannockburn is increasingly becoming a place where people visit. The presence of heritage features, and in particular the DOC reserves, draws tourists. People also come to explore the settlement, enjoy the Bannockburn inlet, camp at one of the two camping grounds (the Domain and the Cairnmuir camping grounds), and visit the growing number of wineries. Organised events such as the Bannockburn Gutbuster and the Carricktown Crusher (mountain-bike races) have also drawn many people to the area in recent years.

2.4 CONSERVATION MANAGEMENT

The study area is part of the Otago Conservancy of DOC, which manages three historic reserves within the study area, all of which are associated with the goldfields era. These are a few of the wide range of goldfields heritage sites managed by DOC in the Otago area. Moves to recognise the significance of the Otago goldfields were begun in the 1970s in a joint project between the New Zealand Historic Places Trust and the then Department of Lands and Survey with the idea of collectively preserving and presenting to the public a 'dispersed complex of historic goldfield sites in Central Otago.' It was intended that a cross-section of the history of the goldrush era be preserved, with a focus on examples of different mining techniques and technology, as

well as associated lifestyle aspects such as communications, settlement, and dwellings (Bruce Mason *in* Jones 1981).

The historic reserves managed by DOC in the Bannockburn area are: the Bannockburn sluicings (including Menzies Dam and Stewart Town) (c. 134.5 ha); the Young Australian Mine, which includes a water wheel and quartz stamping battery (c. 38.4 ha); and the Bannockburn Post Office (c. 0.1 ha). The Bannockburn sluicings reserve is adjacent to Felton Road, and contains a loop walking track with a number of interpretive signs. The Young Australian reserve is more difficult to access, being located high in the Carrick Range and only accessible by a long walk or four-wheel-drive vehicle. The Post Office is set up for DOC staff accommodation when doing field work, and is also available for holiday accommodation for DOC staff and the public.

The study area lies within the Old Man Ecological District as identified in DOC's Protected Natural Areas Programme.

DOC also has a role in tenure reviews for high-country stations. Part of this role is to identify significant natural and cultural features which may need protection. Kawarau Station is currently undergoing a tenure review. DOC has recommended that Carricktown and associated mines become a historic reserve.

2.5 HISTORIC PLACES TRUST REGISTER

The NZ Historic Places Trust is required to keep a national Register of Historic Places, Areas, Wahi Tapu, and Wahi Tapu Areas. The following places in the study area are listed as Category II items on the Register:

ITEM	NO.	LEGAL DESCRIPTION*
Young Australian Co waterwheel	342	P556 Secs 27/31 34 Blk III Nevis SD; Run 339E Nevis, Lorn & Lornside SD; Run 330B Bannockburn SD
Kawarau Station Homestead (original portion)	2374	Sec 1 Blk V Bannockburn SD
Kawarau Station woolshed	2375	[no legal description given]
Presbyterian Church	2385	Secs 8/10 Blk V Bannockburn Town
Stone Hut Below Battery	2389	P556 Secs 27/31 34 Blk III Nevis SD; Run 339E Lornside SD
Young Australian Co mine battery	2393	Pt Run 330B Blk III Bannockburn SD
Bannockburn bridge towers and abutments	3239	Legal road
Settlement [Stewart Town]	5610	Section 48 Block II Cromwell SD
Dam [Menzies]	5611	Section 48 Block II Cromwell SD
Sluice workings	5612	Section 166 Block I Cromwell SD
Battery/Dam/Hut	5616	Sec 2, Young Australian Historic Res, Blk III Bannockburn SD

* These legal descriptions are taken from the Register but some appear to be out of date or incorrect.

Listing in the Register gives national recognition of heritage value but does not give protection. Any protection is provided through the District Plan provisions.

2.6 CENTRAL OTAGO DISTRICT PLAN

Bannockburn lies within the Central Otago District. Land use and subdivision is controlled through the Central Otago District Plan. The District Plan identifies the following items in its schedule of Heritage Buildings, Places, Sites and Objects (schedule 19.4) within the study area:

ITEM	NO.	LEGAL DESCRIPTION
Bannockburn Sluice Workings	26	Pt Sec 166 Blk I Cromwell SD
War Memorial	27	Sec 9 Blk VI Town of Bannockburn
Presbyterian Church	28	Secs 8-10 Blk V Town of Bannockburn
Post Office	29	Sec 79 Blk I Cromwell SD
Store	30	Pt Sec 1&2 Blk III Town of Bannockburn
Bridge Tower and Abutments	31	Legal road
Stewart Town ruins	44	Sec 48 Blk II Cromwell SD
Dam [Menziess]	45	Sec 48 Blk II Cromwell SD
Dam	267	Sec 2 SO 20098, Young Australian Reserve, Block III Bannockburn SD
Water Wheel, Young Australian Mining Co	268	Sec 2 SO 20098, Young Australian Reserve, Block III Bannockburn SD
Young Australian Mine Co battery	269	Sec 2 SO 20098, Young Australian Reserve, Block III Bannockburn SD
Stone Hut below Young Australian battery	270	Sec 2 SO 20098, Young Australian Reserve, Block III Bannockburn SD
Kawarau Station Homestead (original portion)	271	Sec 1 Blk IV Bannockburn SD
Kawarau Station Woolshed	272	Sec 1 Blk IV Bannockburn SD

These items are protected by rules in the District Plan which require that a resource consent application must be made if demolition or alteration is proposed to any of them.

The Central Otago District has experienced a recent and rapid increase in development over the past few years. Viticulture and lifestyle subdivisions as well as other developments are putting particular pressure on the rural landscape. The Council has recognised that this upsurge may have effects which were not anticipated at the time the District Plan was drawn up, and has therefore begun a district-wide strategic planning process to determine issues, actions, and priorities for the future. This process was occurring concurrently with the writing of this report and was expected to be completed in 2004.

2.7 ARCHAEOLOGICAL SITES

There are over 100 recorded archaeological sites in the study area, almost all relating to the mining era. The sites are recorded with the New Zealand Archaeological Association site recording scheme, which is a national database of recorded sites.

Figure 2 shows the general location of some of the archaeological sites in the landscape. These include hard rock mines, alluvial tailings, water races, coal mines, stamping battery sites, and old settlements. Note that these do not represent all archaeological sites in the area, but only those which have been identified from aerial photos, earlier maps and mining plans. It is NOT a comprehensive plan of archaeological sites in the study area.

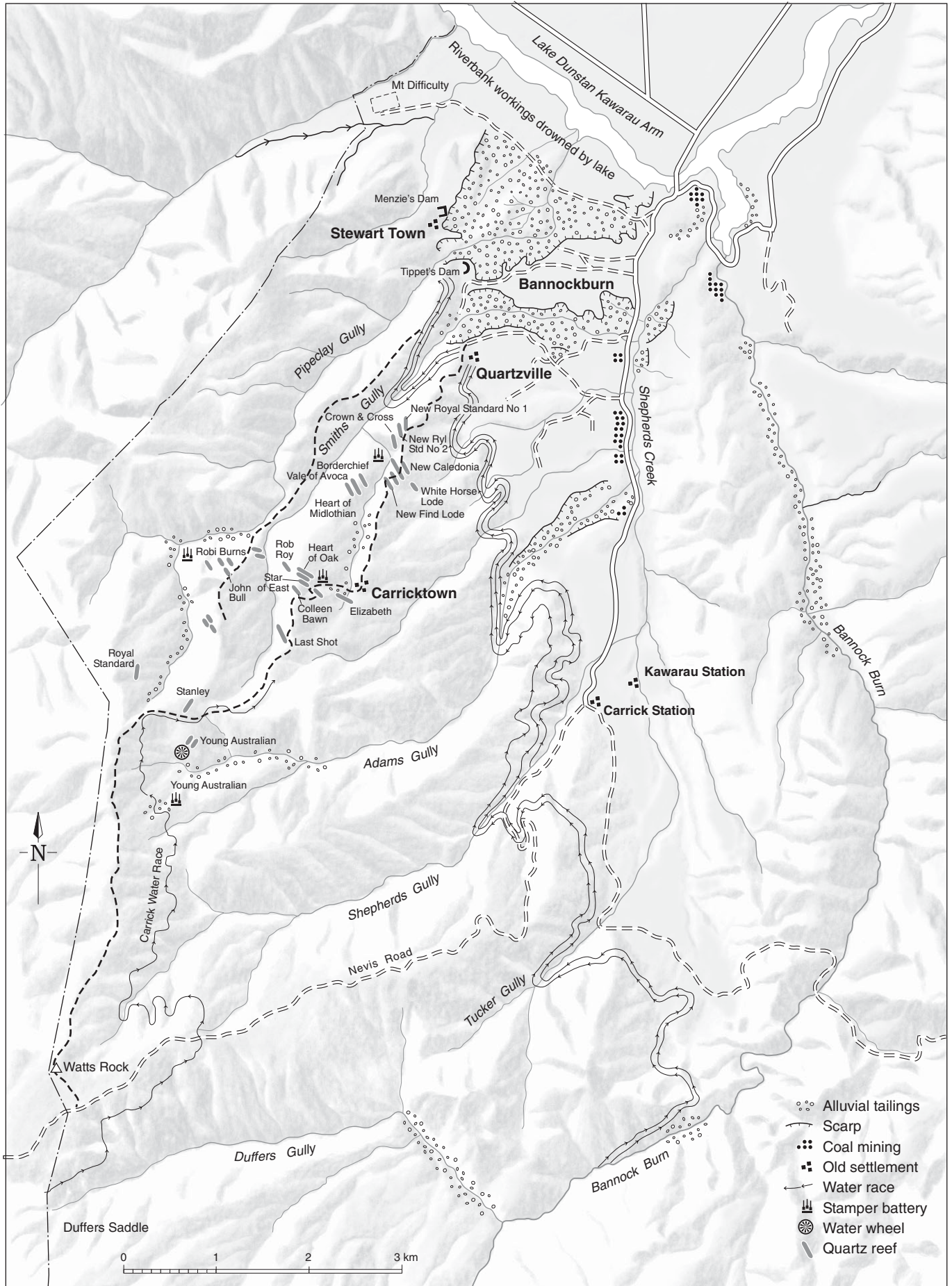


Figure 2. General location of some of the known archaeological features in the Bannockburn area.

Archaeological sites are defined in the Historic Places Act 1993 as ‘any place in New Zealand that ... was associated with human activity that occurred before 1900.... ; and is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand.’ Under the Act all pre-1900 archaeological sites are automatically protected. An approval must be gained from the NZ Historic Places Trust prior to any modification, damage, or destruction of a site.

This applies to all archaeological sites, whether recorded or not.

2.8 HISTORIOGRAPHY

It is not easy to gain a sense of the landscape of the past using only historical writing as a source. The common portrayal of Bannockburn is that it is solely a gold mining landscape, and although there is greater depth to the area’s history, it is the golden story that shines above all and is most often told.

In general, the histories and portrayals of the Bannockburn area paint a picture of the European mining and pastoral community. There are other narratives more difficult to trace; for example those of the Chinese miners, and of women and families. Recording these lives requires following the trail of intricate connections in community life through scattered records. A local genealogist has teased the strands of an infamous woman’s life to reveal the measures she went to, to support her family when largely abandoned by her drunken blacksmith husband. The full story provides depth to the more commonly known facts of her conviction for theft (see Box 13: Jockey Jones).

The Chinese miners are even more difficult to trace, with only isolated mentions of their lives (Ng 1993:218). That the Chinese miners were not part of the broader community was clear; histories mention the formation of anti-Chinese petitions in both Bannockburn and Nevis, even before their arrival—in 1864, miners from these areas protested against provincial government support for Chinese miners coming to the goldfields. In the early 1870s there were equal numbers of Chinese and European miners on the Bannockburn field (Salmon 1963:111-113), but their activities have proved difficult to trace through both written history and the physical remains in the landscape.

Researching the historical section of this study has been both a feast and a famine—on some topics there was too little local information, and on other areas far too much. The lack of specific published material directly relating to Bannockburn meant that, in order to provide some insight into the area, it was necessary to look at what was happening on a broader scale and seek evidence that also applied in Bannockburn. All of the broad themes in the larger Otago history can be found in the Bannockburn landscape, expressed in the physical environment, structures, and personal memories. Current historical writing alone does not provide sufficient insight into these local themes, and detailed research was needed to understand the larger physical landscape, such as in seeking to understand land tenure patterns and the changing occupations of Bannockburn people. On some topics, such as the Chinese presence, there was found to be virtually no historical information.

On other topics, local information did exist but was so complex—a wildly fluctuating transient population; mining overlaying mining; local genealogies—that the larger picture was difficult to read. Local historians and genealogists have done a masterly job teasing out the lives of Bannockburn residents and detailing abodes, farms, occupations and stories. However, for the requirements of this study, the inclusion of this kind of detail was necessarily largely avoided, the focus being on the larger picture of change on a landscape scale.

3. Physical landscape

Information on the physical landscape and environmental history was derived from Anderson (1998), Brumley (1986), Department of Conservation (1998), Hamel (1978, 2001), Pawson (2002), Peat (1999), and Alex Wearing (pers. comm.)

The study area (Fig. 1) lies within a distinctive and spectacular landscape, dominated visually by mountain ranges covered in tussock and scattered schist rock outcrops. The Cairnmuir Mountains, Old Woman Range, Carrick Range, and Mt Difficulty encircle the Bannockburn Basin to the west, south, and east. To the north, on the opposite side of the Kawarau River, stretches a long view of the Cromwell Basin and Lake Dunstan, bordered to the west by the Pisa Range and to the east by the Dunstan Mountains.

The climate is arid, created by the rainshadow effect of the Southern Alps. The Cromwell-Alexandra area is the driest part of New Zealand, with annual rainfall of 300-400 mm per year. Hot dry summers and very cold dry winters create an environment which is harsh on plants, animals and humans. Clear skies enhance evapo-transpiration so the soils are predominantly in moisture deficit.

The study area, and in fact most of Central Otago, is underlain by schist formed from mudstone and sandstone by heat generated by tectonic forces during the Jurassic period. At the same time, the high temperatures turned gold soluble and it moved through fractures in the rock, settling into veins of quartz. Around 130 million years ago the schist was uplifted, tilted and folded. Subsequent aeons smoothed the mountains to form a gently undulating peneplain across most of what is now Central Otago. Then, for about 60 million years, the sea flooded this area. As the sea receded about 20 million years ago a huge freshwater complex (called Lake Manuherikia) evolved on the peneplain. At its margins were peat-rich swamps which created coal and shale deposits - the origin of Bannockburn's coal. About 3 million years ago, pressures from the Alpine Fault acting on a series of fault lines transformed the peneplain into the mountain ranges of Central Otago. One of these faults lies along the east side of the Pisa Range and the other along the west side of the Dunstan Range through Northburn. Differential lift along these faults created the Cromwell Basin.

Today, the Clutha River runs along the length of the Cromwell Basin, joined at the south end by the Kawarau River. The Cromwell Basin is broadest at its

north-east end, maintaining a uniform width from Bendigo to Bannockburn, then becomes narrower and ends at the Obelisk Range.

The study area lies at the south end of the Cromwell Basin, separated from the main part of Basin by the Kawarau River. Within the study area, the generally north- and east-facing slopes of the Carrick Range drop relatively steeply from Duffers Saddle, and then ease off to a series of generally north-facing terraces dropping to the Kawarau River. Alluvial flats run up the Bannockburn Valley in the south of the study area, but the streams which have created them become more steeply gorged towards the Kawarau River. A number of other steep-sided gullies dissect the terraces. These either discharge into the Kawarau or are tributaries of Bannockburn Creek—these include Pipeclay Gully, Smiths Gully, and Adams Gully (Fig. 2).

One legacy of the geological past was a variety of minerals. The schist of the Carrick Range has a number of gold-containing quartz lodes. Weathering of these lodes over millions of years created the gold-enriched gravels in the streams and alluvial fans below. The quartz lodes are localised rather than universally spread across the mountain; hence some streams carried gold and others (e.g. Long Gully) did not. Antimony ore is also present on the Carrick Range in small quantities. Seams of lignite coal crop out along the banks of the Kawarau River between Cromwell and Bannockburn, and some distance up Shepherds Creek. These originated from the carbon-rich swamps of Lake Manuherikia.

Forest was once widespread across Otago. Extensive tracts of forest on the plains were probably dominated by matai, totara and other podocarps. Mid-altitude areas were occupied by both forest and shrubland (matagouri, *Coprosma*, *Olearia*, kanuka, kowhai) and at higher altitudes (600–1000 m) the forest was dominated by Hall's totara, bog pine and celery pine. From about 2000 years ago, a warming climate and periodic natural fires created gaps in the forest which were filled by tussock, creating a mosaic of forest and open country. The arrival of humans wrought further changes. Radiocarbon dating indicates a spate of burning between 700 and 750 years ago, some of which may have been accidental, but some of which was also likely to have been a tool used by the moa hunters to clear routes and flush out game. Following destruction of the forest, snow tussock extended downslope into the zone now occupied by montane fescue tussocklands, and the forest did not re-grow. It is possible that drier conditions were also less suitable for the regrowth of forest. By the time of European occupation from the 1850s, the forest remnants were small and the few remaining areas were probably used for firewood and building within a few years. Pastoral farming maintained and further modified the pattern of tussock grasslands through further burning, grazing and the introduction of new plants.

Parcell describes the vegetation of the Bannockburn area at the time of the first European arrivals:

All the gullies and creek bottoms of the low country, consisting of considerable areas of flat land, watered by pleasant streams, were covered with scrub, matagouri, tea-tree, ribbonwood. Lawyers, toe-toe grass, speargrass and flax, with masses of native fodder grasses and flowers growing on deep rich loam... The drier, flat-topped terraces also carried

good soil densely clothed with tall native blue-grass and tussock with great masses of scrub and speargrass. In some places the native grass was six feet high... (Parcell 1976: 7)

Since European settlement, tussock grasslands have been the dominant vegetation cover of the higher country. Cushion and herbfield communities extend across the exposed ridgetops (e.g. at Duffers Saddle), while lower down is alpine tussock with patches of *Hebe* and *Dracophyllum* scrub. Lower slopes are dominated by montane fescue with scattered patches of matagouri, *Coprosma* and *Olearia* scrub particularly around bluffs, gorges and rock outcrops. Below about 1000 m, exotic pasture species dominate the understorey of tussockland communities or replace the native vegetation completely. On the driest slopes of the Carrick and Cairnmuir Ranges semi-deserts have been created following the loss of tussock cover from heavy grazing by sheep, goats, rabbits and hares. Scabweed, golden spaniard, sorrel, thyme and stonecrop are major recolonisers in depleted areas. On the terrace lands closer to Kawarau River are orchards and vineyards. Matagouri and weed species (e.g. gorse, broom and briar) grow in abandoned pasturelands and sluiced shingle fans.

While natural forces shaped the underlying structure of the landscape, its surface has been changed by humans to an extraordinary extent. As mentioned above, fires during the moa-hunter period of Maori occupation altered the vegetation cover. Apart from this, Maori touched lightly on the land, leaving only slight traces of occupation and use. From the late 1850s, the study area was part of the huge Kawarau Station, a high-country sheep station which was not divided until 1910. Tussock was retained as grazing fodder in the upper country, but in lower areas it was gradually replaced by introduced pastures.

The most extensive physical change was by the miners from the early 1860s, who scraped, dug, sluiced, tunnelled, crushed and churned vast areas of the land in their search for wealth. It is difficult, looking at the landscape today, to visualise just how much it was altered during the latter part of the 19th century and early 20th century. Virtually all of the terraces between the Kawarau River and the foot of the Carrick Range were mined, mostly by sluicing, which changed landforms out of all recognition. Sluicing continued up all of the gold-bearing streams. Gold dredges worked along the edges of the Kawarau River and up Bannockburn and Shepherds Creeks, lifting and re-laying river beds and river margins. Coal mines were more localised but also involved large amounts of earthworks. The slopes of the Carrick Range, where quartz mines were established, were scarred by mines and scored by tracks and water races. Photographs from the mid- to late 19th century show a devastated and barren landscape (Fig. 3). Today, vegetation has largely masked the damage and it is often difficult to differentiate between 'natural' and 'cultural' features except where vegetation has refused to grow, as with sluice faces (Fig. 4).

Another major human-induced landscape change was the creation of Lake Dunstan in 1994 through the damming of the Clutha River at Clyde. The Kawarau River, previously deeply gorged and fast-flowing, was changed into a broad slow-moving stretch of water some tens of metres higher than the previous water level. The lower reaches of the Bannockburn Creek became an arm of Lake Dunstan. The new lake not only changed the landscape visually, but

Figure 3. Carrick Battery,
Carrick Gold Mining
Company, Smiths Creek,
c. 1911.
Source: R. Murray,
Cromwell, *P. Crump*
Collection



it also provided opportunities for different activities both in making irrigation more accessible and providing new recreational possibilities.

Prior to the 1990s, other human modifications to the landscape were relatively minor. A number of small settlements associated with the mining were deserted and gradually eroded. Orcharding was established from around the 1920s but was always at a small scale. The pattern of settlement at Bannockburn remained virtually unchanged over most of the 20th century. But from the late 1980s, the growing popularity of the area for living and (increasingly) for viticulture led to another surge of change. Demand for housing led to new subdivisions (both urban and ‘lifestyle’) as well as new houses being built on existing sections. The village of Bannockburn began to thicken and spread, and the terraces saw a rash of new houses. An even greater change was the viticulture boom. Since 1991, when the first vineyard was planted, the terrace country at the north end of the study area has become dominated by viticulture. The visual change has been dramatic—from pasture or briar-infested paddocks (or at times, orchards) to close-set rows of vines with neat edges and lively seasonal colour changes.

The climate, geology and topography, together with the shortage of water for irrigation, create the factors which have largely directed the fortunes of

Figure 4. The Young Australian water wheel and mine, Carrick Range. Peter Petchey 2003.



Bannockburn. Apart from a few orchards and mixed farms on the terraces around Bannockburn settlement and closer to the Kawarau River, pastoral farming was the only viable form of agriculture until the recent advent of viticulture. The presence of gold and coal largely shaped the landforms and settlement form we see today.

4. Historic landscape

4.1 INTRODUCTION

Bannockburn's past is part of some broad themes in the larger Otago history: exploration, pastoralism, gold mining, closer settlement and the need to find a stable economic foundation. Within that picture, Bannockburn has its own particular experience, one that links directly to the physical environment, structures and personal memories of the landscape.

This section brings together material from written, mapped and oral sources in order to piece together an overview of Bannockburn history and its relationship to the landscape. This is told in two ways: firstly through a chronological narrative, and secondly through particular layers or aspects of the past which require elaboration and which are presented in boxes. These stories of the past are also linked to a series of maps which attempt to show the layers of history that can be read from the landscape. This has been laid out so that the reader has the option of reading the chronology first as a whole, or moving between the chronology, the boxes and the maps.

4.2 MAORI INTERACTIONS WITH THE LANDSCAPE

There is more than one way to tell the story of Maori occupation, use and association with the Bannockburn area and Central Otago generally. Tangata whenua can tell of stories, actions, gods and names with which the land was peopled long before Europeans arrived. Archaeologists have worked to reconstruct the past by interpreting the physical evidence of archaeological sites and other scientific information. For the purposes of this landscape study, all of these forms of information are valid.

4.2.1 Tangata whenua information*

The first who lived in the South Island were the Eroero people, who had fair skin and hair the colour of tussock. Some say they were fairy folk, others that they were unkempt and hairy creatures, and others say that they were real people who were responsible for the earliest rock drawings.

After them came the Rabuva`i** (Rapuwai) (meaning to explore places). It is said that they did not arrive on a waka (canoe), but that they were always here.

After them came the Hawea people on the waka Kapakitua, a strong intelligent people who were specially selected to take part in a voyage of exploration. The principal chief of the Hawea waka was Taiehu. Lake Hawea is named after these people.

At the same time or later came the Waitaha people on the waka Uruao. Some say that Kapakitua was not a waka but the ceremonial adze on Uruao, and that the Hawea people were a hapu (subtribe) of Waitaha. The principal chiefs of the Uruao waka were Rakihouia and Waitaa (or Waitaha). They named the Matauu (or Mata-au, now Clutha River) after their landing point at the mouth of this river.

The early peoples travelled through Central Otago to the pounamu sources further west, and also stayed seasonally to use food resources such as moa, water birds, weka and eels. Silcrete and porcellanite were quarried from outcrops in Central Otago. The whenua ki uta (inland areas) were used seasonally in conjunction with coastal settlements. The centuries up to the present saw successive waves of tribal groups (Kati Mamoe, Kai Tahu) move into the area and intermarry with earlier groups, but there was continuity in the use of Central Otago as a seasonal food source and a route to the pounamu areas. The relationship between iwi and the inland areas has continued to the present.

The Central Otago landscape is filled with names and stories arising from the long associations with the area. Only some are in common use. Some examples are given here:

Makahi (Mt Aspiring) is important in the history of the creation of the area. The mountain is an atua (god) whose full name is Makahi a Tuterakifanoa. He dug

* The principal informant for this section is Huata Holmes of Kati Huirapa Runaka ki Puketeraki. Other information is primarily from the Kai Tahu ki Otago Natural Resource Management Plan and the Otago Conservation Management Strategy.

** Names are in the southern Maori dialect used by the principal informant, with (where appropriate) standardised Maori spelling alongside.

Box 1: THE STORY OF THE BOUAKAI

The Bannockburn area is the location of an ancient story. A woman named Kofiua had two children, a young boy Kolo and a young girl Maia. Maia had been injured (maybe a broken arm or leg) and could not easily move. A flock of Bouakai (or Pouakai) flew in and were menacing her. Her mother Kofiua became distraught, but she and her son staunchly defended Maia and kept the Bouakai at bay until help arrived.

(Bouakai is a Maori name for the New Zealand eagle (*Harpagornis*), now extinct, which had a wing-span of up to 3 m and a weight of 10–13 kg. They are among the largest birds of prey that have been known on earth. They existed at the same time as moa and became extinct possibly around 500 years ago (Peat 1999:28).)

The west branch of the Bannockburn Creek (now Shepherds Creek) was named Bouakai (or Pouakai) after this event. The east branch (Bannockburn Creek) was named Kofiua after the mother. Another stream which runs into Kofiua from the east is named Kolo after the son. Where it meets Kofiua, that ground is known as Maia after the wounded daughter. The story and the named places recall the bravery of the three as they defended themselves from the eagles.

Arising from this story, the Bannockburn area is known as Kofiua.

out lakes, valleys and harbours and clothed the earth with plants and creatures prior to the coming of mankind. Kopuwai (the water swallower) stands high on the Old Man Range.

All of the Otago/Southland area that lies south of the Waitaki and Landsborough Rivers is known as Araitauru (or Araitauru). The name comes from a waka with the same name which was wrecked off the coast near Moeraki. The survivors came ashore and explored the land, naming the hills and mountains after those who died and those who survived. On board the boat was a giant of a man named Kilikili Katata. He brought his grandson Aoraki safely ashore on his shoulders. Aoraki (Mt Cook) is named after this boy, and the lower peak of Aoraki is Kilikili Katata.

The name for Cromwell is Tirau meaning many cabbage trees. These were planted in groves at certain places as markers for routes. As they did not grow naturally in the area, they stood out in the landscape. They were also a source of food and were cooked in umu-ti (earth ovens).

4.2.2 Routes

Maori developed a number of routes through Central Otago to access food resources and pounamu (greenstone) (see Fig. 5). Atholl Anderson's maps of the area show a traditional route from the coast to the interior on the north bank of the Mata-au (Clutha River). There was another route from Murihiku to the Wakatipu Lakes up the Mataura River, into the Nevis Valley and on to the Lakes. The Nevis Valley provided the easiest route from the Central Otago Valley basin systems to the Southland Plains and Te Anau and Manapouri (Hamel 1978:122).

Kaumatua Huata Holmes also recounted an ancient route from Wanaka to Southland that runs from the Wanaka area, up Cardrona Valley, over Tititea saddle into Tititea Stream (Roaring Meg) to the Kawarau, across the natural rock bridge Whatatorere, up the Nevis Valley and down the Nokomai to the Mataura River. The Nevis was known as Papapuni or Paapuni (camping ground).

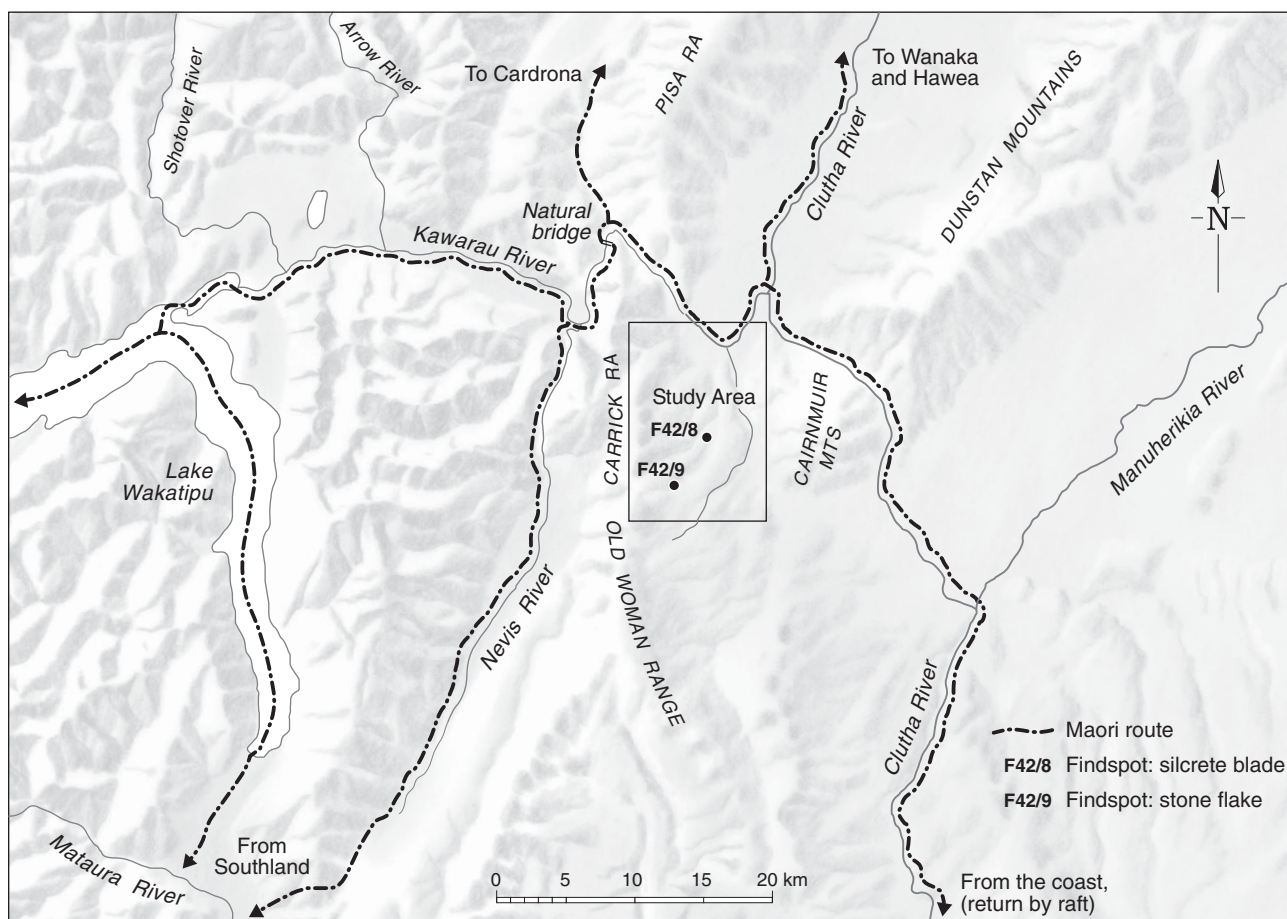


Figure 5. Prehistoric routes (after Anderson) and find-spots around Bannockburn.

Hamel notes that, before a European road was made through the Cromwell Gorge (mid 1860s), the coach road and walking track ran through low passes in the foothills north of the Hawksburn site. These may have followed Maori routes. There was also a secondary set of low passes from the Earnscleugh Flats via the Fraser Dam area and the Hawksburn site to the Kawarau River (Hamel 1978:122).

Iwi knowledge of the area was evidenced by the quite accurate maps and route-finding undertaken by various individuals, such as Reko from Tukurau, who guided Europeans interested in exploring the interior in the 1850s.

4.2.3 Archaeological information

Archaeological knowledge of Maori habitation in Central Otago is relatively sparse, and limited to those sites which have been recorded and investigated. Carbon dating suggests that Maori had a presence in the area from around the mid-13th century, at which time moa were being hunted in large numbers. An important moa-hunter site is located at Hawksburn, just to the east of the study area, and this was excavated in the 1970s revealing many earth ovens, the remains of moa and other birds, tool-making sites and possibly temporary shelters. Hawksburn appears to have been principally a moa-hunting camp site occupied for short periods within a brief span of time (Anderson 1979: 58).

Iwi associations with Central Otago were founded on resource-based usage—initially the hunting of moa and other food resources. After moa numbers had

diminished, mahika kai were established where each hapu had rights to geographically scattered resources. There is very little published information about Maori occupation of sites within the study area or the Cromwell Basin generally. Anderson (1982b) compiled available archaeological information on late sixteenth-nineteenth century prehistoric inland sites in Central Otago. He found that during this period there were seasonally occupied settlements in Central Otago which were used as a base for exploiting the area's food resources, and that coastal Ngai Tahu undoubtedly knew the interior well (Anderson 1998).

It is not possible to definitively link this information to the study area. The only physical signs of Maori occupation found in the study area have been a silcrete blade and a stone flake (F42/8 and F 42/9, see Fig. 5). The latter was found near the summit of Nevis Road, which suggests that this, too, may have been a route prehistorically.

Anderson considers that the absence of Maori living in the interior by the mid nineteenth century was not 'an accurate reflection of its place in Ngai Tahu settlement and subsistence patterns of the earlier nineteenth century' (Anderson 1998: 178). There had been occupied villages around Hawea/Wanaka in 1836, but the occupants were either captured by or fled from a raiding party of Ngati Tama from Golden Bay (Anderson 1986). Additionally, the arrival of Europeans brought new food types and trading opportunities, changing Maori life from its previous rhythm of seasonal resource-gathering. Once small-scale farming was adopted, families no longer needed to rely on seasonal foods and so reduced their forays inland for tools, flax, weka and eel (Hamel 2001: 88).

4.3 COLONIAL EXPLORATION AND PASTORALISM

European exploration of Central Otago did not begin until the 1850s. Early maps of Otago fade to a blank unknown interior beyond the first range of hills near the coast. The first European to see the vastness and character of the interior was Nathaniel Chalmers of the Clutha district. Chalmers was reliant on Maori knowledge of the interior. He persuaded Reko of Tukurau to guide him from Otago to Canterbury by an inland route. In September 1853, he, Reko and another Maori companion set off up the Mataura and the Nokomai valleys and over the hills to the Nevis and Kawarau valleys. They crossed the Kawarau River on the natural rock bridge and went downriver to the flats above Cromwell. They made their way to Wanaka and Hawea, before Chalmers, who was exhausted, gave up any idea of going further, and the group returned by raft down the Clutha River (McClymont 1959: 70).

Reko and Chalmers' route skirts around the edge of the present study area because of the need to cross the Kawarau River at the natural bridge—an incomplete rock arch in the Kawarau Gorge to the west of Bannockburn. Closer to Bannockburn the Kawarau surged through steep cliffs, proving a difficult and dangerous barrier to the flat land on the other side. The details of Chalmers' journey remained largely unknown until the turn of the century.

The next wave of exploration centred on surveyors and runholders, as they began their tentative forays in the mid 1850s. Surveyor J.T. Thomson arrived in Otago in 1856. After surveying Southland, and receiving descriptions of the interior from Reko, Thomson explored the country himself—walking more than 2500 km on his reconnaissance surveys (McAloon 2002: 65).

Maori understanding of the landscape was determined by description, use, whakapapa and myth (Byrnes 2001: 92). The surveyor's maps provided a new possession of the land as a resource, 'empty' and ripe for redrawing and division as pastoral runs.

Thomson's well-publicised descriptions of the pastoral potential of the interior led to a rush of interest. Herries Beattie provides a description of the European 'spying out' of land for settlement:

...some excursions were humble affairs made on foot, and some were confined to the one man, and from this lowly standing they rose in graduation until we arrive at quite elaborate expeditions when several men with packhorses would carry a tent, blankets, and food for a more prolonged tour (Beattie 1947: 31).

Within 12 months of the publication of J.T. Thomson's descriptions of the interior of Central Otago, 3–4 million acres had been applied for. Pastoralists moved inland towards the Wakatipu, taking up vast tracts of land as stations, usually beating the surveyors to the land. It was in the context of the early exploration by surveyors and pastoralists that the Australian and New Zealand Land Company took up a vast area of land (around 200 000 acres), calling the run Kawarau Station (Parcell 1976:14). The study area comprises a very small portion of the former station.

Kawarau Station was established in 1858 by F.G. Alderson on behalf of the Australian and New Zealand Land Company, a Scotland-based enterprise which wanted access to cheap unoccupied land. The station was one of the 'big five' stations in Central Otago, the others being Earnsclough, Morven Hills, Moutere, and Galloway stations. The Company was keen to maintain sole occupation of the land, and fought for many decades against government policy of breaking up large stations, until finally succumbing in 1910.

The establishment of Kawarau Station has particular significance as the homestead and main farm buildings were built in the Bannockburn Valley and remain there to this day, serving the smaller but still extant station. The freehold title of the station homestead site was purchased in the early 1860s, but the rest of the station has remained a pastoral lease.

The Bannockburn area remained largely unmapped in Thomson's early reconnaissance surveys, probably due to the difficulties in accessing the area. Thomson was alarmed that settlement was preceding the survey of Central Otago. In 1858 he sent his assistant Alexander Garvie to make a reconnaissance survey of the Alexandra area, but these early reconnaissance surveys focus on the wider Cromwell Basin. The Bannockburn area sits on the southern edges of the map, the river curve tantalisingly evident, but with no detail of the area provided (See AG220/92/4; AG220/92/9).

The first mapped image of the Bannockburn area comes from a reconnaissance survey of 1862/63 undertaken by district surveyor James McKerrow (AG220/

92/11c). This stunning map covers the land from the West Coast to the Otago Coast, inking in the main topographical features, and sketching in the location of pastoral runs throughout this vast area. Bannockburn and Forkburn (Shepherds) Creeks are shown, as are surrounding peaks: Watts Rock, Mt Difficulty, and Cairnmuir. The position of Kawarau Station is indicated, as is an accommodation house, a likely effect of the recent influx of a mining population. The infant Cromwell (as yet unnamed) is shown at the junction of the Kawarau and Clutha Rivers. In the case of Bannockburn, it is evident that the miners and pastoralists beat the surveyors to the country (see Fig. 9).

Routes into the interior were a vital framework which shaped (and were shaped by) the development of Central Otago. Some early tracks were likely to have largely followed Maori routes. Rivers were a formidable barrier, as were mountains and gorges. It is not surprising that Bannockburn, surrounded by all three, was not on a major route. The main routes which developed in the vicinity are shown on Fig. 10, although this is only a static representation of what was likely to have been a dynamic and evolving process, especially after the discovery of gold. The primary access was initially from Clyde over the Cairnmuir mountains and down to Kawarau Station. The gold rush created a demand for new routes to new places. In the study area this included a track over the Carrick Range into the Nevis Valley, and access over the Kawarau River from the Cromwell area by means of punts, ferries, and various bridges. The various permutations of these are well described in Parcell (1976, ch. IX).

4.4 MINING AND MINING-RELATED SETTLEMENTS, 1862 - 1930s

The silent land, sparsely populated from 1858 by pastoralists, a few station workers, and sheep, was to be changed beyond all recognition within the space of five years. The discovery of gold at Gabriels Gully in 1861 was followed by a stream of gold-seekers who spread feverishly into the valleys and hills of Central Otago. The Otago gold rushes followed on the heels of the Californian rushes of the late 1840s and early 1850s, and the Australian rushes of the mid to late 1850s. Many miners were professionals, following the gold finds around the Pacific, bringing the knowledge, technology and experience of previous fields. Others were opportunists who hoped for an easy fortune.

The early rushes were responsible for a dramatic increase in population and a change in economic balance from the North Island to the South Island. During the months of July to December 1861 the population of Otago rose from less than 13 000 to more than 30 000 people, more than half of the influx coming from Australia (Salmon 1963: 61). Rising gold production stimulated internal commerce and provided a new market for pastoral products. It was the catalyst for a major change in the nation's economic fortune, as the gold rush led in turn to other major rushes,

...until the feverish individual quest for gold became transformed into the capitalist industry that for a half a century provided a large proportion, and for years a major part, of annual New Zealand exports. (Salmon 1963: 11, 46-50).

Box 2: KAWARAU STATION

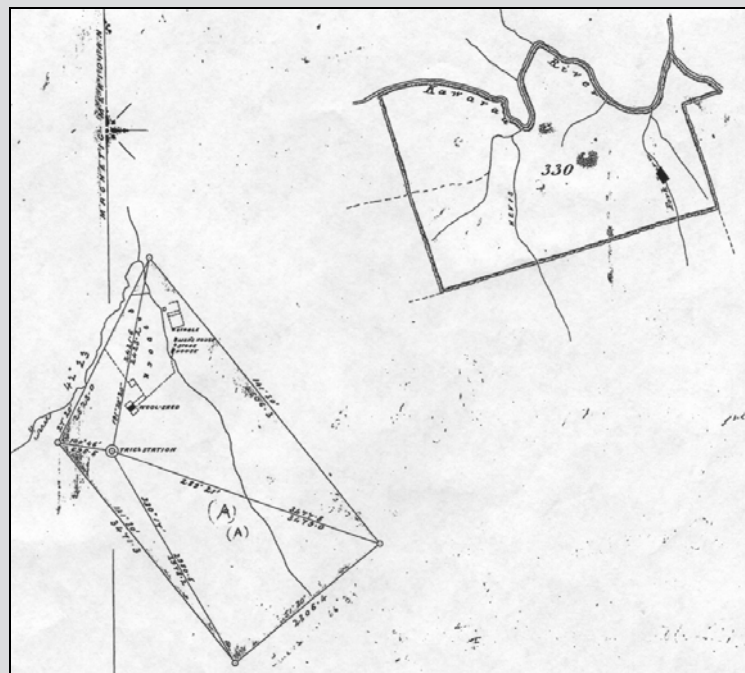
Kawarau Station homestead (Fig. 6) and outbuildings lie nestled within a group of mature trees about five kilometres from Bannockburn settlement. The modest thick-walled stone and mud homestead was begun as a smaller dwelling in 1858 and added to over subsequent years, so that today it rambles some distance in its mature garden setting. The homestead, schist woolshed, and other farm buildings cluster together on the small alluvial plain of the Bannockburn Creek.

Figure 6.
Kawarau Station
homestead.
Peter Petchey 2003.



The scale and layout today is much as it was described in early plans of the area. The 1862 survey of the 92 acre pre-emptive right for Kawarau Station shows the homestead and the station buildings (SO 16356) (Fig. 7). The buildings are clustered around Forkburn (later Shepherds) Creek. A house, storemen's house, and stable stand in close proximity, with the woolshed across the creek, a little way off.

Figure 7.
Kawarau Station
Pre-emptive Right, 1862.
(From SO 16356.)



Box 2 (continued): KAWARAU STATION

The New Zealand Historic Places Trust field record form for the station buildings describes the original portion of the homestead as a single-bay cottage with stone exterior walls and rammed-earth interior walls. The men's quarters shown on the 1862 plan were later incorporated into the homestead. Across the creek is the 20-stand schist woolshed and stone-paved yards, partly built in the 1860s, with an addition in the 1890s. G. Hamel describes Kawarau as 'by far the most intact and unmodified of the major early farmsteads in the Old Man, Umbrella and Nokomai areas' (NZHPT field record form No. 2374).

The original station boundary was on the south side of the Kawarau River from Clyde in the east, to Gibbston on the west. The southern boundary was in the mountains in the south. Owing to the formidable barrier posed by the Kawarau River, supplies for the Kawarau Station came via a pack track over the Cairnmuir Mountains from Clyde until the Kawarau River was bridged in the mid 1870s.

The building of the station homestead and other associated buildings, on a small flat at the fork made by two branches of Shepherds Creek, probably began in the early 1860s (Parcell 1976:7). Higham et al. (1976:4) note the settlement pattern associated with pastoral stations 'centred on the homestead, with its associated buildings, such as the woolshed, implement store and dairy, but employees often lived in outlying parts of the run, usually to oversee the access of stock in the absence of fencing.'

The station was of fundamental importance to the mining population, as it provided supplies, particularly mutton, when there were no other sources available. Stock were brought into town weekly, killed and sold from what became known as Slaughteryard Hill, across the road from the present Bannockburn Hotel. Miners were allowed to fence off small areas of the station to run a few animals, as long as in doing so it did not interfere with the operation of the station. Miners in turn also provided labour for the station (Parcell 1976: 8–9).

Until the station was subdivided in 1910, its operation continued to be associated with the various forms of the Australia and New Zealand Land Company. The station was still over 206 000 acres in area at the time of its forced breakup. At this point it was divided into sixteen smaller holdings, many of which still exist today. The area containing the old homestead retained the name Kawarau, but was reduced in size to 11 900 acres (Run 330a). The freehold and pastoral run were bought by P. Johnstone, who sold out to R. Jackson (Parcell 1976:13-14). After two more ownership changes, it was bought by John Anderson in 1927, whose son continues to run the station.

Figure 8.
Stone woolshed,
Kawarau Station.
Peter Petchey 2003.



The continued influx of miners followed new gold discoveries around Otago. There were no formed roads or bridges: miners carried heavy swags or drew handcarts, probably initially along the rough tracks that served the stations, and from there into the uncharted hills and valleys, creating new routes as they went. New economic opportunities arose in their wake, for accommodation,

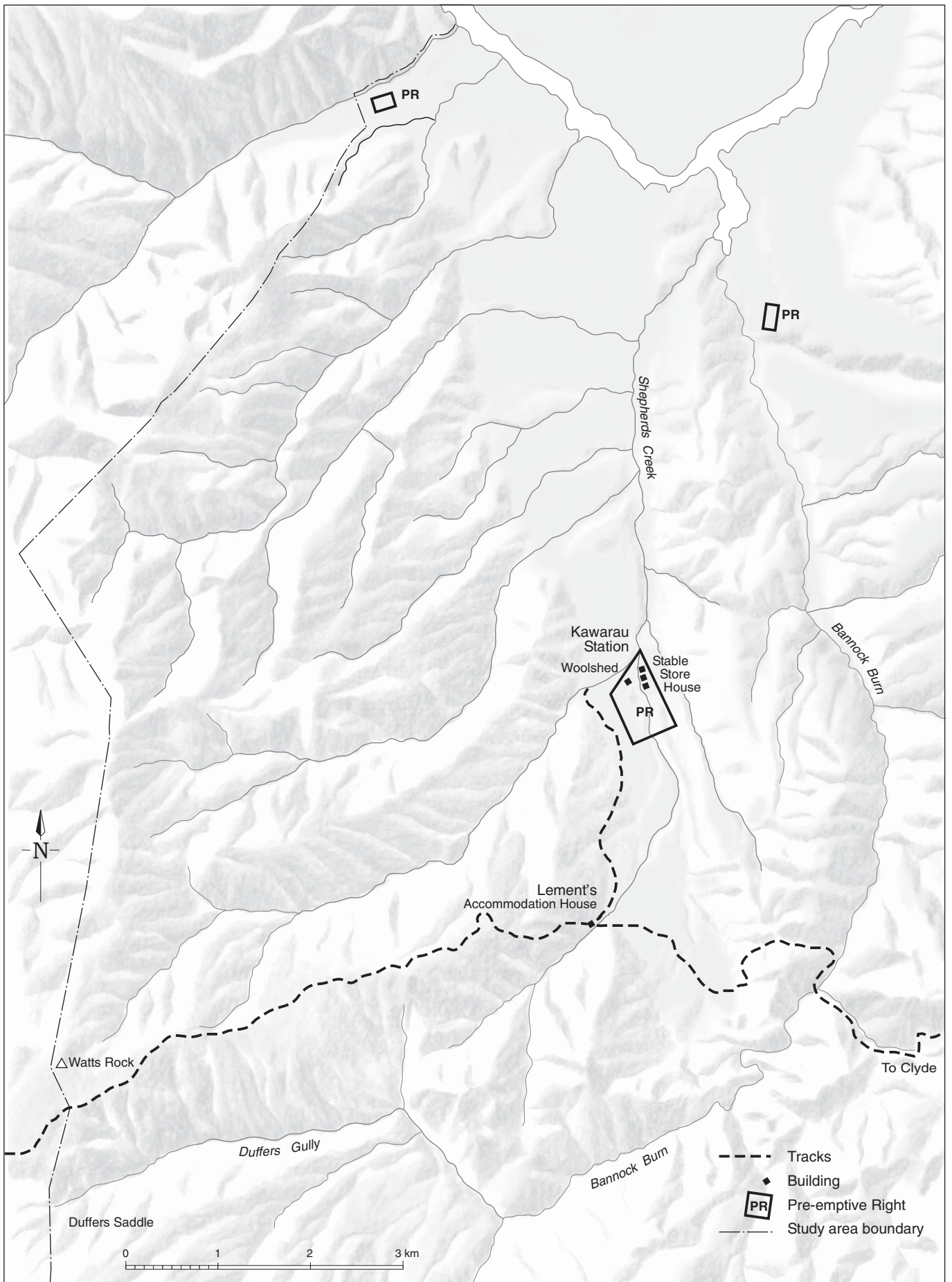


Figure 9. Kwarau Station and early gold rush, 1862/63.

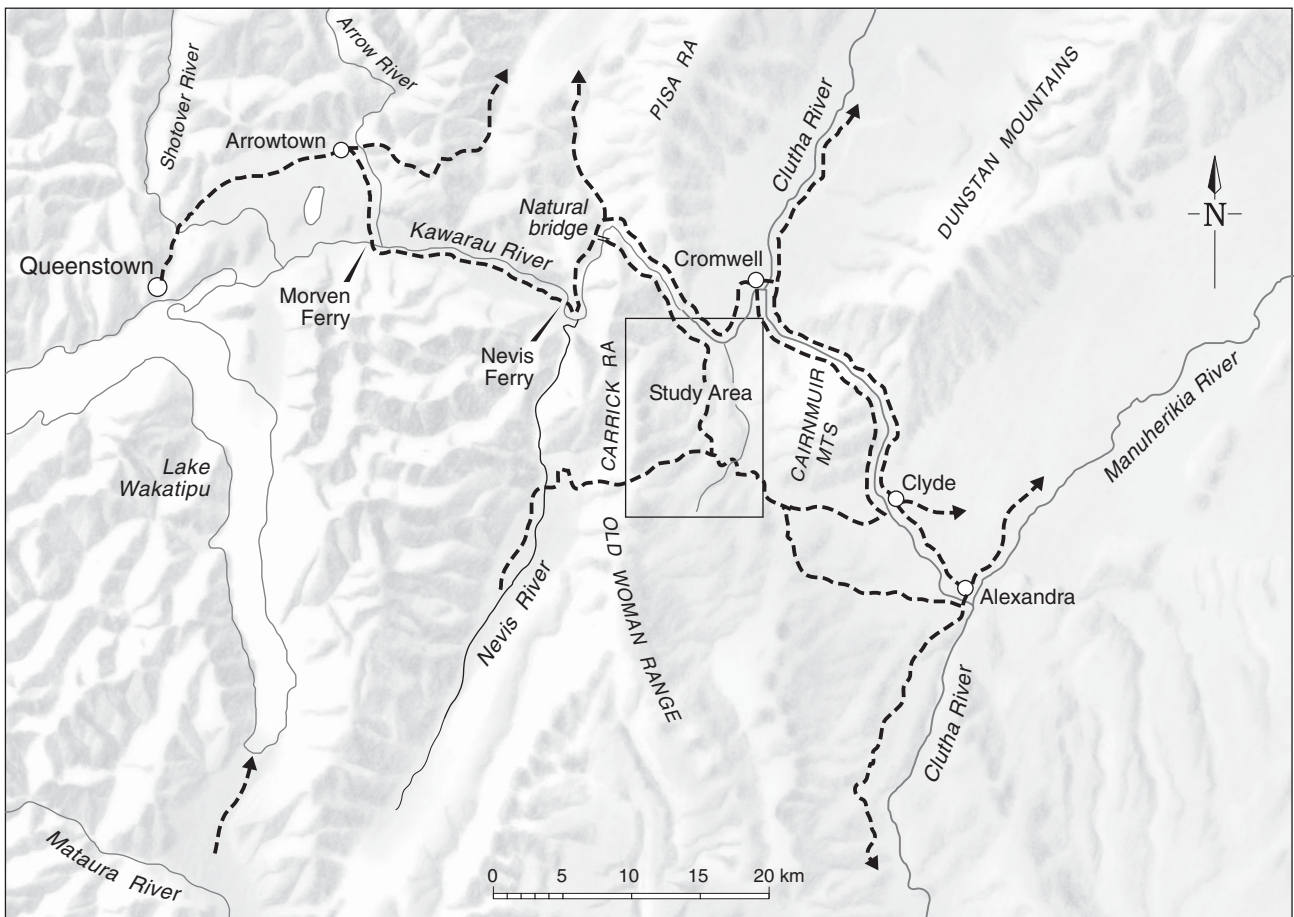


Figure 10. Routes prior to 1864 (dashed lines) in the Bannockburn region.

packers and storekeepers on the fields, and for meat and other provisions from the stations.

In late 1862, miners flocked to the Dunstan fields following the rich discoveries in the Cromwell Gorge by Hartley and Reilly. From here they rapidly fanned out into the Cromwell Basin and surrounding hills seeking new fields, and were not disappointed. Discoveries were quickly made at Cornish Point and in Bannockburn Creek and its tributaries. The miners rapidly scouted up the Bannockburn Valley, and also over to the Nevis Valley. By the end of 1862, a significant mining population was already spread over the Bannockburn area.

Goldmining wrought huge changes on the Bannockburn landscape. Alluvial areas were mined first, with miners working the river flats around the Bannockburn and Shepherds Creeks. As miners followed the creeks upstream, they moved into the tributary gullies, building huts close to their workings. The riverine terraces were then worked. With the discovery of gold-bearing quartz reefs on the Carrick Range, settlements followed the mines into the harsh uplands as stamping batteries were built to crush the ore. The peak goldfields population in Otago was reached around 1864, but owing to the rich finds in the Bannockburn area, goldmining there continued in various forms for many decades.

The ever-evolving technologies used to win gold from the ground were an important part of the gold mining story, and many are represented in the

Bannockburn landscape. Beginning with hand panning, miners would have moved to cradles and other more sophisticated methods of washing gravels. The limiting factor of water supply was addressed by constructing lengthy water races, and the resulting ability to sluice with high-pressure water gave much faster returns. Underground mining was used in the Miners Terrace area to gain access to deep leads of gold. Quartz from the Carrick slopes was crushed in batteries to release the gold particles. Dredges chewed through river gravels in the Bannockburn and Shepherds Creeks, and along the Kawarau River. The various technologies prolonged the viability of gold mining. Each also contributed to the form of settlement and left its own particular signature on the landscape.

4.4.1 Early mining in Bannockburn area

Gold was discovered in the Bannockburn area in the spring of 1862. Miners had been working the Clutha and Kawarau River beaches for gold, but rising water levels forced them up into the surrounding country, where they found gold in many streams. The first miners known in the Bannockburn area were Cornish and Pope who worked the alluvial gravels at Pipeclay Gully in October 1862 (Parcell 1976: 27). By November there were approximately 2000 miners active in the Carrick Range, but two months later they were virtually all gone, seduced by the rushes to the Shotover and Arrow Rivers (Bristow 1998: 1). Some remained or returned, and Warden Coates reported that, by late 1863,

between the Nevis and Clutha Rivers the vast extent of rude and elevated country known as the Carrick Range has received good prospecting, from which it has been ascertained that many spurs and saddles as well as a considerable number of gullies in the area of mountains are auriferous (Coates in McPherson 1986: 13).

The rich finds encouraged more miners to flow into the area. One hundred and seventy-eight miners were reported to be mining in the Bannockburn basin in 1864/65: fifteen cradling, 75 sluicing, 70 ground sluicing, and 18 working with hydraulic hoses. Some 41 km of water race had already been built to supply the Bannockburn field (McPherson 1986:13). But by 1865, gold returns from the alluvial workings were falling, with the result that the population also dropped, with an estimated mining population of 30 at Bannockburn and 90 in the Bannockburn district (Parcell 1976: 25). The easily mined areas with shallow gold had been worked out, and greater effort and investment would be required to recover more gold. In particular, the problems of water supply, access and the disposal of sludge-filled water and tailings needed to be addressed.

Box 3: SCATTERED MINERS' HUTS

There are a number of single huts or clusters of huts in the landscape which date from the mining era, and anecdotal evidence of others. Many are in very isolated gullies up on the Carrick range, seldom visited. These probably represent only a portion of the ephemeral settlements which followed mining activity – most probably only a few huts occupied for a few years. There is even less evidence of the tents in which many probably lived. It is not possible to reconstruct the chronology, spread or exact existence of these scattered and ephemeral settlements. Their remains and their stories are, however, important echoes of the past, when the hills teemed with men intent on finding gold.

4.4.2 Water

Water was an absolutely pivotal resource, not for only gold mining but for all activities in Bannockburn. Miners were unable to use water from the Kawarau River as it was too far below the land level in its steep gorge. In order to gain water for mining purposes, water races needed to be constructed to convey water from distant points and channel it to where it was needed, and dams were required to store the water. See Box 4: Water Races.

4.4.3 Routes

Access difficulties not only hindered the movement of people and stores, but also limited the mining of the gold-bearing quartz reefs on the slopes of the Carrick Range (Parcell 1976: 27 and 81). Efforts to resolve these difficulties were made in the later 1860s (see Fig. 10); in 1867, the dray road to Nevis opened, and during the same year, a cart road was constructed to Smiths and Pipeclay Gullies (Parcell 1976: 83). A partial reorientation from the Cairnmuir route to the Cromwell junction occurred after a pack track through the Cromwell Gorge opened in October 1863. The first route was on the steep, gully-scarred west bank of the Clutha, but heavy rains washed parts of it away. A new road was formed on the east side and was sufficiently completed by April 1864 for the mail contractor to start a coach service to Queenstown (Moore 1953: 74–75). Both routes remained in use for some years until the east bank became the preferred route. River crossings were provided for many years by punt or ferry, the first being set up by James Stuart, who ran a ferry across the Kawarau about 200 m below the current Bannockburn Bridge.

4.4.4 Sludge

Another limitation to alluvial workings was the need to dispose of the growing mass of tailings and debris. Sludge was the name given to these ‘vast quantities of tailings and mining debris’ which led to ‘the destruction of land, the choking of water courses and the fouling of water’ (Hearn 1981: 83). It was a particular problem on flats that had little fall to naturally channel waste away. If sludge could not be disposed of it could effectively prevent further mining in that area. The discharge and disposal of sludge was a fundamental part of managing the mining landscape in Bannockburn. Some watercourses became official sludge channels—for example, Pipeclay Gully was declared a sludge channel in 1873 (Parcell 1976: 37).

4.4.5 Quartz mining

Relatively soon after the start of alluvial mining, miners discovered a rich source of gold in the quartz reefs on the Carrick Range. The first small mine was started in 1864 on the Caledonian Spur, about half-way up the Carrick Range, named the Elizabeth reef. Early quartz mining was confined to surface quarrying and initially yielded good returns (Parcell 1976: 80). Other reefs were discovered at the heads of Pipeclay and Adams Gullies but little progress was made until the development of the reefs at Bendigo, north of Cromwell, showed how valuable quartz mining could be. Enthusiasm was infectious, and by the end of 1869, five quartz-mining parties were operating on the Carrick. The quartz-mining rush had begun.

Box 4: WATER RACES

The remains of water races are everywhere in the Bannockburn landscape, from high on the Carrick Range to the lower terraces. During the mining era they supplied the essential resource of water, which was required in vast quantities for sluicing (Fig. 11). Water was also used for motive power (the Young Australian water wheel being the best surviving example) and increasingly for irrigation of the parched land.

In goldfield areas, water use for mining took priority over other uses, and goldfields regulations prescribed a system of water measurement. Water became a commodity, and entrepreneurs, companies, and groups of miners found a new source of income generation (Offer 1997: 107-8).

The water supply in the Bannockburn area largely came from small streams with their sources in the mountains. Larger streams supplied lower-level races, and sometimes water was diverted from one stream and dropped into another to boost the water supply further down. Races required a shallow and steady downhill gradient, so had to follow the contours of the hills to reach their destination—a tricky task for the rudimentary surveying equipment of the day. Dams (technically reservoirs) were built lower down to store the water until it was needed.

Water races had begun to snake across the land by the mid 1860s. Two races were built in the vicinity of Cornish Point in 1865, extending nine miles into Bannockburn Creek. The lower one, known as Harrigan's race, was completed in January 1866. The larger Irresistible Race, built by Thomas Tippet and party, carried eight heads from Bannockburn Creek and was completed in March 1866 (Parcell 1976: 26). In early 1866, Kelly and party had brought a race 12 miles from the upper reaches of Shepherds Creek into Bannockburn; by July the race had reached Adams Gully (Parcell 1976: 26). In 1867, the first proposal to build Carrick Race was put forward although it was not begun until 1872 (Parcell 1976:30). In 1868, the Stuart & Menzies Race was built at Long Gully, round to the lower end of Pipeclay Gully, and was later carried around to Slaughteryard Hill. By 1877, there were fifteen substantial water races in the Bannockburn district (Parcell 1976: 38).

The largest of the races was the Carrick Race, which runs some 22 miles (35 km), picking up water from two tributaries of Coal Creek in the Nevis catchment and conveying the water over the watershed into the Bannockburn catchment and down to the vicinity of Bannockburn settlement. The first sod was turned on the Carrick Water Race on 20 April 1872. The race-building work was done on contract, with major financial troubles, and organisational difficulties. By 1875 the race had advanced to the Young Australian mine site, where the water was used to run the water wheel which powered the battery. To assist its progress, the government stepped in and subsidised the Carrick Range Water Supply Company, who were running the project. The Race was finally completed in 1877. Its commissioning in 1878 led to an increase in the gold returns for the district (McPherson 1986: 13). One water right from the race took water as far as Menzies Dam. The Carrick race is still in use today, owned and operated by the Carrick Irrigation Company, which consists of local users. The water is mainly used for irrigation.

Local historian Paul Crump estimates that, by 1890, there were around 29 dams in use in the Bannockburn area, 24 of these within 3 square kilometres, close to Bannockburn township. The majority were used to hold water fed from water races, and a smaller number were used to hold water for quartz-crushing batteries on the Carrick field. He estimates that only five of those near the township still existed in 1997: Shorts, Carricktown, Tippetts, Tippetts & Ritchie, and Menzies Dams (Crump, undated), although more may be extant in the Carrick quartz field.

Because of their complexity, it has not been possible to map the historic pattern of water races and dams. However, some races are still in use today for the irrigation of farmland, orchards, and vineyards (Fig. 12).



Figure 11. Sluicing, Hancock & Lawrence's Claim, Bannockburn (no date).
Reproduced by courtesy of Hocken Library, Uare Taoka o Hakena, University of Otago.

4.4.6 Alluvial mining continued

Another surge of alluvial mining occurred from 1866, when the bulk of the terraces fronting the Kawarau River were worked, as well as various river flats and gullies. A scattering of settlement and services began to form in the wider Bannockburn area. There were corrugated iron houses, two stores, and a butchers shop at Bannockburn, although it is not known if these were at the early site of the settlement or elsewhere. Another store was located at the foot of Smiths Gully, and a hotel near the ferry crossing. See Box 5: The township of Bannockburn.

By 1867, alluvial mining was extending up the mountain sides, with small alluvial benches being sluiced. Miners were taking up claims as far up as Duffers Gully at the upper reaches of Bannockburn Creek, but with patchy returns. A major flood in 1868 allowed previously mined river claims to be reworked.

In 1868, the population of Bannockburn (including Carrick) reached its peak, estimated to be over 2000 people. From 1871, the population began to decline as the mining returns gradually decreased (Parcell 1976:106).

Alluvial mining continued to depend on the availability of water. A frenzy of race-building from the mid-1860s through the 1870s saw numerous water races built (see Box 4: Water races). The large quantities of water allowed for vast



Figure 12. Water races still in use around Bannockburn district, 2003.

Box 5: THE TOWNSHIP OF BANNOCKBURN

The first settlement to be called Bannockburn began at the end of 1862 near the junction of the Bannockburn and Shepherds Creeks, about half a mile from the Kawarau River. The area was originally a scrub-covered alluvial river flat and is now drowned under the Bannockburn Arm of Lake Dunstan. It was likely to have been predominantly a tent settlement. Timber was scarce, but the fortuitous discovery of coal outcrops in the vicinity would have provided a local supply of fuel. A hotel and store were established to service the growing population. The warden of the district estimated some 300 miners at Bannockburn and some 750 on the Bannockburn Creek by mid 1863 (Parcell 1976: 23).

The settlement of Bannockburn did not remain stationary, possibly because the alluvial ground under its original location was found to contain gold, and because gold finds were being made further away from the river. By May 1867, the centre of activity at Bannockburn was moving south-west. John Richards shifted his hotel to Doctors Flat, now the approximate site of the Bannockburn Hotel. Some buildings were established along the Bannockburn-Nevis Road (Parcell 1976:104-105) and others clustered wherever mining was occurring. The settlements were likely to have looked like most others in Central Otago: 'small blue villages of corrugated iron, or the flimsiest wooden buildings...most of fleeting and temporary character' (Hearn 1981:47).

A town site for Bannockburn was surveyed in 1878 (SO 14102). The rectangle grid of the town was superimposed upon the barren and scarred ground of a well worked mining area. The plan showed town sections cut through by water races, dams and other mine workings, with no reference to the contour of the land. Sod walls appeared to edge mining areas in a couple of places, but again the layout imposed on the land by the surveyors paid no heed to these nominal boundaries. There was only one house in the 'town', and two sheds. The Campion's Hotel was just south of the surveyed township.

The first detailed map of the area, also drawn in 1878, shows that at this time the main settlement was a cluster of 22 buildings (including Angels Hotel) in the vicinity of what is now called Miners Terrace. Andy Ridland's 1890 map (Frontispiece) shows a similar clustering of houses in the Miners Terrace area as well as another cluster of about 20 buildings at the end of Domain Rd. But even at this stage there were still only four or five buildings within the surveyed 'Town' – a few houses, the store (Fig. 13), and the hotel along the main Bannockburn-Nevis road.

It is uncertain why the 'Town' was not built on, although photos from the turn of the century show that at least some of the area was still a mass of sluiced shingle (Fig. 14). According to Parcell, the town sections were available for sale in 1880, but were not taken up because it was easier and cheaper to take up a residence site under the Mining Act (Parcell 1976: 111). This may account for the location of the school, hall and Presbyterian Church all well away from the surveyed 'Town'. Anecdotal evidence suggests that these were located so as to be accessible to the various centres of population including those who lived in Quartzville and Carricktown. Certainly, the hall/church cluster is half way between the surveyed 'Town' and Miners Terrace, and the school lies approximately equidistant between these two places and Quartzville.

It seems that, until the 1980s (a century after the survey was carried out), most of the houses associated with Bannockburn township were actually outside of the surveyed town area. The cluster of houses we know as Bannockburn today is mostly a relatively recent event (most houses date from the 1980s and after). Even in the late 1970s there was little development along Hall Road: a planning report in 1976 noted 'on the way from Cromwell the only two buildings which catch the eye are the Church and Hall, so well tucked below the skyline are all the others' (Paterson 1976: 4).

Today, the stone store, Post Office and a couple of houses nearby represent the few buildings that were built within the 'Town'. The clusters of mainly mud-brick and corrugated iron cottages that made up 'Old' Bannockburn - those at Miners Terrace, Domain Rd and the main road - have largely gone, but a few remain to show the scattered nature of the original settlement (Figs 15, 17).

Figure 13. General store, Bannockburn, 1910. Reproduced by courtesy of Hocken Library, Uare Taoka o Hakena, University of Otago.



earthworks. By 1869 the banks of the Kawarau River had been sluiced. In 1873, Baileys Gully (also known as Raupo Gully) at Bannockburn, an area that already been surface sluiced, was reworked, and the miners broke through a false bottom to relatively rich ore bearing layer (Parcell 1976: 35–37). The whole of Templars Hill had been sluiced away by April 1883 (Parcell 1976: 33).

4.4.7 Coal

Coal was an essential resource for running the crushing machinery—and luckily there was plenty of it. Coal mining developed alongside gold mining in Bannockburn from the mid 1860s (see Fig. 16) and continued for almost a century into the 1950s. Coal from the mines was used for domestic purposes, but its primary importance was in providing motive power for gold-mining machinery. The batteries used in quartz mining, for example, were typically steam-powered, which required the continual firing of a boiler. Dredges also used significant quantities of coal. The mines were also important for local employment, providing an alternative to the declining gold returns, and a possible contributor to the continued settlement of the Bannockburn area in the twentieth century. It is difficult to imagine how the mining industry would have evolved were it not for the local availability of this energy source. See Box 6: Bannockburn coal mines.

4.4.8 Quartz and alluvial mining continued

Other forms of mining started to become important in the late 1860s. Underground mining was one: by the end of 1869 there were deep leads sunk in alluvial gravels at Bannockburn (Parcell 1976: 34). Quartz mining also gained momentum at the end of the decade; the Elizabeth, Start and Golden Phoenix companies had mines at what became later known as Carricktown, and in 1870 the Royal Standard Company set up a quartz crushing battery at Quartzville which could crush on hire for the various mines on the range above (Parcell 1976: 82). The battery was operated by a steam engine, fired by coal from

Figure 14.
Bannockburn c. 1899,
looking southwest from
Slaughteryard Hill.
Bannockburn Hotel on the
right. Note extensive
sluicings behind.
Mrs E. Olds, Cromwell,
P. Crump Collection.



Figure 15.
A view of Bannockburn
today, looking south
along Nevis Road. The
Bannockburn Hotel (recent
construction) is in the
foreground, the old
bakery beyond, and new
housing on the skyline.
Janet Stephenson 2003.



Figure 16.
Coalpit, Bannockburn
(no date). Reproduced by
courtesy of Hocken Library,
Uare Taoka o Hakena,
University of Otago.



Box 6: BANNOCKBURN COAL MINES

Coal mining forms part of the relatively invisible history of Bannockburn, and yet it was in some ways the backbone of the local economy. Its remains are not easily visible today. While some coal pits were open, there were also extensive underground workings. The coal seams followed the margins of the prehistoric 'Lake Manuherikia' and broke to the surface in various locations along the course of Shepherds Creek, from its junction with Bannockburn Creek as far south as Adams Gully, and adjacent to the Kawarau River.

It is likely that coal was discovered soon after the miners came into the Bannockburn area, for by the mid 1860s a number of coal mines had opened. The first Bannockburn coal-pit on a business scale was opened in 1862 on what is known as the Cairnmuir seam at Bannockburn Creek. The next coal discovery was made in 1864 by hotel keeper J. Stuart, who opened the Excelsior Mine on the northern side of Slaughteryard Hill (Parcell 1976: 264). In 1878, J. L. Moore and J. Pryde applied for a coal lease of twenty acres at the junction of Shepherds Creek and Bannockburn Creek, calling it the Kawarau Colliery, a name that later shifted up to the mines in Shepherds Creek (Parcell 1976: 265). Coal mines came and went over the years, mining in various seams and under various names. As with gold mines, coal mining partnerships changed regularly, making ownership and location difficult to track.

The mines provided fuel for domestic purposes, but the major production was for the machinery used in the gold industry. Coal mining fortunes tended to follow mining booms and busts. Quartz mining required large amounts of coal to run the boilers but was in decline from the 1880s. Luckily for the collieries, dredging created a large demand for coal again from the 1890s.

An example is the Excelsior Mine. James Gibson and W.R. Parcell Jr took up an area of land on the east side of Bannockburn Creek, about half a mile up from the Kawarau, and were producing coal by May 1899. The mine turned out 100 tons a week and for a number of years supplied up to sixteen dredges with steam coal. It was connected underground with Wilson's workings on the same seam, which also supplied dredge and household coal, delivered by a winding chair across the Kawarau River. It was closed in 1907 following the decline of dredging (Parcell 1976: 266–267).

The decline in dredging caused a similar decline in the collieries. But despite the downturn, three mines were still operating in Bannockburn in 1909—two belonging to the Cromwell & Bannockburn Colliery Company, and the Ranfurly mine, which had just been opened by John Hodson Snr (Parcell 1976: 268). In 1917, all the mines amalgamated into the Bannockburn Coal Company. The Ranfurly and Cairnmuir pits were closed, and the whole of the coal was supplied from the Shepherds Creek mine (Parcell 1976: 269).

Coal mining provided an important source of local employment. The 1910 *Stone's Directory* gives 111 entries for Bannockburn: 72 of these men have mining-related occupations (it does not differentiate between gold and coal); 21 are associated with the stations; and two describe themselves as farmers or orchardists. The 1910 mines report confirms the importance of coal mining at this time—37 men were listed as working on the coal mines, both above and below ground, the two main mines being the Cromwell and Bannockburn Collieries and the Cairnmuir Coal Company (*Appendices to the Journal of the House of Representatives (AJHR)* 1910 C-3a: 18, 33). At the same time, gold mining was in a slump due to water problems, and dredging was on the decline (*AJHR* 1910 C-3: 50). By this stage, coal mining may well have provided a steadier source of income than gold mining (see Fig. 16).

Despite the reduced demand for locally produced coal, it was still mined in Bannockburn into the 1950s by a variety of companies and syndicates, and in various locations (Moore 1953: 95–96; 100). During the Depression of the 1930s some mining areas were reopened as work schemes (Parcell 1976: 44). Coal mining continued in a small way into the 1940s and 1950s at Coopers old mine on the Kawarau, the old Cairnmuir seam, and a shaft at the foot of Revels Gully.

Adams Gully. In the ensuing few years, numerous other quartz mines were opened on the Carrick, and a road was constructed up the Carrick spur to improve access and the conveyance of ore to the battery. Quite a number of claims failed to find payable gold but most got something, and many were taken

up over and over again by different parties. By 1872, three batteries were operating, the last two of which required some 25 tons of coal per week to be carted up the steep Carrick Spur road. An alternative source of energy was attempted with a water wheel built at the Young Australian mine, which was powered by water from the Carrick race, but it was not a great success (Parcell 1976: 87–88).

By 1875 there were numerous large and small quartz mines on the Carrick Range in four main groups—a cluster near the foot of the range at the bottom of

Box 7: QUARTZVILLE

In October 1870, a settlement was formed on a small flat at the base of a spur of the lower Carrick Range, overlooking Smiths Gully and Bannockburn. Its location was based around the Royal Standard quartz battery, which crushed ore from nearby mines, and it was accordingly named Quartzville. Today, an expanse of grass, some mature trees, and a few building foundations are all that remain of this short-lived town, although until the 1960s the remains of mud-walled cottages were clearly visible.

A number of businesses were established at Quartzville to supply miners with the essentials of life. In the early 1870s, James Cossar and Gilbert Staite started a store and butchery, and the first hotel was opened there by John McCormack opposite the Royal Standard battery. Other hotels, a blacksmith's, stables, and residences followed. The establishment of the township was celebrated by a ball and supper in October 1872 (Parcell 1976: 83–84).

The Quartzville settlement continued to develop into the mid-1870s. A few more business premises opened—John Grindley's butchery, James Lawrence's Commercial Hotel; George Murchie's drapery; and Reuben Isaacs' fancy goods store. Many of these people had previously come from Bendigo. Around 1871, an access road to the many Carrick quartz claims was constructed up Carrick Spur (Parcell 1976: 84). Although by 1876 mining returns on the Carrick Range were falling, the settlement at Quartzville was still developing—in January 1876, there were tenders for a new butchery; the Walker Brothers had a new store and bakery; and Jesse Geer and E. Aldridge ran a bakery, confectioner's, and restaurant.

However, by 1886, hard-rock mining returns were so low that the Quartzville settlement was virtually at an end (Parcell 1976: 84–86). Some of the miners' residences were reused during the 1930s depression by the subsidised miners. Tents were erected within the framework of the old cottages, reminiscent of the early tent camps of the 1860s. On this later date, the harsh living conditions were not balanced by good gold returns.

the Carrick Spur; a second cluster about a mile and a half up the spur in the Carricktown area; an area high in the range at the top of Adams Gully, chiefly occupied by the Young Australian mine; and the John Bull area between Smiths Gully and Pipeclay (see Fig. 2). Towards the end of the 1870s there were small mining settlements relating to both quartz and alluvial mining in various locations in the study area. Although returns were declining, gold still provided the backbone of the local economy.

4.4.9 Antimony

The discovery of antimony at Bull Spur on the Carrick Range in 1872 gave hope of another economic industry in the area, but it proved to be a short-lived bubble. As with other areas in the Carrick, access was difficult. A pack track was put in to the mine but the deposit was found to be small and shallow. A further attempt was made in the early 1880s. The Carrick Range Antimony Company planned a large smelting works and put out tenders for 20 000 bricks. The

Box 8: CARRICKTOWN

High above the Bannockburn Valley, huddled on a gently sloping area on an otherwise steep and rocky spur, sit the collapsed remains of a number of stone buildings. Crawling through a barbed wire fence reveals waist-high stone walls, some with sills marking windows and doors. Creeping through dense briar provides evidence of further stone buildings. The wider area is marked by mining pits and tailings, as well as the remains of old batteries. This exposed spot is all that remains of Carricktown, another short-lived settlement based around the hard-rock mining on the Carrick Range.

The settlement was formed in the early 1870s, based around the success of the nearby gold mines. It was at the heart of the Carrick quartz goldfield, with the sites of the Elizabeth, Star of the East and Heart of Oak quartz mines nearby. By September 1871, the settlement was built on a small patch of semi-flat land below the mines. There were a store, butchery, and bakery, and about fifteen huts (Parcell 1976: 86–87). Mining on the Carrick was isolated, access was difficult, and the good returns were short-lived. There were still 150 men working in the Carrick in 1877, but the settlement was already declining. By August 1877, businesses were moving away, and the Carrick Range Hotel shifted down to Bannockburn, as did the bakery (Parcell 1976: 86).

Approximately 16 building sites are still visible; most of the remains are of stone-walled buildings, but there are also flat areas which could have been the site of tents or corrugated iron buildings. The settlement and mines together provide a good example of the whole system associated with quartz mining, including mines, battery sites, the service centre of Carricktown and large parts of the water reticulation systems (Bristow 1998: np).

smelter was erected on the point of Slaughteryard Hill above the Bannockburn Bridge, near Pryde's Excelsior coal mine. The smelter opened in July 1882, but the mine was closed by the end of the year when the antimony vein ran out. In October 1883, the chimney blew down, and the bricks were re-used in Cromwell bakers' ovens (Parcell 1976: 101–102).

Box 9: BANNOCKBURN IN 1878

Three sources of information give us a picture of Bannockburn when both alluvial and quartz mining were still in full swing. A topographical survey of the Bannockburn area was completed in 1878 and the plan gives a snapshot of development and activity at this time. In the same year, a survey was carried out to create the 'Town of Bannockburn'. Fortuitously, there is also an electoral roll for this year, which provides details of occupations, locations, and types of dwelling.

Figure 17 reproduces details from the 1878 topographical plan*. Virtually all land on the plan is still part of Kawarau Station's leasehold, even though parts are being mined. Leasehold tenure was designed not to inhibit mining activity, and mining rights predominated over pastoral activities. Kawarau Station's pre-emptive right (freehold land) is shown, with its house, stable, and store ('store' refers to a storeroom rather than a shop). Two other pre-emptive rights are indicated at the north of the area, one for Douglas & Alderson (near Long Gully) and one for the NZ and Australian Land Company (near Bannockburn Creek).

A rectangle shows the newly surveyed township of Bannockburn just south of the bend in the Kawarau River. Other rectangles may represent mining licences for gold, coal, and antimony. Where buildings are shown inside a square, this may indicate the boundary of some form of lease or occupation right, or possibly a garden enclosure (e.g. Angels Hotel and scattered houses nearby, in the general location of Miners Terrace today).

A survey camp is located further up the Valley, possibly the base for those who carried out this survey.

* The 1878 plan only covered the Bannockburn Survey District, ending just north of the surveyed township. From here north the mapped information is taken from other sources and is therefore less certain and less detailed than elsewhere on the map. It is likely that there was more mining activity and more buildings than shown.

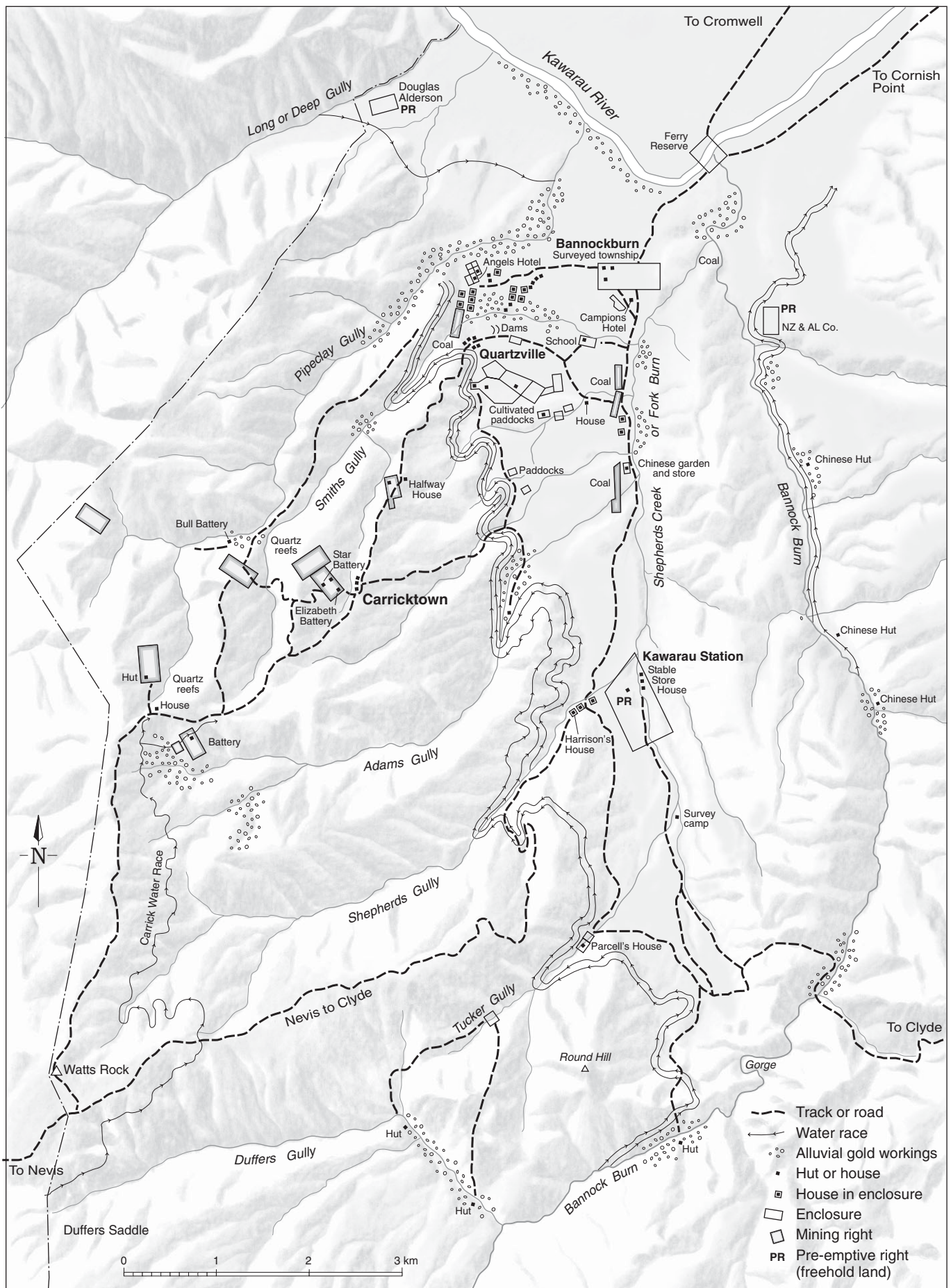


Figure 17. Map of Bannockburn in 1878.

There are by now many routes into and out of Bannockburn. The main routes are:

- north to the Kawarau River crossing (this was bridged in 1874 but swept away by floods in September 1878 and temporarily replaced by a ferry until repairs were completed in 1879);
- north and east to Cornish Point;
- south to Kawarau Station and over the Cairnmuir Range to Clyde;
- south and west over the Carrick Range to the Nevis Valley;
- southwest up the Carrick spur to Quartzville, Carricktown and higher mining sites.

The landscape is still being heavily mined. Areas of alluvial mining are shown on many of the creeks. Given that the area had already been thoroughly worked over in the previous decade, it is probable that the alluvial areas shown in the 1878 map represent only what was being mined at that time. It is notable that some of the mining was occurring well up into the Carrick Range at Adams and Duffers Gullies. Quartz reefs are shown on the Carrick Range with their associated batteries. Several coal reserves are shown along Shepherds Creek, and the antimony reserve is shown west of Pipeclay Gully, this bubble having not yet burst.

Scattered habitations can be seen at most of the alluvial workings, and closer settlement at Carricktown, Quartzville, and around Miners Terrace. Some house sites surrounded by cultivated paddocks are situated near Quartzville.

Only three buildings are shown within the surveyed Bannockburn Township area. From other sources we know that only one of these was a house, the other two being a stable and slaughter yard. Unfortunately the 1878 plan cuts off what is now the end of Domain Road, where a number of other houses were probably located at this time.

Various water races snake across the landscape, terminating at gold workings. Parallel races traverse the hills from the upper Bannockburn Creek and appear to end at Pipeclay gully (although this may be because the base map does not go any further). The Carrick race has not yet extended far beyond the Young Australian mine (Fig. 18), where it was used to power the gold battery.

Figure 18.
Young Australian water
wheel, Carrick Range.
Peter Petchey, 2003.



The 1878 plan gives the most vivid indication we have of the significant Chinese population in the Bannockburn area. There are Chinese huts shown among alluvial workings on the true right of Bannockburn Creek and a Chinese garden and store at Shepherds Creek. The store was 'fully equipped with benches for opium smokers and tables for dominoes' (Parcell 1976: 149). The workings on Shepherds Creek and Upper Bannockburn Creek were mainly by Chinese miners (See Box 11: Chinese miners).

The 1878 electoral roll provides more depth to this image of Bannockburn. At this stage there were limitations as to who could be on the roll, and only 70 names appear, none of which was a woman or Chinese. While around 30

people specified Bannockburn as their place of residence, another fifteen gave the location of their house as one of the gullies that were being mined at the time, and another 18 stated they lived in the Carrick Range or one of the associated settlements. There was a clear sense that the land was intimately known and that these locations were distinctive. The construction methods and descriptions given for residences range from cottages and dwelling houses, to a large number of wood and iron houses, stone houses on the Carrick Range, sod huts and two wood and calico houses (1878 Electoral Roll—Wakatipu Electorate).

School attendance shows that there were many families in the area. In 1878 there were 75 children enrolled, and it was the following year when the first of the annual school picnics was held (Parcell 1976: 108).

Box 10: STEWART TOWN

To the west of Bannockburn, sitting on a terrace near the huge Menzies Dam and overlooking extensive and spectacular sluicing faces of Pipeclay Gully is the cluster of remains known as Stewart Town (Fig. 19). Within a low sod wall stands a group of fruit trees and the full-height remains of cob and stone cottages. The feeder races to Menzies Dam are still evident, as are the races which took the stored water to sluice Pipeclay Gully below.



Figure 19. Menzies Dam (foreground) and Stewart Town (rear). Peter Petchey 2003.

Rather than a town in the usual sense, Stewart Town existed primarily because of its relationship with the control and sale of water to miners. It was named after miner and entrepreneur David Stewart, who settled there in 1876. He secured the water right from Long Gully, cut a race, and built the stone-faced Menzies Dam to store water, which he sold to the miners. Access to water allowed previously unworkable areas to be mined, including Menzies Terrace, Pipeclay Terrace, and Baileys Gully.

A few other miners settled at Stewart Town and worked the surrounding land. After a number of changes in ownership following the downturn in mining, it was purchased by D.U. MacGregor, who planted a small orchard. Some of the fruit trees are still present today.

4.4.10 Mining in decline

By 1886 some of the rich gullies surrounding Bannockburn, such as Smiths and Pipeclay, had been worked over two or three times. The new technology of hydraulic sluicing enabled deeper working, but the tailings raised the levels of the gullies to such a degree that they could eventually no longer be worked because of lack of sufficient fall to discharge the tailings (McPherson 1986: 13).

The subsequent ten years saw many fluctuations in enthusiasm and returns, but by 1889, quartz reefing was practically finished and the settlements that had supported the mining had waned. However, mining continued in a very small and episodic fashion on the Carrick until 1921.

By the 1890s, most of the alluvial gold that was accessible through the technology of the time had also been taken out, but mining still remained the

Box 11: CHINESE MINERS

Chinese miners (Fig. 20) formed a significant part of the community for many years. It is estimated that in 1869 there were 300 Chinese miners at Bannockburn, the same number at Nevis and 60 at Cromwell (Ng 1993: 144). Groups of Chinese wintered over at Shepherds Creek, and worked the 'head of gullies that Europeans have left rather than face the rigour of a winter in the ranges' (Ng citing *Otago Witness*, September 1870: 166n). By 1871, a Chinese settlement had developed along Shepherds Creek, with dwellings, gardens, and the Chung Hung Lung store (Parcell 1976: 105). The Chinese storekeeper, Ah Chong, had a slaughteryard licence and ran a butchery as well (Parcell 1976: 150).

Public opinion was hostile towards the Chinese, and a public meeting in Bannockburn in 1879 passed a resolution against them and asked for the imposition of a poll tax (Parcell 1976: 150).

Although the Chinese population declined with the fortunes of mining, it was not until the 1920s that the last Chinese resident died. A local informant told of a number of old Chinese men who lived in simple circumstances along Shepherds Creek until the 1920s. An elderly Chinese man sold vegetables around the village from his market garden until the same period.

There is no obvious visible reminder of Chinese in the area today. Anecdotal evidence tells of finds of Chinese crockery shards in the Shepherds Creek area, but the Chinese story is largely silent.

Figure 20.
Chinese miners, Potters
Gully, Carrick Range.
(No photos were found of
Chinese miners within the
study area. Potters Gully is
on the Nevis side of the
Carrick Range.)
Reproduced by courtesy of
Hocken Library,
Uare Taoka o Hakana,
University of Otago.



dominant occupation. In the 1895 *Stone's Directory* over 90 men in Bannockburn (out of around 168 entries) described themselves as miners. Station work also provided a significant backbone to the population, with 32 people giving station-related employment. Only one person indicated farming as their occupation. Fifteen worked in town-related services.

Despite the falling returns, speculators turned up trying to rejuvenate mining, with a particular concern being the development of an adequate water supply. One infamous scheme in Bannockburn was suggested by a Mr J.O. Matthews in 1896. He wanted to apply for a special claim at Bannockburn on Deep Lead Terrace (perhaps now Miners Terrace), and also to buy up all the water rights and claims in Bannockburn (part cash and part shares in his company) and bring a large race over from the Nevis. The claim was at the centre of the goldfield and took in about 20 homesteads. Locals considered that the claim would smother all the outlets and cover a large payable area. They also thought that to grant a

claim on such a scale would mean the “extinction of the individual miner” (*Cromwell Argus* 5 December 1896). After overcoming the initial opposition and getting support from local miners it was found that the original site did not have enough fall to remove debris. Appeals to the Minister of Mines for financial support failed, and the scheme died (J.P. Parcell Notes, P. Crump Collection).

4.4.11 The dredging boom

The dredging boom of the mid 1890s and early twentieth century provided a new source of gold extraction once again. Dredges worked up the Bannockburn and Shepherds Creeks as well as on the Kawarau River (Figs 21, 22). There were some significant local successes, particularly James Horn, who was involved in

Figure 21.
Dredge at Shepherds
Creek, Bannockburn.
Reproduced by courtesy of
Hocken Library,
Uare Taoka o Hakana,
University of Otago.



Figure 22. (below)
Bannockburn sluicings
and dredges, 1900.
Probably taken from
Renshaw trig: dredge is in
Shepherds Creek.
Reproduced by courtesy of
Hocken Library,
Uare Taoka o Hakana,
University of Otago.



the Electric Company dredges. The first Electric Co. dredge was so successful as to pay for another dredge, and the second paid for itself in one week's work. The third, the *Lady Ranfurly*, was one of the most productive and famous dredges in Central Otago (Perriam c. 1988: 6). Dredging companies in various forms worked the area around Bannockburn Creek and Cornish Point until around 1910 (Parcell 1976: 227–230). At this point the final source of easily won gold had been sucked dry. The great mining era was over.

4.4.12 Gold mining during the Depression

During the 1930s Depression there was a minor renewal of mining activity as the Government actively encouraged men to move into goldfields areas to re-work them. The Government undertook geological surveys to try and facilitate good gold returns. Work was also done on goldfields roads, tracks and water

Box 12: COMMUNITY DEVELOPMENT IN BANNOCKBURN IN THE LATE NINETEENTH CENTURY

As gold mining gradually declined and the transient population drifted away to other areas, a stable population established itself. The focus of settlement and community life concentrated on Bannockburn township and environs, as shown by the establishment of community structures and meeting places in this area from the 1870s onwards.

Schooling was an early need. In May 1871, a private day school was opened by John Simpson, situated between Doctors Flat and Smiths Gully. Clearly, this was insufficient, as eighteen months later a public school was established in Smiths Gully, well situated to draw children from the various small settlements in the area. The school provided a centre for the community, and by 1876 included a library and post office (Parcell 1976: 107). The first school picnic was held in 1879, and became an annual fixture. It was held initially at Raupo Gully, at the end of the century at Happy Valley (until 1912), and thereafter at Shepherds Creek. It lasted as an annual event into the 1950s (Parcell 1976: 109). The school remained in its original location and closed in the late 1960s. It has since been used as a school camp.

Adult education for miners developed in the town when, in 1882, a branch of the Otago School of Mines was established at Bannockburn. Professor Black was in charge, assisted by other visiting lecturers. By this late date, mining was in steady decline, and this showed in the short life of the school: it was moribund by 1890, revived in 1894, and closed for good in 1898 (Parcell 1976: 112–113).

Stores, the post office, churches, halls, and hotels were also important in community life and developed at different places at different times. A few of these still exist today.

The stone store at the intersection of the Nevis Road and Domain Road was erected in 1880 by James Smith. The store operated as a cooperative venture from 1880 to 1882, but this failed and the store was then taken over and run privately (Fig. 23). For most of its existence it was run by three generations of the same family (Robertsons and Stewarts). Although it closed in 1971, the store still stands (Fig. 24), is still owned by the same family, and is used as a private museum.

Another important aspect of community life developed with the construction of a community hall with room for a library in 1887, located in Hall Road. This hall was used until 1911, when a new one was built (Parcell 1976: 111).

Local initiatives also saw the building of two churches. The Presbyterian church in Hall Road was first mooted in 1873, but the idea made no progress until 1892, when the Ladies Guild formed a sewing circle to raise funds, and it was eventually built with local labour and locally raised funds. The Bible Christians also built a church (later Methodist) in Domain Road in 1893. Both churches are still standing.

The Post Office, having begun life at the school, moved through various temporary premises until the stone building (still existing today) was constructed in 1919. The Post Office closed in the early 1970s and the building is now managed by the Department of Conservation and used mainly for staff accommodation.

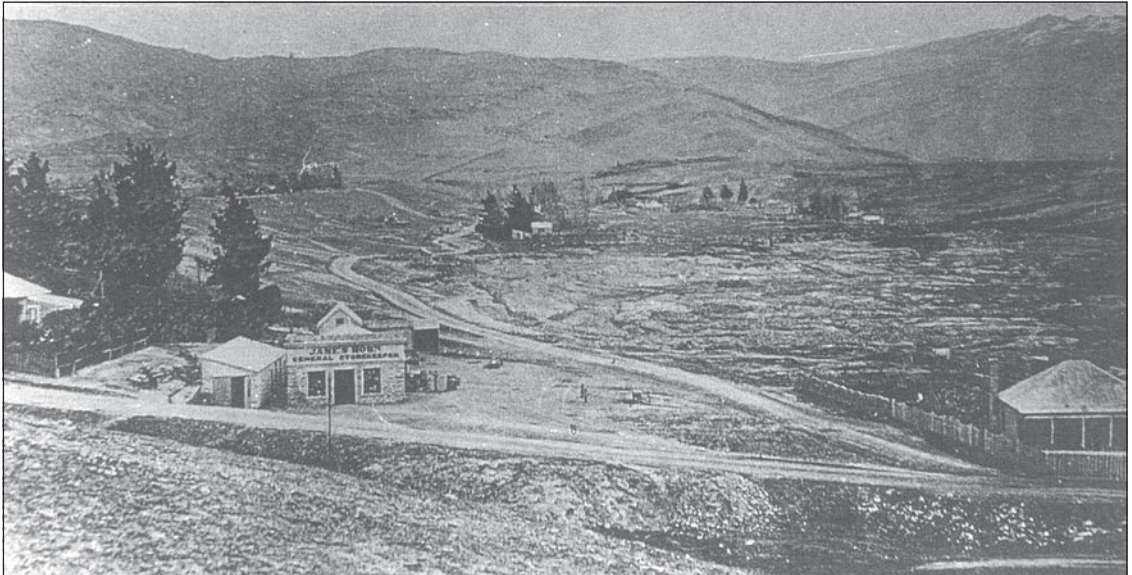


Figure 23. Bannockburn, 1908. Nevis Road in foreground, looking along Domain Rd (previously North Road). Bannockburn store on left, storekeepers house on right, with apparent sluicings behind. Source: F. McNulty, Cromwell, *P. Crump Collection*.



Figure 24. Bannockburn, 2003. A photograph from approximately the same place 95 years later. Bannockburn store on left. Heather Bauchop 2003

races (Salmon 1963: 271). The men received a tiny allowance and were permitted to retain the gold they won until they began to earn more than the single man's subsidy (15s; 30s if married). In all areas where goldfields had once existed, the subsidised prospectors and mining companies prospected in the hope of staking new claims—there were some 600 in 1931, numbers peaking at 4000 in 1933. The vast majority of miners were inexperienced, and while a few found significant deposits, the majority found little. For example, Dick Short and Archie Gilcrest, who mined an area at Stewart Town, dug shafts, built a small dam, and upgraded an old water race, but found little gold. The claim

Box 13: JOCKEY JONES

Tracing the life of a locally notorious woman has been a passion for local genealogist Constance Spears. The Spears family bought Jockey Jones' house in 1985, and its history inspired her efforts to delve into the life of one of its previous owners. She has traced the path of Jockey Jones through the *NZ Police Gazette*, the Cromwell Charge Book, Magistrates Court records, *Stone's* directories, Australian Vital Records Index, and local oral histories. Through these records she established that Jockey Jones' name was Sarah Jones (née Downes).

Little is known of her early life, although it appears she may have married in the 1860s and was 36 years old in 1887.

Locals remembered Sarah Jones with some trepidation: she was a tough figure, always on a horse, stealing fruit, money and cattle; children were fearful of her. It was rumoured she was a member of the Kelly gang. Court records elaborated her notoriety—convicted for theft on more than one occasion.

Spears dug deeper behind the public face of Sarah Jones. She found that Jones largely brought up her family on her own. Her blacksmith husband, who worked at Pisa Station, was often in the courts for drunkenness, spending his wages before he came home, and absent for long periods. To support her children she worked as a rabbitier and mined on her own account (she is recorded as having a mining claim in the Carrick Range in 1895). She bought a house at Quartzville in 1902 and is listed in *Wise's* directory as living there till 1922. Jones was no doubt a formidable woman, dealing with the difficult circumstance of raising a family largely alone on a declining gold field.

was worked for about seven months before Short went back to his work as a wool classer (Crump c.1994).

Depression miners in the Bannockburn area appear to have primarily lived and worked near old claims, including some at Stewart Town. Local oral history suggests that some stayed in a small tent town at Quartzville.

One informant recalled his childhood as the son of a Depression miner, who took his wife and children into Central Otago and Westland goldfields over many seasons. They lived in a tent and spent some time at Bannockburn. He recalled that floods would bring fresh supplies of gravels to the river margins. One of his jobs as a child was to scoop out gold-bearing river silt from narrow crevices (Huata Holmes, pers. comm.).

Depression mining had largely ended by the winter of 1934 as New Zealand emerged from the economic slump, although small alluvial claims continued to be worked until 1935 (Salmon 1963: 273-274).

4.5 DEVELOPMENT OF AGRICULTURE AND HORTICULTURE c. 1910-70

4.5.1 Regional picture

The gold rushes occurred at a time when much of the South Island seemed likely to remain divided into vast sheep runs controlled by absentee capitalists and a squatter aristocracy. In 1881, there were 21 such runs covering 1.5 million acres of the little more than 2 million acres in Vincent County. The five largest runs—Kawarau, Morven Hills, Moutere, Galloway, and Earnsclough—together held over 780 000 acres (Angus 1977: 20-21).

Box 14: JOHN PATRICK PARCELL (1881–1976)

J.P. Parcell's book *Heart of the Desert* is a detailed and comprehensive account of the history of the Cromwell district (including Bannockburn). First published in 1951, it was reprinted in 1976 and is still a vital resource for local historical information. But his own history is also revealing of the way of life around the turn of the century. Parcell's notes of his early life provide a fascinating insight into a life on the land in Bannockburn, tied to the changing fortunes of gold, coal, the township, and station life.

After leaving school in 1896, he rabbitied at Kawarau and Northburn Stations. Following a trapping accident which damaged his thumb, he went coal mining on the Bannockburn Creek near the old Cairnmuir mines. When he was fifteen he was given a job trucking the coal and carting water in a tank, as well as digging coal in his spare time.

In 1897, he helped gold miners drive a tunnel through to a terrace at Adams Gully so that it could be sluiced—a tunnel 330 ft long, 5 ft 6 in high, and 4 ft wide. After construction of a tail race, the area was sluiced using water from a water race.

Later, coal mining called again, and Parcell worked for the Excelsior Coal Mine.

Storekeeper James Horn offered Parcell a job in his Bannockburn store in 1902. Parcell worked there until 1915, a relatively easy job compared to the tough coal and gold mining work. In 1915 Horn sold out to Cromwell storekeepers. Parcell managed the store for them until 1924, when the business was in decline. He then worked for the same company in Cromwell until 1935.

After returning to Bannockburn, Parcell bought his own land where he had a few sheep, and supplemented his income working on Cairnmuir station.

In later years he wrote history and curated the Cromwell Museum. He died in 1976, having made a substantial contribution to local history.

The land on which mining occurred was almost all Crown land leased to stationholders. The 1860 Goldfields Act made no proper provision for permanent settlement. Even the restricted areas available in the mining towns for business sites were leasehold under this Act. The denial of freehold rights prevented substantial building. The majority of miners, then, remained a 'rootless population, ready to move off to better fields' (Salmon 1963: 74).

As gold returns fell and extraction became increasingly complex and expensive, many miners wished to settle down and turn from mining to agriculture. Miners pressed for suitable land for closer settlement, and opening land up for such settlement became government policy in the 1870s (Hearn 1981: 4). But there were difficulties: runholders opposed the resumption of land for settlement and were determined to protect their own interests, and miners opposed the disposal of land on tenures which would deny their freedom of access to mine (Hearn 1981: 6). In Bannockburn, this impasse remained for nearly 50 years until the forced division of Kawarau Station in 1910. Until then, almost the entire Valley remained leasehold land, albeit with occupation rights of various types being held by miners and others.

By the turn of the century the predominance of mining was clearly over. Those who continued to mine combined it with other sources of income, such as station work and subsistence agriculture. As mining declined, water races started being put to new uses:

A few miners living in hope or too old to break fresh trails remained on their claims, but, finding that the amount of gold procurable would barely suffice to keep them in food and clothing, were forced to augment their scanty earnings by the growth of vegetables and such produce as they required for the own use. Realising from bitter experience the futility of depending upon the rainfall for moisture sufficient to the needs of their crops they utilised water-races primarily designed to facilitate the extraction of gold from the soil for the purpose of conveying water to their crops in times of drought. This, then, was the birth of irrigation in Central Otago (Tennant & Marks 1930: 1).

But miners could still not 'own' land in the Bannockburn area. A complex and ever-changing system of leases and occupation licences was the best they could achieve. At the turn of the century there was further pressure on the Government to cut up the large runs. In 1904, there was a petition from miners in Bannockburn and Cromwell demanding subdivision of neighbouring runs. From 1905, many small leaseholders wished to convert their land to freehold, and after 1912, this became government policy with the formation of the Department of Agriculture to look out for the interests of small farmers (Salmon 1963: 211).

Despite the strong resistance of station owners, the last of the large stations in Central Otago were cut up in the first decade of the twentieth century—Kawarau and Morven Hills in 1910, and Galloway in 1916.

4.5.2 Dividing the land

The subdivision of the huge Kawarau Station in 1910 heralded a new era. The old run was subdivided into 16 holdings, and some favourably sited areas were made available for closer settlement, some confirming prior occupation.

The area containing the old homestead retained the name Kawarau, but was reduced in size to 11 900 acres (Run 330a). The freehold and pastoral runs were bought by P. Johnstone. Other newly created stations which partly lie within or border the present study area include:

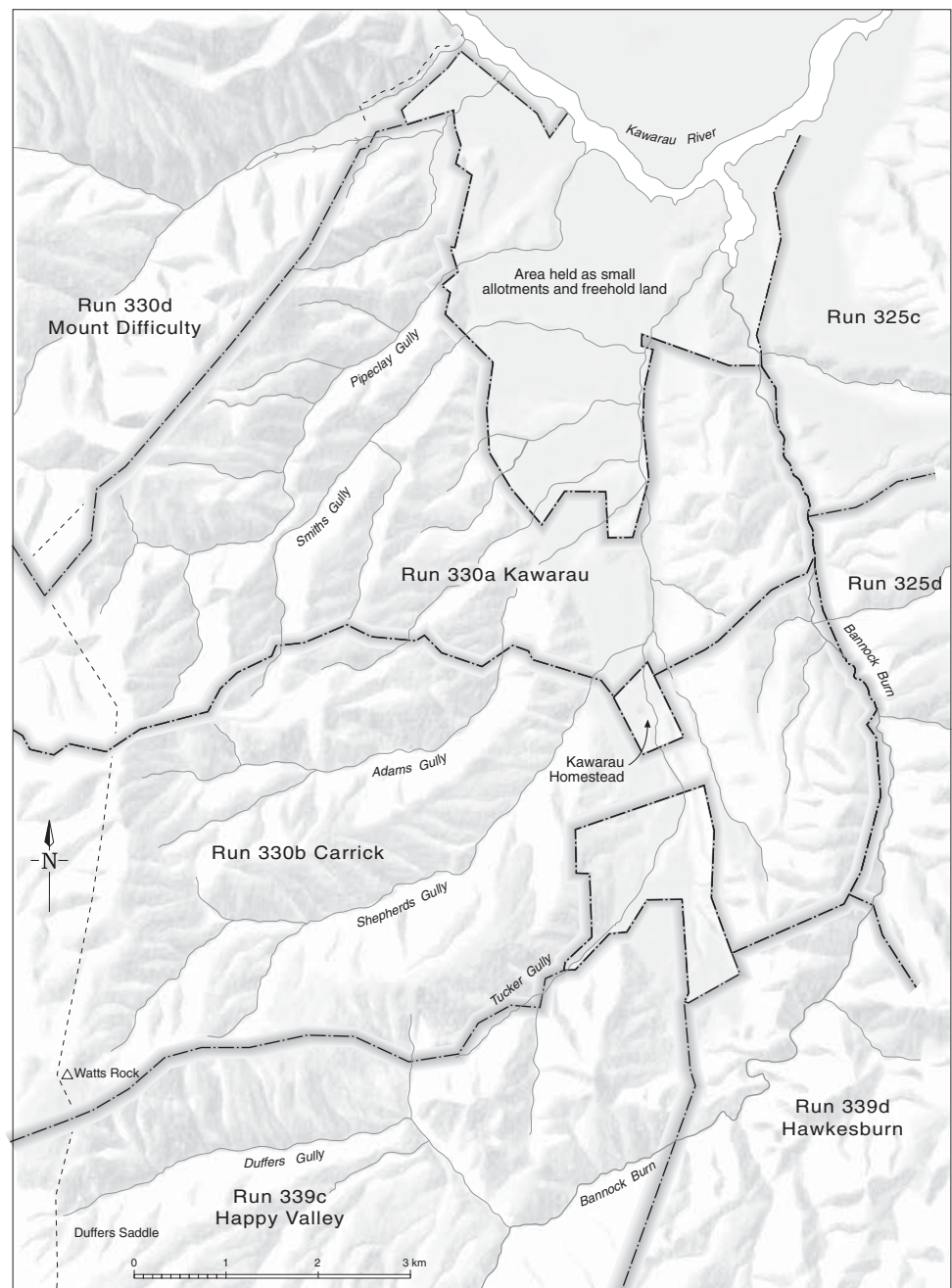
- Run 330b: Carrick (14 400 acres, W.J. Ritchie)
- Run 330d: Mt Difficulty (14 450 acres, H. Felton)
- Run 325c: Cairnmuir (8300 acres, E. Holloway and Australia and New Zealand Land Company)
- Run 339c: Happy Valley (8100 acres A. Crombie, W. Crombie and W.R. Parcel)
- Run 339d: Hawksburn (11 700 acres D.R. Corson)

See Fig. 25: Pastoral runs, 1910.

Homesteads and associated buildings on the new runs were built soon after the subdivision, including the Carrick homestead and woolshed at the foot of the Nevis Road, Cairnmuir Station homestead, and Mt Difficulty Station homestead.

Smaller areas were also cut off from the runs in 1910. Sometimes these sections were confirmation of land previously occupied as residence areas under the mining legislation, and now transferred to other forms of title. Most of the

Figure 25.
Pastoral runs around
Bannockburn, 1910.



blocks were granted to families who were longstanding residents: including the Crabbes, Ritchies, Parcels, Taylors, and Lynns (Parcell 1976: 16). One local informant recounts that those occupying the land when the station was cut up were given a year to fence the land they were using, and were leased the land that they had managed to fence (an expensive undertaking, but one which their livelihood depended on). Some of these were large enough to be agricultural units, others (particularly around Bannockburn settlement) were smaller blocks, some with existing dwellings (see Fig. 25 where this is noted as 'Area held as small allotments and freehold land'). Scattered residence areas existed close to the Kwararau River, and on smaller sections closer to the township (SO

132, 1910) (see, for example, Fig. 26). Collieries were still present at the mouth of the Bannockburn Creek and alongside Shepherds Creek (SO 132, 1910).

A number of small blocks were further surveyed off Kawarau Station between 1910 and the mid 1920s. The tenure remained a mix of Crown land (held on lease) and small freehold blocks in the township area (see SO 356). One local informant stated that two c.1000 acre blocks on Cairnmuir Station (just outside the study area) were used for commonage grazing, but were later taken over by the Jocelyns, and brought back into Cairnmuir Station in the 1980s. He thought there had been earlier community commonage grazing unsuitably high on the Carrick Range, and that this had been exchanged for the lower blocks, with the Holloways at Cairnmuir Station gaining the 8000 acres on the Carrick. This information has not been checked against land title records.



Figure 26. Hancock's house, c. 1910. Source: R. Murray, Cromwell, *P. Crump Collection*.

4.5.3 Small farming and orcharding

The subdivisions gave security of title and enabled families to work towards an alternative to mining income. Farming and orcharding developed on a small scale, possibly often associated with other off-farm work such as shepherding, rabbiting, or coal mining.

The 1915 *Stone's Directory* gives an indication of the changing community structure by this date. There were around 86 entries in the directory, of which 37 indicated mining as their occupation (either coal or gold); only two described themselves as either farmers or orchardists; and 11 had occupations

associated with the big stations. This shows a still mixed population probably dependent on a variety of income sources (*Stone's* 1915)

Irrigation was essential for making the land productive, and the water races built for gold mining provided a ready infrastructure, although many were by now in disrepair. In 1922/23 a group of Bannockburn farmers raised a loan from the Vincent County Council to reconstruct the Carrick race from Coal Creek to Smiths Gully for irrigation purposes. The race is now run by a group of local users (Hamel 1988).

By the end of the 1930s, there was still a mix of miners, farmers, and station workers. In 1939, there were 13 miners (probably coal now rather than gold) out of a total of around 66 entries. The main station occupations were rabbiters and musterers (*Stone's* 1939).

The downturn and scarcity associated with World War II and the Korean War had a physical effect on the historic remains at Bannockburn. Many old huts lost their tin roofs, and metal equipment was taken for scrap during the Korean War. The loss of weathertightness meant that the sod and mud huts deteriorated quickly after this time.

Orchards were more prominent by the 1950s. The *Stone's Directory* of 1955 has only two miners, and the majority of workers are associated with either the stations (including 7 rabbiters) or are listed as farmers or orchardists (51 entries). Access to water was important, with water rights and renting water an important part of continued survival on the land. The water races constructed for mining proved to be essential for the new uses of land.

One informant recounted the type of farming characteristic of the small blocks on the outskirts of Bannockburn. Miners started off with a small block on which to run a cow and a horse. Later they may have extended their holding, leasing a larger block (not necessarily adjacent to their old one). Mixed small farms and orchards developed. None of the orchards was very big, and most were mainly producing apricots, with a few apples. A number of farms had small dairy herds (12–15 cows) providing cream twice a week. They also ran sheep and had a few pigs. Other farmers grew carrots to supply the Pest Board for bait. A 1958 aerial photograph confirms the pattern of scattered mixed holdings, with around 13 orchard plantings evident, the largest being Jimmy Hodson's on Domain Road.

For many years, orcharding combined with small farming provided the backbone of local life, in addition to pastoral farming. Orchards were small compared to the large growing areas of Alexandra and Cromwell. In Bannockburn in 1961, there were 10 growers with an average of 505 trees per orchard—3810 apricot trees, 290 apples, 90 pears, 175 peaches, 310 European plums, 140 Japanese plums, 65 nectarines, and 175 cherries—a total of 5055 trees. One example of a smallholding was the Lynn family's orchard in the vicinity of Stewart Town. William Lynn, described as a fruit grower, had gained an occupation lease for around 21 years from January 1914. A description of the holding indicates that an orchard (around 450 trees) was developed on site as well as a cow paddock. The orchard passed to Mary Gordon in 1935 and to Archibald Beaton in 1950 (occupation lease 154/73; 256/61, 101/72e). Irrigation water came from the Long Gully race.

Orcharding remained on a small scale. Kemp & Wilson, writing in 1965, note that Bannockburn was 'of very minor importance' for orcharding, with 35 acres in fruit—less than 2 percent of the Alexandra-Cromwell district total. The average size of holdings was some four acres. Most individual orchards were too small to provide a living for their owners, so fruitgrowing was combined with other forms of farming and sometimes with off-farm work as well. It was a predominantly stonefruit area, with the shortage of irrigation facilities limiting further expansion (Kemp & Wilson *in* Lister 1965: 140-147).

The impression gained of Bannockburn from the 1920s through to the 1970s is one of stability. There is a common view amongst long-term residents today that no major changes happened in those years. The stations continued to be farmed, small farmers and orchardists lived a modest existence on their landholdings, and community life revolved about the school, store, post office, pub, hall and sporting activities (bowling being particularly important). The population gradually dropped, as lack of employment meant young people moved elsewhere for work, and abandoned dwellings became derelict. Newcomers in 1967 had an impression of a small, relatively unchanged rural community: there were no new houses, coal mining had stopped, and some small farms were reverting to briar. There were no sealed roads and a limited water supply.

The permanent bridging of the Kawarau River from 1878 made access to Cromwell easier than to Clyde over the Cairnmuir Range. Also the decline of mining at the Nevis meant that traffic over the Carrick Range had greatly reduced by the 1920s. Despite the short distance, it was still not easy to drive to Cromwell as the road ran over sand flats, and cars often bogged down in the sand (local informant). Still, the primary movement of people was towards Cromwell and beyond, which remains the pattern today.

The early 1970s saw what could have been the death-knell to the settlement—within a few years the school, store, and post office had all been closed or, in the case of the school, changed to a school camp. The pastoral stations were all still in existence, but the remaining population was largely reliant on small farming and station work. Of the forty entries in *Wise's Directory* (an indication itself of the small population base), thirty-five were on-land occupations including farmers, orchardists, and farmhands (*Wise's* 1971: 119). A few places were owned as holiday homes, but many of the buildings associated with the mining era were derelict (local informants).

4.6 ECONOMIC STIMULUS 1980s - 2003

4.6.1 The beginning of change

Hydro-electric power schemes sowed the first seeds of change. The Clutha River was dammed at Roxburgh in 1956 and studies began on other potential dam sites on the Clutha in the 1960s. Public concern at the predicted drowning of Cromwell was first aired publicly in June 1964. The Ministry of Works (MoW) began reporting on its investigations and alternatives for the Clutha dams in 1967, assessing various options into the 1970s.

A Labour Cabinet approved a scheme which included a high dam at Clyde in September 1975. Work began on this dam amid local and national division and conflict (Powell 1978: 164, 232). MoW argued at the time that the dam and the hydroelectric schemes would generate greater and more long-lived wealth than the goldrushes of the 1860s. The Ministry promoted associated irrigation schemes (which did not eventuate) and a new tourist attraction in the tranquil and slow-moving waters of the to-be-formed Lake Dunstan. The Bannockburn Arm, they imagined, would be a landscaped, tree-lined oasis, a quiet and secluded picnic and swimming area (MoW 1982: 10) (see Fig. 27).



Figure 27. The Bannockburn Arm of Lake Dunstan (occupying the likely location of the first Bannockburn settlement). Janet Stephenson 2003.

Whatever the merits or otherwise of the Clyde Dam, the scheme and its associated employment began a fundamental change not only to the landscape, but to the local population and economy. The opportunity for off-land occupations brought an influx of new people to the Bannockburn area, and a return of some of the descendants of old resident families. The new occupations and steady incomes reached beyond the newly constructed town of Cromwell, as workers settled in the more outlying areas such as Bannockburn, and for the first time for half a century there was demand for land in the area. One long-time crib owner noted that from around the early 1980s people started to become interested in Bannockburn as a holiday destination, perhaps related to the Clyde power project. Some new orchards were also developed in the 1970s and

1980s. Other less successful economic paths were travelled, notably the goat boom (and bust) of the mid 1980s.

With the changes came some recognition of the importance of the district's past. An area of around 125 hectares, which included sluicings, the Menzies Dam, and Stewart Town, was given formal protection as an historic reserve in 1981 (NZ Gazette 1981: 3823).

The hydro-electric schemes also resulted in a range of scholarly work and publications looking particularly at soil types and climates to identify land suitable for horticultural developments. These studies were to form a crucial basis for the economic redevelopment of the Bannockburn area on a scale not seen since the goldrushes—the viticulture boom of the late 1980s and 1990s.

4.6.2 Subdivision

During the 1970s, the Vincent County Council also investigated the potential of Bannockburn as a residential community. A 1976 report discussed the need for land for tourists and holidaymakers, and for workers associated with the Clyde Dam project. It recommended that land should be zoned to allow it to be developed for residential recreational use but not to allow it to become a dormitory suburb of Cromwell. The unique physical setting of the settlement should be retained:

On the way from Cromwell the only two buildings which catch the eye are the Church and Hall, so well tucked below the skyline are all the others. This sense of surprise and visual containment is sufficiently inherent in the character of Bannockburn that future development should be designed to maintain and enhance it. (Paterson 1976: 4)

The report also noted the 'singular attraction' of the sense of history provided by the old randomly spaced buildings coupled with the unspoiled rural landscape and groupings of mature trees (Paterson 1976: 5).

The resulting planning provisions need not be described here: suffice to say the area did begin to see significant growth of subdivision and new housing from the mid 1980s. By this time, the settlement had a sewerage scheme, and in the mid 1990s it was linked to the Cromwell water scheme. These infrastructural changes opened the area up, allowing for development at an intensity previously impossible.

New residential development initially occurred primarily within the area which had been surveyed as the 'Town of Bannockburn' in 1878, but later started to expand to the east (Fig. 28). Larger 'lifestyle' blocks also proliferated, both on the existing small-farm titles and on newly subdivided blocks. A few of the new residents were associated with the Clyde Dam project; others bought land to build holiday cribs or to retire, while others chose to live at Bannockburn and commute to work elsewhere. Some of the dwellings associated with the mining era were also purchased to use as cribs or homes, while others languished and fell into disrepair or were demolished (Local informants).

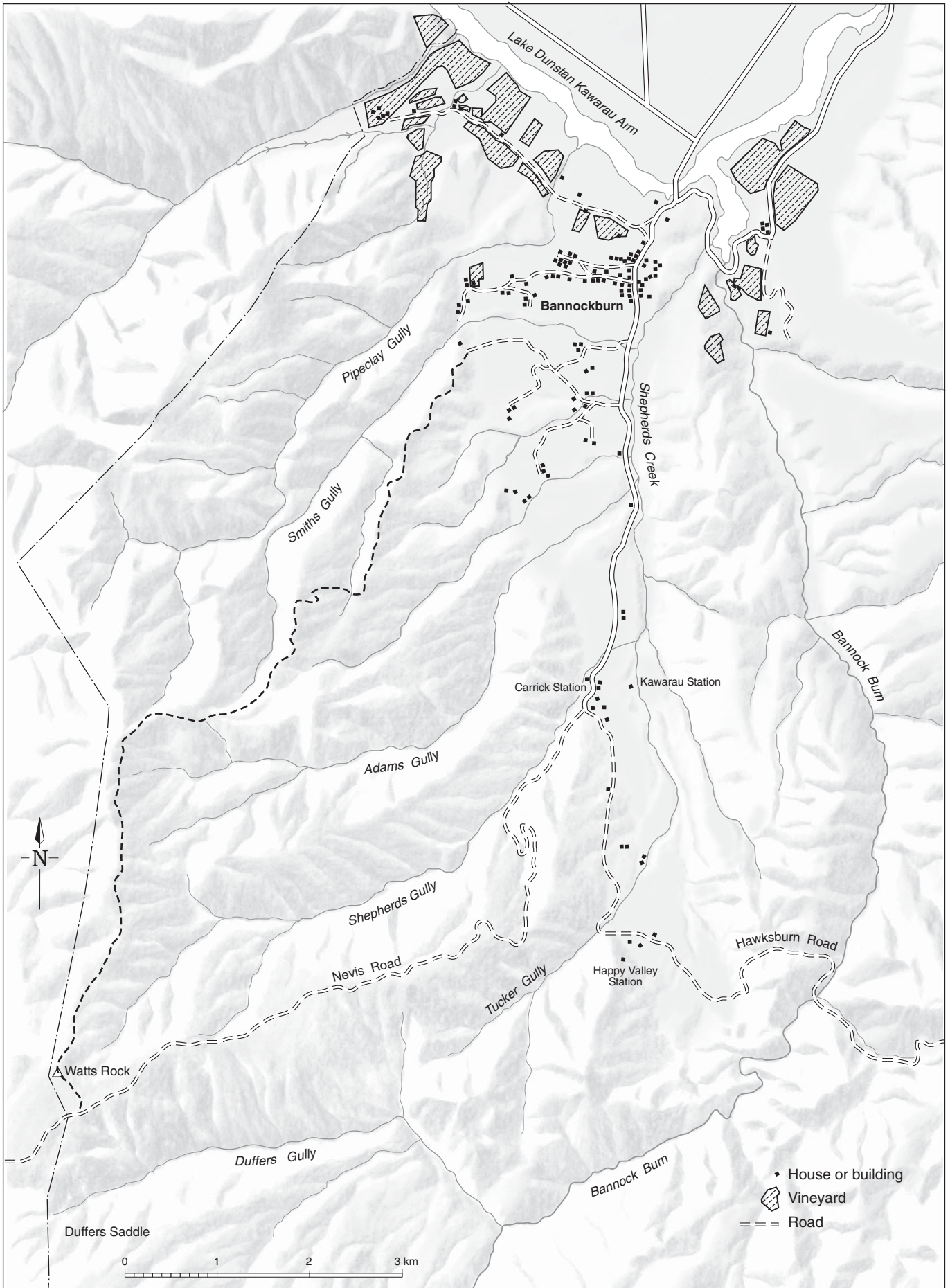


Figure 28. Settlement and vineyards at Bannockburn, 2003.

4.6.3 Viticulture

The viticultural potential of Central Otago, and the Bannockburn area in particular, was noted as early as 1903. D'esterre reported vine expert Signor Bragato as saying that the soils at Queensberry, Bannockburn, Cromwell, Clyde, and Alexandra were

...eminently favourable for the cultivation of the vine for wine-making and distillation purposes, provided that irrigation is adopted in the lighter soils.

(D'esterre 1903: 19)

Bragato thought that thousands of acres could be planted, providing employment and improving the value of the land. He thought that enough grapes could be grown to supply the local market, as well as the Australian and 'home' markets. D'esterre pointed to the 'enormous dormant resources' of Central Otago and a need for the Government to address the irrigation question (D'esterre 1903: 45).

The viticulture boom was in part fuelled by research work carried out associated with the Clyde Dam project of the 1970s to 1980s. The dam was to flood large areas of orchards in the Clutha River Valley. As part of mitigation for the loss of horticultural land, detailed studies on climate and soils were carried out throughout the Central Otago area.

While the studies were not particularly directed at viticulture, the new information together with an industry looking for new plantable areas led to an explosive growth of interest in acquiring land for vineyards. On a regional basis, commercial vineyard planting in Central Otago began in the 1980s, increasing in the 1990s. By 2000, there were 23 wineries and 71 vineyards in Central Otago. The majority of vintners were newcomers to the area, this contrasting strongly with orchardists, many of whom had farmed in the area for several generations. The industry increased the Central Otago population, and the associated land boom has led to an increasingly diverse population living in a rural residential setting (Hort+Research 2000: 5, 20, 48).

The studies showed Bannockburn to have particularly good growing conditions in certain areas. These studies were used by interested parties to pick the prime sites for viticulture in the Bannockburn basin, some of which were grazed and some in orchards. Land was also becoming available at this time from freeholding of the Cairnmuir and Mt Difficulty station pastoral leases.

Vines were first planted in the most climatically favourable positions at Felton Road, Cairnmuir, and Mt Difficulty. The first vineyard was planted by viticulturist Robin Dicey, who planted 11 acres of the Bannockburn flats in 1991. It gained momentum from 1995 onwards, and although a 2000 report suggested that the majority of areas initially identified as suitable had been planted, the expansion continued (Hort+Research 2000: 48). Water scarcity was no longer the limiting factor it had been: the filling of Lake Dunstan in 1994 meant a number of properties were able to draw water from the lake for irrigation, while others continued to draw from the water races. By 2001, some 60 percent of the 520 hectares of vines planted in Central Otago were found in the Bannockburn area, an indication of its relative importance at the time. This compared with 27 percent in the Queenstown/Gibbston area and 4 percent at Wanaka (Cody 2001: 312). Today, the majority of Bannockburn vineyards are on

the flats near the Kawarau River, on Felton Road, and in the Cairnmuir area to the east, although they are also expanding further inland. Many of the wineries use the romance of the gold mining past to promote their wines, some using local names such as Pipeclay Terrace and Tenpence Hill to name their vintages (Cull 2001: 48).

A number of orchards have been removed and replanted as vineyards, but at least one is expanding, and a few small olive groves have also been planted, adding to the perception of Bannockburn as a boutique producer. Viticulturists and their workers have settled in Bannockburn and the surrounding rural areas, boosting the local population still further.

By 2003 viticulture had become a prominent feature of the Bannockburn terraces, often planted adjacent to areas sluiced during the gold era (Figs 28, 29). The contrast between the new large-scale land use and the older gold workings is remarkable:

The tormented wasteland of scoured clay and denuded gullies....In stark contrast, immediately below, neat rows of grapes ... are herded by lines of poplars. (Cull 2001: 44)

The decade from the mid 1990s has seen huge changes in the population demographics, land use, and in the nature of the Bannockburn settlement and environs. However, these changes have been almost entirely limited to the terrace country at the north end of the study area. Vineyards vie with gold mining remains for visual impact on the land, and the vision for the more urbanised future of Bannockburn sometimes collides with the remains of the past.

Further up the Bannockburn Valley, and in the Carrick Range and other hills encircling the area, there has been little change. In these areas, pastoral farming continues much as it has for the past 145 years.

Figure 29.
Vineyards and sluicings,
Felton Rd, Bannockburn.
Peter Petchey 2003.



5. Contemporary cultural values

An important aspect of this study was to discover how the area was valued by people in the Bannockburn community and those who have a particular interest in the area. This section therefore seeks to describe the contemporary cultural values, which includes perceptions, practices, traditions, and stories.

Contemporary values relating to the landscape were elicited through interviews with community members and those with associations with the area, through the personal maps drawn by community members, and through feedback during the Open Day held in Bannockburn.

We are aware that we did not interview a random selection of community members; those interviewed were either those who were suggested because of their interests or expertise, or those who approached us for similar reasons. It is possible therefore that the results are not representative of the community as a whole. However, a broad range of people were interviewed, from long-term residents to relative newcomers, from farmers to 'cribbies', and both Maori and Pakeha. We consider, therefore, that the findings below represent the views of a broad cross-section of the community.

5.1 ASSOCIATIONS WITH THE AREA

People living in the study area range from those whose families have been in the area for several generations to those who have only recently arrived. A number still carry on activities relating to the land, with traditional activities such as farming and orcharding showing declining numbers, and viticulture and associated wine-making showing increasing numbers. There are also increasing numbers of 'lifestyle' blocks on which owners may graze a few sheep, plant a few trees, or carry out small-scale horticulture (e.g. olive trees, saffron). Many residents commute for work from Bannockburn to Cromwell and beyond. Others are retired. A number of owners are also 'cribbies', i.e. those with holiday homes in the area, some of which are historic buildings. A few cribbies have a long association with the area (20-40 years).

Tangata whenua for the Bannockburn area (and Central Otago generally) include people associated with Te Runaka o Otakou, Kati Huirapa Runaka ki Puketeraki, and Te Runaka o Moeraki. Key informant Huata Holmes is not only tangata whenua but also had lived with his family under canvas in Bannockburn and other parts of Central Otago during the 1930s when his father was a Depression miner. There were no known tangata whenua resident in the study area during the interview period of this study.

There is also a growing tourist and recreational interest in the area. The DOC reserves and the heritage features of the area attract visitors. Those who enjoy walking can do the sluicings-Stewart Town loop or can climb up the Carricktown track to Carricktown and the Young Australian reserve. There are two campgrounds, one at the Bannockburn Domain and one just outside the study area at Cairnmuir. Bannockburn Arm offers safe water recreation. The

wineries attract visitors for tasting and some also offer restaurant facilities. In recent years, mountain bike races and triathlons have been held (usually on the Nevis Road), attracting large numbers of participants.

5.2 CULTURAL VALUES

5.2.1 Tangata whenua

Maori have had associations with the Cromwell Basin and Bannockburn area for many hundreds of years. The stories and meanings associated with the landscape, as described in Section 4.2, bear witness to this. Additionally, the land as a whole is the embodiment of Papatuanuku, who descended from spiritual beings and from whom sprung many gods and the ancestors of humans. Maori are therefore connected to the natural world through their genealogy; there exists a whanaungatanga (familial) relationship between Maori and the land.

Interest in inland areas is determined through ownership of Maori land, place-names, burial sites, traditional uses of seasonal resources, and ancestral links. The practice of kaitiakitanga embodies concepts of guardianship, care, and wise management of resources (Kai Tahu ki Otago n.d.: 10, 37). Even though tangata whenua no longer live in the area, these close associations and kaitiaki relationships are still carried through the generations.

5.2.2 Why people came to live in Bannockburn

Interviewees were asked why they came to live in Bannockburn. Most had a pragmatic reason, such as coming here for farming, orcharding, viticulture, commuting to work elsewhere, holidays, retirement, or married someone who lived here. But many also spoke of something 'special' about the area that drew them to Bannockburn. These reasons included:

- beauty of the landscape
- open space and broad sky
- sense of history in the area
- family connections
- dramatic seasons
- relatively cheap land
- small safe community
- ability to roam freely through the landscape

5.2.3 What residents value about the landscape

Interviewees often spoke at length about what was special about the landscape to them. Comments included:

- breadth of the sky and the quality of light
- combination of mountains, sky and weather, and particularly the seasonal and weather-related changes
- a spiritual quality about the landscape; a connection between people and the land which was not easy to put into words

- the visible and intangible sense of history in the landscape
- the hills surrounding Bannockburn:
 - their starkness, wildness, colour, changeability, sense of enclosure
 - combination of tors and tussock
 - the folds of the hills
 - a place to walk, explore and enjoy
 - lack of visible development
- the lower country:
 - contrast to the mountains above - green and in autumn touched with gold
 - places of special beauty or interest within the lower country
 - creeks and rivers for swimming, fishing
- the pleasure of exploring the land and coming across historic features
- seeing landforms and features that related to the past
- finding out about the past through talking to older people, research, finding artifacts, and comparing historic photographs to the present landscape
- sense of continuity with the past in the landscape
- roaming—being able to wander freely on foot through the landscape

5.2.4 Personal maps

The people we interviewed were also subsequently invited to draw their own maps of the Bannockburn area showing heritage places that are important to them, on the understanding that their names would remain confidential. The four maps produced (Figs 30–33) show four quite different aspects of the landscape, all of which are concurrent with comments recorded above.

5.2.5 Awareness of historic features in the landscape

All interviewees were aware of aspects of the history of the area. All mentioned specific historic structures or places in the landscape, and many told stories and related pieces of history, or had photographs of people or places from the past. The visible and intangible sense of history in the landscape was widely appreciated. Interviewees referred to the pleasure of exploring the land and coming across historic features (usually to do with mining); seeing landforms and features that related to past activities (Fig. 34); finding out about the past through talking to older people, research, finding artifacts, and comparing historic photographs to the present landscape. One interviewee referred to the sense of continuity in the landscape—in particular the combination of natural and 19th century/early 20th century features. Those with a longer association with the area tended to have a greater knowledge of the history of the area, and many of these referred to the loss of heritage features. They knew of many features which had disappeared, or had deteriorated significantly. There was a concern about the cumulative loss over time, and that people today had no idea of how rich the area previously was in historic features.

There was a great apparent variation in how well people knew the history of the area and the heritage features in the landscape. Some knew it intimately, while others knew relatively little although some of these would have liked to know more.

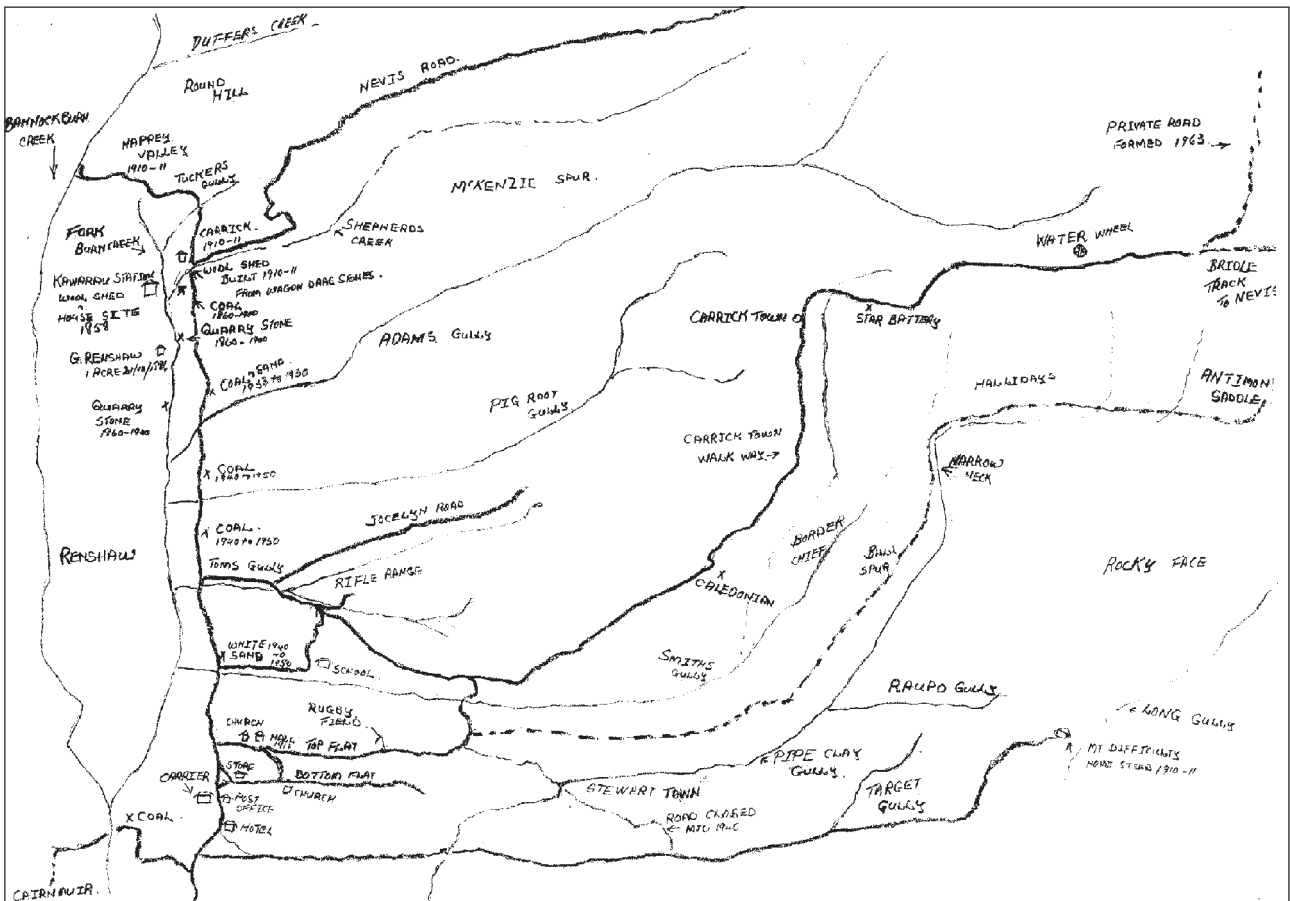


Figure 30. Personal map A shows the entire study area and is filled with names of places, activities and historic features known to the respondent, who has lived here all his life. Gold mines and other mining features are shown up on the Carrick Range. A number of coal mines (and their dates of operation) are shown up the Shepherds Creek valley, as well as sand mines and a quarry. Some of the names of places are the old names (e.g. 'Top Flat' for Hall Road, and 'Bottom Flat' for Domain Road). Station homesteads and their dates are shown, as are some of the important buildings in the settlement (store, post office, hotel, churches, hall).

Historic places and features spoken of during interviews included:

- Mining shafts and tunnels at Miners Terrace (Deep Lead)
- Evidence of alluvial mining on the terraces and up various creeks
- Settlements which no longer exist—Quartzville, Stewart Town, Carricktown, Halliday's (up Pipeclay Creek), Bannockburn (in its original location at what is now Bannockburn Arm of Lake Dunstan).
- Antimony mine and smelter
- Various coal mines including at Adams Gully and Bannockburn Creek
- Chinese occupation and mining at Bannockburn Creek, Shepherds Creek, Adams Gully
- Various sluiced areas and sluice faces, including the area included in the DOC reserve
- Dams associated with water systems
- Sludge channels
- The Carrick water race
- Other water races including Long Gully, Pipeclay Gully, Quartzville Race, Cairnmuir Race (some of which no longer run)

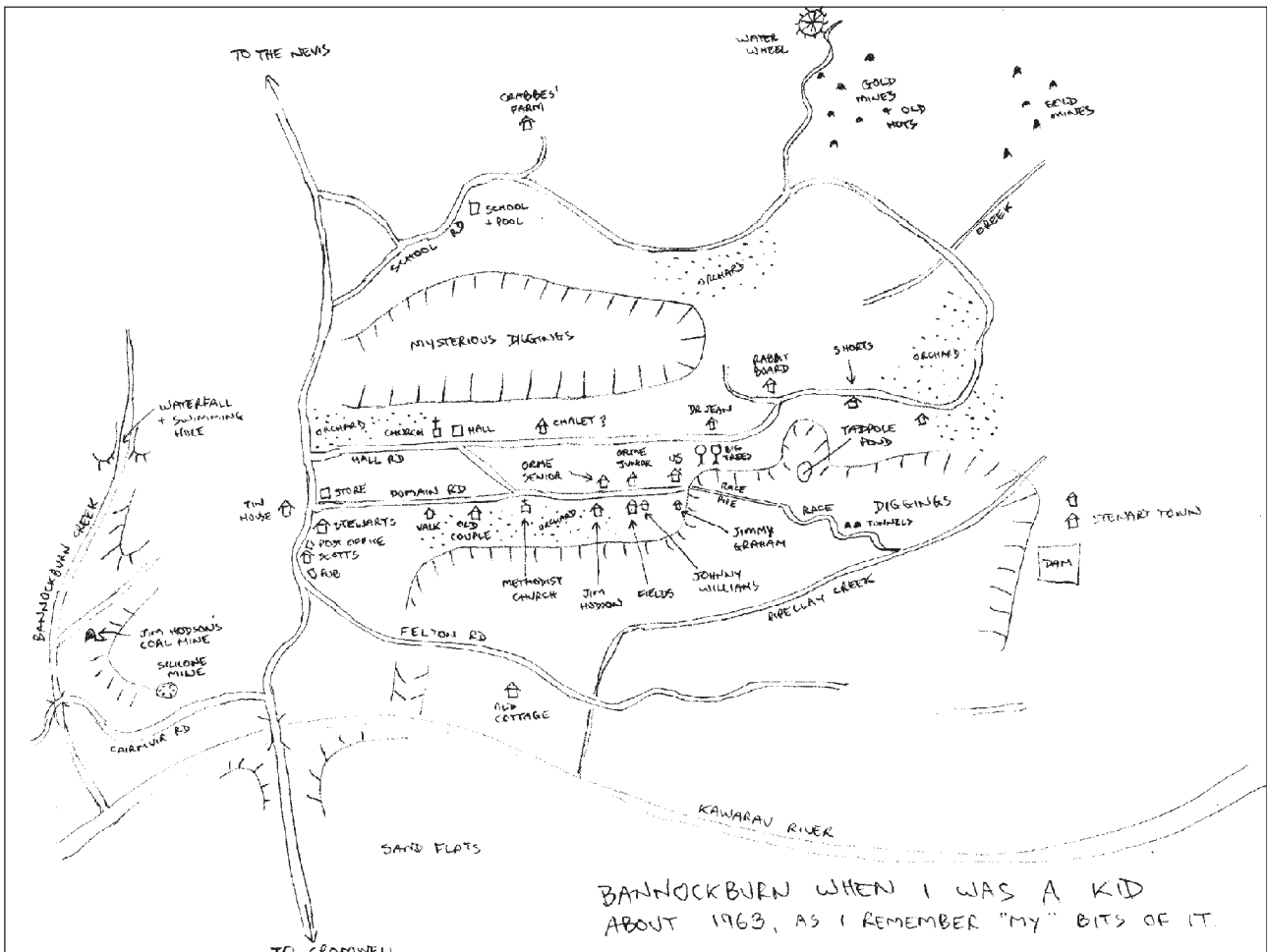


Figure 31. Personal map B shows Bannockburn recollected at about 1963 when the respondent was a young boy. It shows a Bannockburn of a few old houses, orchards and mining remnants. Various mines, huts, dams and diggings are features. Bannockburn Creek is still unflooded. It shows a quiet community where nothing much happens, and everyone knows everyone.

- Quartz mines up on the Carrick Range
- Various pieces of machinery associated with quartz mining
- Early smallholdings
- Cluster of miners huts around Miners Terrace
- Trees planted in earlier times which are typical of the area (e.g. lombardy poplars, fruit trees) particularly where these were ageing or under threat
- Presbyterian church
- Methodist church (now a private house)
- Bannockburn store (now a private museum)
- Bannockburn Post Office (now managed by DOC and used for accommodation)
- Bakery building (now a private house)
- Various buildings constructed in the local style - corrugated iron, mud-brick, sod
- War memorial
- Slaughteryard Hill (where cattle and sheep were slaughtered for the miners on Saturdays)

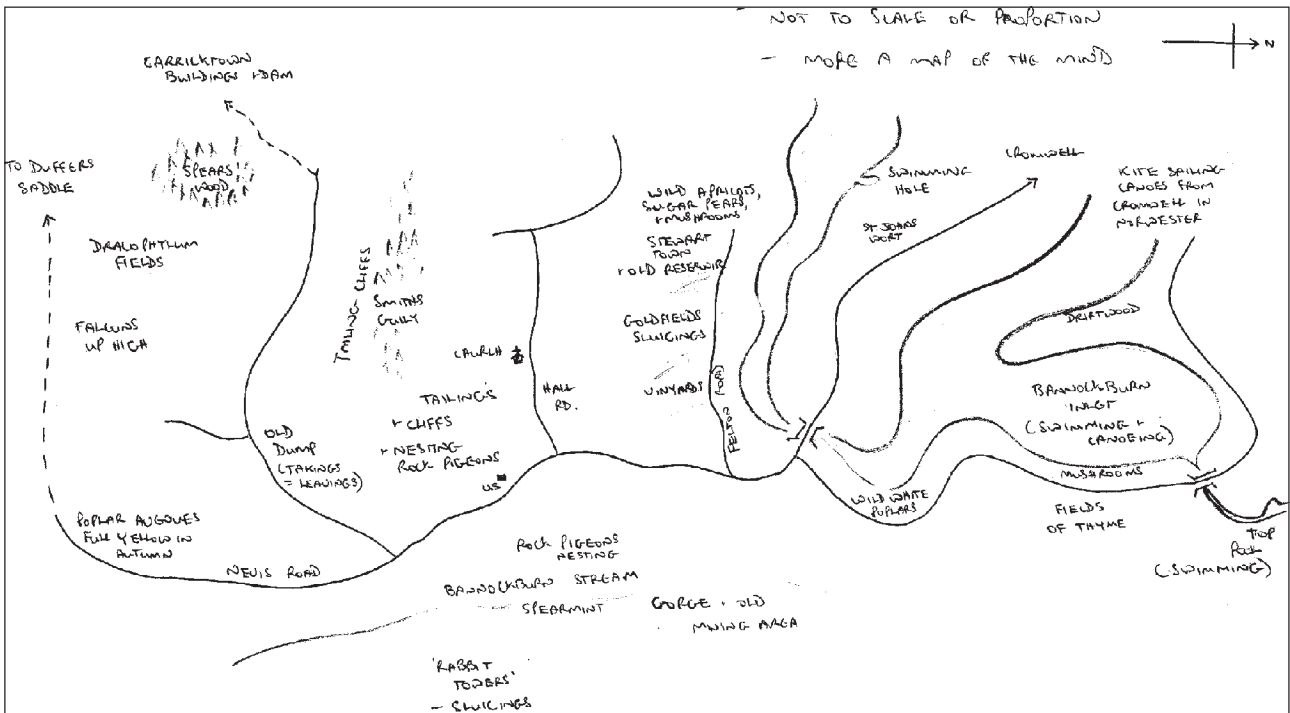


Figure 32. Personal map C shows the 'special places' in the landscape for a family which has been holidaying in the area for at least 22 years. This map is more sensual—it shows the places where mushrooms and wild fruit can be picked, fields of thyme and dracophyllum, spearmint, and St Johns wort, and the yellow and white poplars. The nesting places of rock pigeons are shown, and the falcons on the Carrick Range. Some old mining places—sluicings, Stewart Town, Carricktown—are shown. Recreation places are also important: the swimming holes, places to canoe, and kite sailing.

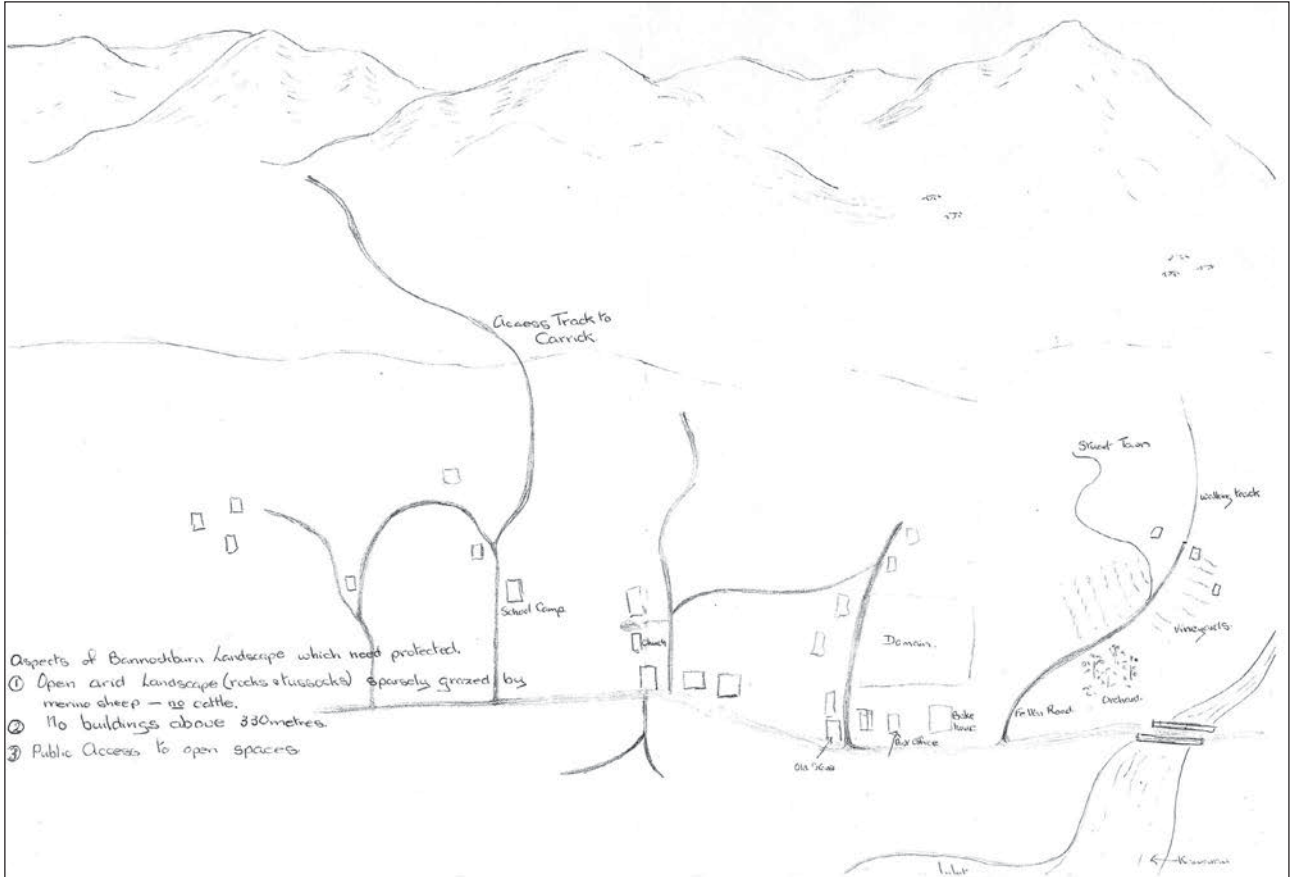


Figure 33. Personal map D is drawn by a long-term resident and shows aspects of Bannockburn landscape which it was felt need to be protected. Included here are the open arid landscape (rocks and tussock) devoid of buildings and public access to open spaces. The school camp, Presbyterian church, old store, post office and bakehouse are specifically indicated.

Figure 34.
Ruin of stone building,
Carrick Range.
Peter Petchey 2003.



- Original fence for Kawarau Station adjacent to the Nevis Road
- Possible boundary riders' hut near Duffers Saddle
- Kawarau Station homestead and outbuildings
- Kawarau Station woolshed
- Carrick station woolshed
- Remains of old bridge across the Kawarau River

5.2.6 Stories in the landscape

The story of Kofiua, Kolo and Maia and their encounter with the Bouakai (Box 1) is based in the Bannockburn Valley. This extraordinarily evocative story links the landscape to a distant past and to people who are still alive today.

Some people who have family links to the area over several generations are the holders of family stories. Some have also made a point of collecting stories of the area, and tracing genealogies and the personal histories of those who lived in the area. There is a wealth of information of this type in the community.

Some interviewees related stories about the area which they had heard from others. We cannot vouch for their accuracy. Stories included:

- The Carrick Station woolshed was built from stones that had been used as 'brakes' tied behind wagons going down the Nevis road.
- When the Carrick race was being put in the designer got the angle wrong and it has never worked properly for this reason.
- Two Chinese miners lived together in a hut and had amassed some gold. One went to Clyde to buy groceries and while he was gone someone came and murdered the other and stole the gold. The murderer was apprehended at the natural bridge but the gold was never found.
- A Chinese miner grew vegetables and sold them around the village up to the 1920s.
- There was a collection of Chinese dwellings along Shepherds Creek. Chinese men lived there until the 1920s, many being quite elderly by then.

- The women in the area had a hard life but were the prime movers for social amenities. The women's sewing circle raised the money which got the Presbyterian Church built.
- 'Jockey Jones' was a colourful woman who had lived at Carricktown with two daughters. When she was pregnant for the third time she moved down and built a house about 400 metres beyond Quartzville (the house still exists). She was notorious for getting into trouble and came before the courts on several occasions. She was most often seen riding a horse (see Box 13: Jockey Jones).

Other stories associated with the Bannockburn emphasise the romance attached to the lone miner: miners driven mad by drink; the loneliness and isolation of small claims; the hazards of the environment such as sluicing faces in the dark. One story tells of an apparently successful miner who passed his gains straight to the hotelkeeper 'with the result that he began seeing the Blue Devils. He constructed a sod wall around his hut to ward them off and from behind this wall he hurled stones at them. As the story goes, he chased the last of them into the Kawarau River' (McGill 1997: 44).

5.2.7 Sense of community

Many interviewees spoke about the strong sense of community in Bannockburn. Longer-term residents recalled the stable period of the 1950s-70s, and the strong community spirit that prevailed. During that period the Post Office and store were still open, and formed a community meeting cluster along with the pub.

The influx of new people into the area, particularly since the late 1980s, has meant that residents no longer know everybody as they did in the past, and the community is no longer as homogeneous. The close-knit rural-focused community has changed, and new people have a broader range of backgrounds. Nevertheless, most interviewees commented positively on the community spirit, and the fact that (unlike some other places) there is no obvious division between newcomers and those who are longer-established. Some interviewees suggested that the community spirit was stronger than in other places they knew. Community events such as a Christmas party at the hall are well attended. The new influx of people has meant more support for community activities such as working bees, and bowling club and community events. The community has also united over local issues such as the possible sale of the Presbyterian church.

Irrigation is another uniting factor. Landowners necessarily come together to ensure the upkeep of water races which serve their land, many of which are heritage features in their own right, such as the Carrick Race.

5.3 COMMUNITY CONCERNS

Interviewees expressed a number of concerns about current or potential change to valued aspects of the landscape.

Urbanisation of the landscape

Almost all interviewees were concerned at the increasing urbanisation of the landscape—the proliferation of ‘lifestyle’ blocks and their attendant houses, driveways, fencing, plantings, lights, noise, etc. Several people mentioned that in recent years, lights had changed the previous extraordinary experience of the sparkling night sky. The growth of Cromwell meant its street lights were now visible; the many new houses in Bannockburn meant the night was now punctuated by many lights, changing the absolute darkness that used to prevail.

The greatest concern was about subdivision extending up the hillsides into the tussock country. One particular proposal for 17 lots running up a very visible spur was often commented on (granted consent by the Council, this is currently under appeal). People generally felt that any subdivision should be kept to the Valley floor where there is less visual impact, and should not be allowed on hills or ridges. The point was often made that people come here because of the quality of the landscape, and that subdivision like this would destroy the very qualities that people come here for.

There was also concern about subdivision and urbanisation in the Valley. It was suggested that the increase in property values pushes up rates and forces people to subdivide, which itself has a domino effect, increasing property prices yet more. The market forces may well turn Bannockburn into a satellite suburb of Cromwell.

Some people interviewed were concerned not only about the rapid rate of subdivision but also the form of new development and whether it was appropriate to the area. It was suggested that new houses should take more regard to the scale and style of historic buildings, and that maybe there should be guidelines for new development especially in the vicinity of Bannockburn. More attempt should be made to keep the distinctive character of Bannockburn.

Vineyards and urban development are not necessarily easy neighbours. While people like to live near vineyards, they can have adverse effects (e.g. noise, sprays). Viticulturists were concerned that housing developments near vineyards could be a long-term threat to the industry, as people may want restrictions on how the vineyards operate, making them uneconomic.

Loss of historic buildings and features

Those with a longer association with the area tended to have a greater knowledge of its history, and many of these referred to the loss of heritage features. They knew of many features which had disappeared, or had deteriorated significantly. There was a concern about the cumulative loss over time, and that people today had no idea of how rich the area previously was in historic features.

Most people interviewed spoke of the loss of particular historic buildings or features. In some cases this was from general deterioration over time; in other cases it was from deliberate action; and in others it was from benign neglect—

owners not taking a ‘stitch in time’ to prevent deterioration. Particular losses to sluicings that were mentioned included people bulldozing them, planting them up, building houses in them, and planting grapes. Bottle-hunters and other collectors had removed artifacts. Recent mining exploration has damaged older quartz mining sites. The reduction in rabbit numbers from RHD virus means that shrubby vegetation is growing in sluicings to a much greater extent than previously. 4WD vehicles and trail bikes on the hills can damage historic features and create new tracks. Several people mentioned the loss of the corrugated iron villa opposite the store, and its replacement by a two-storeyed modern house, as this building and the store and post office had previously been seen as the centre of historic Bannockburn. Many of the small cottages of the area have been lost over the years, mainly from deterioration (one interviewee can recall at least 10 mud cottages in the vicinity of their property in Miners Terrace; now there are two). Sod or rammed-earth field walls, once a feature of the area, have largely disappeared as well, although there are some remnants left. Some vineyard owners have damaged or removed historic ruins where they got in the way of the new plantings. Other buildings or ruins are under threat from neglect.

Retaining the stories

Some people considered that there should be better interpretation (signs, brochures, etc.) of the historic features of the landscape so that both local people and visitors could better appreciate what they were seeing. People also noted that, as older people die, the stories of the place are lost. The stories should be held on to—they help create a greater sense of place, inform people about the land, and encourage people to care for important places. For example, many people spoke of the Short sisters, well known and well-loved local identities, who had been a very strong link to the past. Their cottage still remains, but is not protected in any way (Fig. 35).

Figure 35.
Rachel and Fanny Short in
front of their cottage.
Source: Lowburn Action
Group Calendar c. 1975.
P. Crump Collection.



Effects of establishing viticulture and forestry

People generally were not concerned at the sudden and recent spread of vineyards across the lower landscape. Most people enjoyed both the visual aspect (the seasonal changes in particular) as well as the vitality the industry had brought to the area. But concern was expressed about terracing hillsides for vineyards, which was considered to be visually intrusive (this has occurred only to a limited extent so far). Developing vineyards, if done without consideration, could also obliterate important signs of the past, such as old ruins, sod walls, and historic trees. The earthworks required when the vineyards were put in could also destroy archaeological sites. While there has been little forestry established to date, some people were concerned that if it expanded it could change the visual and cultural landscape in a major way. There was also a suggestion that there should be buffers between vineyards and historic areas, and between vineyards and residential development.

Access

Roaming, or the ability to wander freely on foot through properties owned by other people, was mentioned by many interviewees as being greatly valued. In the past, the absence of development meant an almost unrestricted ability to move through the landscape. Owners accepted this and there was an implicit trust that unwritten rural laws (shutting gates, not disturbing at lambing time) would be respected. A number of interviewees expressed sorrow at the gradual ‘closing off’ of the landscape from people due to the increasing limitations from fences, houses, vineyards, and different expectations of new landowners.

Some residents were concerned about a possible proposal to close a road which provides walking access from Hall Rd to Quartzville Rd. Others mentioned that it would be good to have a formalised walkway from the school (now used as a school camp) and Hall Road, for school parties to use.

Integrity of pastoral farming

There was some concern at the loss of pastoral farming in the area—at this stage both Cairnmuir Station and Mt Difficulty Station have been subdivided. There seemed to be a ‘domino effect’ from tenure reviews. Once land was freeholded, the more fertile terraces were subdivided and sold, and became lifestyle lots and vineyards. The upper mountain lands were retained by the Crown and managed by DOC. This left the mid-range hill country which was not able to stand alone as an economic farming unit without the lower flats. Unless the mid-range country could be amalgamated with an existing station, it was difficult to find an economic use and was therefore likely to be further subdivided into ‘lifestyle’ blocks, leading to urbanisation of the hill country. This is an issue not only for the two stations already freeholded, but also for other stations which have not yet been through tenure reviews.

Water races

Some interviewees were concerned about the incremental loss of water races. Many of these are historic features in the landscape, and some are still used today for irrigation purposes. They can be lost if owners bulldoze them or fill them, or if they refuse to allow water to be conveyed through their property. Water races are a direct link with the past.

Bannockburn Sluicings Historic Reserve

Many people expressed concern about the growth of weed species, including wilding pines, in the sluicings. Concerns included: the plants damaging the historic features; plants hiding the features from view; the spread of weeds on to neighbouring properties; and a belief that the sluicings should be preserved visually as they were originally—as a barren landscape.

Bannockburn Post Office Historic Reserve

Some interviewees were concerned that the Post Office was used predominantly for DOC employees rather than a community asset. It was not open to the community as other reserves are. It was suggested that it could be an information centre, museum, café, or other community facility.

Presbyterian church

Most people mentioned the impending sale of the church, and the fact that they would like to see it retained for the community. People referred to its historic importance, the fact that it was built from local funds, and its ongoing role in the spiritual and communal life of the community. It was referred to as the ‘heart of the community’. Its significance as part of a cluster with the cenotaph and hall was also mentioned.

Bannockburn store

The store closed in 1973 and is still in the ownership of the family who ran it. It is currently used for storage. Some community members considered it to be a very important building for Bannockburn and were concerned about its state of repair. The building’s owners were also keen to see the building retained and repaired.

Loss of orchards and trees

Many orchards have been lost from the area, largely replaced by vineyards. This was seen to be losing the diversity of the economic base as well as removing an attractive landscape feature.

Several people spoke of the importance of old trees in the landscape—oaks, fruit trees, lombardy poplars (Fig. 36), etc. They are not only attractive landscape features, but also show where and how people used the land in the past. Some of these are 120–140 years old and nearing the end of their lives. A whole cohort of trees will disappear unless replanting occurs.

5.4 CONCLUSION

In summary, the landscape is highly valued by people in the community and those associated with it for many reasons. Valued physical aspects include the ‘natural’ tussock and tor landscapes. Valued human-modified features include those associated with the mining era, historic structures and historical plantings. The quality of light and colour in the landscape is valued, as is its openness and lack of development. There are many stories and meanings associated with the land, some personal to particular families and some shared by the community or tangata whenua. Valued traditions and activities include

Figure 36.
Corrugated iron house
and shed with lombardy
poplars, Bannockburn.
Heather Bauchop 2003.



exploring and walking through the landscape, community activities, and land uses (such as pastoral farming) that have been around a long time. Orchards and vineyards were also largely valued.

There were many concerns relating to the landscape. The issues did not centre around change per se, as some changes were not of particular concern or were enjoyed (e.g. vineyards). Concerns were more related to change or loss of particular valued aspects of the landscape—either physical changes, visual changes, or changes to people’s relationship to the landscape.

There was also quite a bit of discussion about a sense of community and the loss of community buildings. There is a strong synergy between a sense of community and the existence of places or events in which members of a community can interact. If there are no places or occasions for people to meet, the bonds that come from knowing others—support, friendship and mutual interest—will fail to develop. A strong community is one where people can come together in times of sadness and joy, for celebration, spiritual enrichment, relaxation, work, and play.

Community interactions can be linked to landscape features—places where people meet, and activities that they meet for. In many settlements these places are the shops, service centres, social, religious and sporting venues, and places of entertainment. Historically (at least over the 20th century) Bannockburn has had at least seven main places where people came together. These included the school, pub, store, post office, Methodist church, Presbyterian church, and hall.

Many of these have been lost in recent years. Since the 1970s the school, shop and post office have all closed (the school is now used as a school camp). The closure of the local store, greater mobility, and more affluent lifestyles have meant that community members shop at Cromwell or even further afield. The Methodist church was sold into private ownership. This leaves only the pub, the hall, and the Presbyterian church as community meeting places, and the church is under threat of sale and closure. Unless there is a retention of community meeting places, the focus of community events is likely to shift to Cromwell, and Bannockburn may become more akin to a satellite suburb of Cromwell than a community in its own right.

6. Analysis

In this section, an attempt is made to consider the physical, historic, and cultural information as a whole.

6.1 DIFFERENT SCALES IN THE LANDSCAPE

The landscape can be seen at three main scales:

Largest scale. A tilted bowl of hills, with Lake Dunstan visible at the northern end and the Carrick and Old Woman ranges encircling in the southern end. A gradation of wild tussock and tor country down to relatively ordered Valley floor, dissected by rivers.

Mid scale. Ridges and terraces separated by (often) deeply cut gullies. Many features influenced by humans. Alluvial mining has created most of landforms in and around Bannockburn settlement, Felton Rd and Cairnmuir. Cliffs and steep gullies created or deepened by sluicing. Water races create complex networks across hillsides. Roads have created old and new patterns. Settlements, existing and abandoned. Lake Dunstan, Bannockburn Arm created from the Clyde Dam. Patterns of fences; clusters, lines, and ribbons of trees (e.g. along creeks); orchards; vineyards and paddocks.

Smallest scale. Site-specific changes caused by humans. Historic aspects include abandoned hard rock mines, coal mines, alluvial areas. Cottages, mud-brick, corrugated iron, and other. Sod walls predating fences. Individual trees. Modern aspects include new sections, new houses, new gardens, wineries, internal vineyard patterns, new tree plantings.

6.2 PATTERNS AND ORDERING IN SPACE

The dominant physical order to the landscape is the difference between the upper hill country and the lower Valley/terrace country:

- Upper country: hill/mountain slopes, brown/grey, tussock and rock, shrublands in gullies, untamed, sometimes threatening, steep to rolling, dominantly 'natural', abandoned settlements and mining areas, threaded with water races.
- Lower country: gentle to flat, grass, trees, shrublands, dominantly 'cultural', alluvial mining remains, vineyards, orchards, some (decreasing) 'wild' areas, expanding urbanisation.

The upper country is open and highly visible. The lower country is notable for its sense of mystery. The landscape is not easy to understand compared to, say, a simple river Valley. The strongly dissected terraces, steep-sided gullies and winding roads mean it is easy to get lost, or at least feel uncertain about what might be around the next corner. A sense of mystery or discovery in the

landscape was noted by a number of community members, in the Council's planner's report in the 1970s (Paterson 1976), and also by the writers.

Vineyards and orchards create strong patterns in the landscape (Fig. 37). Rows of old trees (mainly lombardy poplars) indicate earlier field boundaries. Clusters of trees show where old house sites were. Streams are often lined with willows, providing a meandering form in the land. Water races contour around hillsides and through the terraces, sometimes linking to abandoned dams. In some places, the remnants of sod fences still remain; elsewhere fences delineate boundaries.



Figure 37. Looking northeast from Bannockburn sluicings towards Cromwell over vineyards on Kawarau River terraces. Peter Petchey 2003.

The Bannockburn is distinctive in its layout—rather than being clustered in one place, its historic remnants are in various locations, and new development is tending to fill the spaces in between.

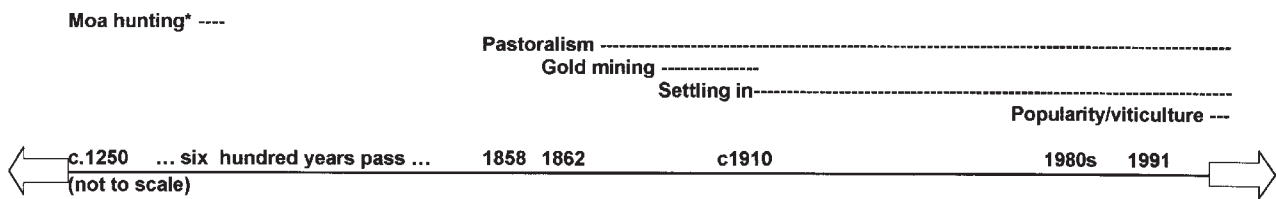
6.3 MAIN LAYERS OF THE PAST THAT HAVE PHYSICALLY CHANGED THE LANDSCAPE

Human interactions within the study area have been characterised by relatively rapid surges of change followed by periods of relative stability. The surges of major change that have left their physical imprint on the landscape have been:

- Moa hunting (c. 1250–1400)
- Pastoralism (1858–)
- Gold (1863–c. 1910)
- Settling in (1910–)
- Popularity: urbanisation and viticulture (1980s–)

See Fig. 38, which presents these 'surges' in a diagrammatic form.

There have of course been many other changes to the landscape, but these have tended to have less impact or are outside the study area. The Clyde Dam project, for example, changed the steeply-gorged Kawarau River into a slow-moving lake



* lasted approx 150 years

Figure 38. The main surges of change in the landscape.

and flooded the lower Bannockburn Creek. A new visual element in the landscape was created. However, the lake is the boundary of the study area, so this is not considered here. Orchardng, while being an important part of the local economy, developed slowly over time and created relatively minor changes to the landscape. It is therefore not considered here as a major surge of change.

The five main surges of change can be considered as layers in the landscape, each of which has left a legacy of physical change and of human relationships with the land. These changes are analysed in terms of the webs and layers model, described in Box 15.

6.4 IMPORTANT NODES, NETWORKS, AND SPACES

This section attempts to break down each of the five main layers of change into its component nodes, networks, and spaces, and to state what has remained of these. The timeline for these changes is shown in Fig. 38.

6.4.1 Moa hunting

What major changes were created in the landscape?

The major change was the rapid alteration of the vegetation from a mosaic of forest to predominantly tussock. By the time of first European occupation in the late 1850s, the land in the Bannockburn area was a mixture of shrublands and tussock.

Important nodes, networks, and spaces created during this era

Nodes. None known. The Hawksburn archaeological site is a node but is outside the study area.

Networks. There were various known routes used by Maori through Otago, although it is not certain whether these same routes would have been used during the Moa Hunter period. None of the known routes appear to have run directly through the study area, except possibly up to the Nevis Valley (see Sections 4.2.2 and 4.2.3). Minor trails are likely to have branched off from these.

Spaces. The dominant spatial pattern would have been the patchwork of native vegetation and tussock, changing to a tussock-dominated landscape over time.

Box 15: WEBS AND LAYERS MODEL

A **web** is created by a network of strands. Nodes are formed by the intersections of these strands. The web as a whole, however, only exists because of the open spaces between the strands. A web therefore creates an interconnected space with nodes, networks, and spaces. These spatial characteristics of the web give it its form and integrity.

Similarly, it is possible to conceive of heritage features in the landscape as nodes, networks, and spaces. Heritage webs can be considered as an interconnection of all aspects of a landscape which relate to a particular era (e.g. the 1860s gold rush), and/or land use (e.g. pastoral farming), and/or to a particular cultural or spiritual relationship with the land. In reality, history cannot of course be neatly divided into 'webs'—it is continuous and interrelated. However, the concept as explained below has proved to be a useful way of considering heritage in the landscape and linking different forms of information.

The heritage sites we are most accustomed to seeing are **nodes**—for example a church or a miner's cottage. But each of these is related to other parts of the landscape—the cottage was there because a mine was nearby; the pattern of mining can still be seen in the land forms; the track to the local store can still be seen. All of these form part of the 'web' in which the cottage is a node.

Networks in the landscape include tracks, supply routes, railway lines, road lines, and water races. Networks convey people, resources and even ideas. Some networks may have become invisible, such as historic routes through mountains, or rivers used for transport. Myths and histories may link one site or landform to another.

Spaces may include such things as undeveloped mountain slopes, field patterns, Maori gardening activities and associated storage pits, layouts of settlements, and patterns in the land formed by earth-shaping activities such as mining. Spatial features can themselves be of heritage significance or can contribute to the significance of a single feature. Open space or landscape patterns around an individual site may contribute greatly to its integrity. Spatial significance can also include the physical relationships of individual sites to each other, and view-shafts to and from sites.

Heritage landscapes, however, are far more than just the physical changes resulting from human activity; they also exemplify human relationships with their surroundings. The **stories** (including meanings, histories and myths) embedded in the landscape provide the richness of association and are fundamental to a sense of belonging and a sense of place. They can include the stories associated with an area which have their basis in the landscape and people who lived in it, and the spiritual aspects of a landscape, where gods or ancestors have formed or changed the land or are part of it. Sometimes the signs of these stories only remain in a name, sometimes in the stories rooted in the land and passed down by individuals and communities. Stories explain human relationships with the landscape.

Where several eras of heritage are significant in a landscape, webs can become **layered**. Parts of the layered web may become eroded and lost, but other parts may remain or take on new uses. Only parts of each layer will be visible at any one time and often, such as with archaeological sites, some of the physical evidence may be buried or eroded (Stephenson 2002).

What is left of this era today in the study area?

The main legacy of the moa-hunter period is the *tussock-dominated landscape*. Some *names* appear to relate to this period. Two archaeological find-spots also indicate Maori presence at some stage.

6.4.2 Early pastoralism

What major changes were created in the landscape?

Land use associated with pastoralism was characterised by an isolated and minimal human presence over most of the land. The first part of the Kawareau Station homestead, farm buildings and woodshed were built on the flats of the Bannockburn Creek. It is likely that there were some outlying buildings on the station, used by shepherds and rabbiters.



Figure 39. Shearing in the Kowarau Station woolshed has been going on for around 140 years. Peter Petchey 2003.

The most significant change relating to pastoralism was again a change to the vegetation patterns. Burning, and grazing by sheep, goats, and rabbits changed the distribution of native species (e.g. native bluegrass was particularly vulnerable and has largely disappeared). Introduced grasses, trees, and weeds began to dominate in the lower country.

Important nodes, networks, and spaces created during this era

Nodes. The Kowarau Station buildings were and continue to be the central node for this activity.

Networks. The pack track over the Cairnmuir Range from Earnsclough station near Clyde.

Spaces. Open grazed tussock hillsides and the patterns of fields, fences, tracks and trees in the Bannockburn Valley.

What is left of this era today in the study area?

Kowarau Station homestead and farm buildings are still essentially unchanged from the 19th century (Fig. 39). The *old road* over the Cairnmuir range still exists though it is no longer the main route to the station. The *tussock hillsides* and *undeveloped nature of the main Bannockburn Valley* are in part a legacy of pastoral farming and pastoral leases. Cairnmuir and Mt Difficulty Stations in contrast have been freeholded and subdivided, with a resulting mosaic of lifestyle blocks, vineyards, and grazed land.

6.4.3 Mining

What major changes were created in the landscape?

The miners altered the face of the land in their search for wealth. Virtually all of the terraces between the Kowarau River and the foot of the Carrick Range were mined, mostly by sluicing. Sluicing continued up all of the gold-bearing streams to high in the Carrick Range. The ‘rich loam’ described by early surveyors was washed away.

The slopes of the Carrick Range, where quartz mines were established, were scarred by mines and scored by tracks and water races. Settlements associated with mining came and went, leaving huts, tracks and settlement patterns. Gold dredges worked along the edges of the Kowarau River and up Bannockburn and Shepherds Creeks. Coal mines were more localised but also involved large amounts of earthworks. While some coal pits were open, there were also extensive underground workings.

Important nodes, networks, and spaces created during this era

Nodes

- Close settlement areas such as Carricktown, Quartzville, Stewart Town
- Community facilities—school, stores, slaughteryard, etc.

- Hard-rock mines and battery sites
- Coal mines
- Alluvial mining sites (continually changing locations)

Networks

- Tracks and roads, evolving over time
- Water race systems (races and associated dams)
- Sludge channels

Spaces

- Pattern of scattered settlement areas, e.g. Miners Terrace, Chinese settlements
- Reshaped landforms caused by alluvial workings over the terraces, including sluiced faces, buttes and sluiced grounds
- The pattern of miners occupation leases (which included their house, garden and sometimes smallholding)
- Surveyed layout of Bannockburn Township

What is left of this era today in the study area?

Many of the settlements associated with gold mining are largely abandoned but *clusters of ruins* can be seen. The *store* and *a few houses* still exist in Bannockburn. There are still some *cottages* remaining of the clusters of dwellings at Miners Terrace and along Domain Road, some still lived in and some unused or in ruins. There are no obvious relics of Chinese settlement.

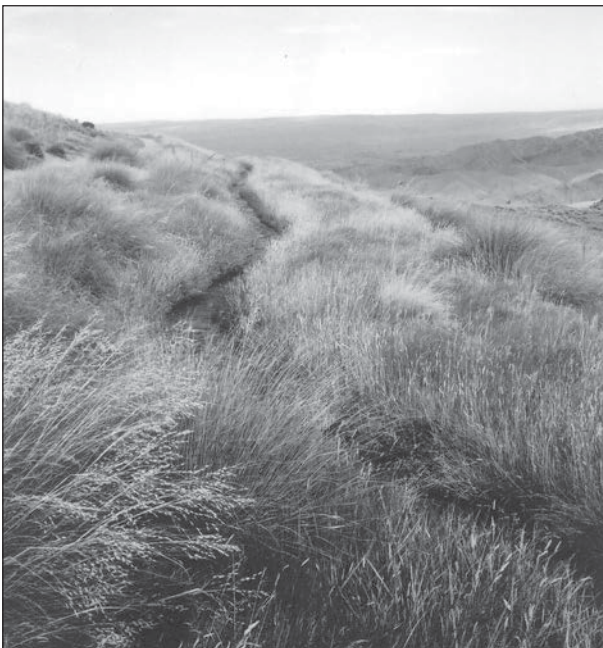


Figure 40.
Carrick water race,
Carrick Range—still used
for irrigation today.
Peter Petchey 2003.

Traces of coal mining are hard to identify on the ground. *Hard-rock mines* are recorded archaeologically, but most are not easy to identify in the regrown tussock.

Some of the earlier *tracks* now form roads, or walking tracks, but others have been lost. The track up to Carricktown and beyond is still accessible by foot or 4WD. The main *Carrick water race* is still used today (Fig. 40), although it no longer flows as far as it used to. Other races can be traced running across the hillsides and terraces, but most have been abandoned. Some *dams* still remain, but are not used.

Today, vegetation has largely masked the devastated and barren landscape of the mining period. It is often difficult to differentiate between ‘natural’ and ‘cultural’ features except where vegetation has refused to grow. *Sluice faces* and *sluiced gullies* are the most obvious spatial features remaining.

6.4.4 Settling in

What major changes were created in the landscape?

Kawarau Station was subdivided in 1910 into 16 stations. The smaller pastoral stations each developed a new cluster of farm buildings (woolsheds, farmhouses, etc.) most of which were built around 1910/11.

People also took up permanent residence on small rural allotments, mainly in the vicinity of Bannockburn. In some instances these would have been where they already were living. Gradually the landscape became more domesticated. Trees, orchards, pastures, and gardens gradually covered the waste lands left by mining.

The patterns that we see in the landscape around Bannockburn today were largely established at this time.

Important nodes, networks, and spaces created during this era

Nodes

- Station buildings built around 1910/11 following breakup of Kawarau Station
- Community facilities, e.g. Bannockburn Post Office, Presbyterian and Methodist churches, hall

Networks

- No known significant changes to existing networks

Spaces

- New, smaller pastoral stations
- Scattering of small rural allotments especially in the vicinity of Bannockburn
- Orchards and small field patterns in the vicinity of Bannockburn, sometimes defined by rows of trees or sod walls

What is left of this era today in the study area?

Homesteads and farm buildings of the stations created in 1910 still exist and most are still used for their original purpose. The *Post Office and hall* still exist, as do the *churches*. *Small-farm allotment patterns* are still visible in the vicinity of Bannockburn with their associated cottages, outbuildings, trees. A few orchards are still present. *Trees* and remnant *sod walls* still define some boundaries.

6.4.5 Popularity—urbanisation and viticulture

What major changes were created in the landscape?

The first significant plantings of grapes occurred in the early 1990s, and rapid growth occurred from 1995. Today, probably 75% of the suitable viticulture land has been planted, although this may change as science and technology develop.

The vineyards have created a major change in the landscape as well as new activities and a new economic base for the area. Visually, the vineyards strongly occupy space rather than define it (cf. fences or rows of trees). The vineyards have formal rows and hard edges. They show great variations in colour according to the season.

Important nodes, networks, and spaces created during this era

Nodes

- Bannockburn as a substantial settlement
- Wineries
- Bannockburn pub

Networks

- New roads to serve new subdivisions

Spaces

- Pattern of new subdivisions: vineyards, lifestyle blocks, and urban sections
- Vineyards with their distinctive patterns of blocks and rows of grapes

What is left of this era today?

All is still present.

6.5 DOMINANT PROCESSES TAKING PLACE TODAY

The main processes of change occurring over the last 10–15 years (and showing no signs of ceasing) include:

- Subdivision for urban, lifestyle, and vineyards
- New buildings—mainly houses
- Viticulture—vineyards and wineries
- Orchards predominantly being removed (one being expanded)
- Land price rises
- Population increase from new people moving in
- Introduction of much greater wealth
- Mobile population; dormitory settlement for many commuters
- Tenure reviews possibly freeing up further land for subdivision
- Decay of historic features

7. Landscape evaluation

7.1 WHAT IS DISTINCTIVE ABOUT THIS LANDSCAPE?

Other areas in Central Otago have many of the same elements as the Bannockburn area. Many other localities are surrounded by tussock/tor mountains, have a similar Maori and early European history, a mining boom and decline followed by a long period of little change, and have been affected by power schemes, the vineyard boom, and recent subdivisions. There are and always have been similar processes at work elsewhere in Central Otago.

Many aspects of Bannockburn nevertheless make it distinctive. In part it is distinctive because it is physically separate from the Cromwell Basin, in a north-facing basin. But its distinctiveness is more in its historical features. Signs of the past are everywhere. Unlike many gold settlements, the Bannockburn settlement did not become a ghost town (although many of the surrounding settlements did), possibly because of the continuation of coal mining to the 1950s and the existence of many small ex-miners' sections which could be developed for small farming. It was a town that moved around to fit the circumstances, and is still in some senses moving today. It is a landscape which holds many stories. It is full of a sense of mystery—its deeply dissected gullies and winding roads are quite unlike the predictable layout of most Central Otago localities. There is a surprising degree of continuity in the population, with many families having lived in the area for one or more generations. The landscape was very strongly formed by the actions of the past (particularly on the terraces and gullies around Bannockburn settlement and Felton Rd) so that it is richly endowed with historic features and archaeological sites.

The key aspects of the landscape which distinguish it from other similar places are:

- the richness of the history of the place, representing the main stories of Central Otago within a relatively small area; and
- the relatively high degree of retention of physical features, stories, traditions and genealogical links with the past.

7.2 KEY HERITAGE SIGNIFICANCE

The methodology entailed an identification of those aspects of the landscape which have key heritage significance. The concept of landscape used was that it consists not only of the physical environment (both its natural and human-created elements), but also cultural perceptions, practices, traditions, and stories, and the relationships between people and the land. To consider heritage significance it was therefore necessary to focus not only on the more obvious historic aspects of the landscape, but also the other aspects.

To assign heritage significance, consideration was given to historic importance of each aspect of the landscape, its value for providing information about the past, and its shared significance to community members as reported in interviews. The five key layers of the landscape have already been described (Section 6.3). In this section, key relationships, webs, spaces, nodes, networks, features and activities are listed.

Key relationships

Tangata whenua

- Stories and meanings
- Kaitiakitanga
- Genealogical connections

Community

- Economic—the land as a source of production
- Sense of place—distinctiveness
- Aesthetics—views, openness, textures, naturalness, tussock/tors, colour changes
- Movement—walking, exploring, mystery, discovery
- Historic features—physical links to the past: features, networks, spaces
- Stories—from tales to family genealogies to broad histories
- Sense of community—linked to places where the community interacts and communal activities
- Activities—those which show continuity with the past or conserve those relationships
- Genealogical connections
- Names of places

Key webs

- Pastoral farming (characterised by extensive tussock country on the uplands, station buildings (particularly Kawarau Station))
- Hard-rock mining (characterised by mines on Carrick Range, Quartzville, Carricktown, coal mines, access routes amongst these)
- Alluvial mining (characterised by sluicings, water races, sludge channels)
- Water networks (characterised by races, dams, Stewart Town)
- Small farming pattern (characterised by lot sizes, sod walls, tree clusters, cottages)
- Settlement pattern (characterised by historic pattern of Bannockburn settlement)

Key spaces

- Underlying landforms
- Tussock-dominated undeveloped upper country
- Sluice faces, sluiced gullies
- Setting of older cottages

Key nodes

- Kawarau Station homestead and farm building cluster
- Homestead and farm building clusters from c. 1910
- Cluster of Bannockburn hall, Presbyterian church and war memorial
- Cluster of Bannockburn store, post office, bakehouse, and corrugated iron house opposite
- Quartzville
- Carricktown
- Stewart Town

Key networks

- Carrick race
- Roads—Cairnmuir, Nevis, Carrick
- Walking tracks

Key features

- Scattered cottages and other buildings relating to the mining era (usually mud or corrugated iron construction).
- Sod or rammed-earth field walls
- Trees—old poplars, fruit trees, etc.
- Mines—remains of hard-rock mines, coal mines, antimony mine

Key activities

- Pastoral farming
- Ability to walk through the landscape

7.3 INTEGRITY

The concept of integrity

The methodology entailed assessing the landscape for its integrity. The concept of integrity is more commonly used in the USA and Canada than in New Zealand. In the USA it is an important criterion for deciding whether a historic place or structure will meet the standard for national registration. It was developed particularly for use with historic buildings but has more recently been applied to historic landscapes. For landscapes, integrity requires ‘that the various characteristics that shaped the land during the historic period be present today in much the same way as they were historically’ (McClelland et al. 1992: 6). The concept recognises that land uses will change over time, vegetation will grow, and the landscape will not remain exactly as it was historically. Nevertheless, the character and feeling of the historic period must be retained for it to be eligible for registration.

The US guidelines state that historic integrity is the composite effect of:

- Location—the geographic factors that determined the historic landscape
- Design—the composition of natural and cultural elements; the spatial organisation
- Setting—the physical environment within and surrounding the place

- Materials—the construction materials used, which may come from the locality
- Workmanship—how people fashioned their environment for functional or decorative purposes
- Feeling—intangible, evoked by physical characteristics
- Association—the link between the place and events or persons that shaped it. Can be reinforced by continued family associations, continued cultural events, use of traditional methods in new construction, etc. (McClelland et al. 1992: 7-8)

The US notion of integrity appears to be designed to assess landscape types which in the World Heritage Operational Guidelines would be called ‘relict’ landscapes—that is, those in which a particular use came to an end and which has evolved little since that time (UNESCO 2002). Bannockburn does not fit into this category. Its landscape does not just reflect a single historical period but a number of periods. While aspects of each layer are still visible, no single layer is dominant. Bannockburn is more akin to what the Operational Guidelines call a ‘continuing landscape’—that is, one which retains an active social role in contemporary society, and which is still evolving, but which still shows material evidence of its evolution over time.

Interestingly, the World Heritage Operational Guidelines for cultural properties refer to the test of ‘authenticity’ rather than integrity. Integrity is used in reference to natural sites. ‘Authenticity’ is not explained, but the ICOMOS Guidelines for evaluating nominated World Heritage sites refer to authenticity of setting, function, design, materials, and workmanship, which suggests some similarity to ‘integrity’. ICOMOS makes the point, however, that this is a complex and somewhat subjective matter, which is perceived differently between cultures and regions (ICOMOS 2000).

Integrity of Bannockburn’s 1878 landscape

As it is an evolving landscape, the Bannockburn area as a whole cannot be assessed for its integrity—a ‘layer’ must be chosen. Even the mining landscape as a whole could not be assessed for integrity, as it has itself evolved over time, with new methods of mining at times overlaying older methods.

Given that the 1878 landscape is reasonably well recorded (see Fig. 17) it was decided to apply the test of ‘integrity’ to this particular slice of time. (Note that Bannockburn did not exist as a settlement in the current location in 1878.)

Elements of the 1878 landscape which remain today include:

- remains of hard-rock mines and battery sites
- remains of sluicings, sluice faces, gullies
- remains of Carricktown
- some parts of Stewart Town (most developed post-1878)
- remains of scattered settlement, e.g. Miners Terrace cottages, possibly Domain Rd cottages, remains of buildings in more isolated valleys
- roads and walking tracks which follow routes of this time
- Carrick water race (and possibly other race systems which are now derelict)
- Kawarau Station and its homestead and farm buildings
- Many names of places and features

These have been assessed against the integrity factors used by the US National Park Service (McClelland et al. 1992) :

Integrity of location: High. The hills and valleys from which the gold came are still evident, although the gold has mainly gone. The most significant change to the location has been the drowning of the Kawarau River and Bannockburn Creek mouth, which has hidden areas that were previously mined and sluiced.

Integrity of design: Medium. The spatial organisation and composition of natural and cultural elements can still be read in many places (e.g. Stewart Town) but is confused where elements are missing from the web (e.g. parts of water races have gone, sluicings are overgrown with weeds or used for viticulture, miners huts have disappeared, new subdivision patterns are seen).

Integrity of setting: High–Medium. In the upper country, the setting is still relatively unchanged except for the vegetation on previously barren mined areas. Within the Bannockburn Basin, this has been changed through subdivision, new housing, vineyards, etc. It is strongly seen at Kawarau Station homestead cluster.

Integrity of materials: Medium. This concept is harder to apply to a landscape than to a building. It generally refers to the construction materials used in building. For a landscape, integrity of materials can apply to how buildings have been constructed and subsequently repaired. Buildings of the 1878 era are notable in being built almost entirely of materials from the local environment (mud and in some cases stone) or corrugated iron. Today, many buildings still retain their original materials (particularly where derelict), but some which are still used today have been significantly altered.

Integrity of workmanship: Low–medium. This refers to how people fashioned their environment for functional or decorative purposes. This can be seen at a most fundamental level, e.g. roads, water races, cottages, possibly some old plantings, sod walls around gardens. It is most strongly seen at Kawarau Station homestead and woolshed.

Integrity of feeling: Medium–high. This refers to intangible aspects evoked by physical characteristics. It can be evoked more strongly in some parts of the landscape than others. The feeling of the 1878 era is strongest where the degree of change is least. The Kawarau Station homestead and farm buildings, Stewart Town and its associated sluicings, and the tussock hillsides with their workings, are possibly the least changed aspects of the period, where the feeling of the past is easily evoked.

Integrity of association: Medium–high. This refers to the link between the place and the events or persons that shaped it. Again, this factor is more relevant to historic buildings than landscapes. The Bannockburn pastoral landscape is strongly associated with the Australia and New Zealand Land Company, which owned the Kawarau pastoral lease, and James Cowan, who was station manager from 1867 to 1898. The mining landscape was associated with many hundreds of miners, only a few of whose names have carried through to the present. A few local families are descended from people who lived in the area in the mining era.

Overall, the landscape of the 1878 period retains a medium to high level of integrity in the landscape today. Integrity is particularly high in places that have changed the least, including Kawarau Station; the Carrick Range workings together with Carricktown and the Carrick race; and the Stewart Town, Menzies Dam, and sluicings area. However, there is still also a surprising amount of integrity elsewhere, which can be seen in such things as period buildings, water race systems, sluicings, plantings, and settlement patterns.

7.4 HERITAGE VALUE

The methodology entailed an assessment of the international, national and regional significance of the heritage landscape with reference to various classification models.

International and national significance

It is difficult to make an assessment of the overall value of the Bannockburn landscape in international or national terms. Nationally, this is the first known such assessment in New Zealand so there are no equivalent studies to compare it against. National assessment methods for historic places have limited relevance as they have developed for buildings or relatively restricted historic areas. In Box 16, the Historic Places Act classification model is discussed.

Internationally, formal assessment and classification methods exist for heritage landscapes, but these models are not necessarily relevant to the New Zealand situation. The models which potentially offer the most assistance are the National Trust of Australia's Cultural Landscapes definition and the Australian Heritage Commission's Historic Themes Framework. These are discussed in Box 17.

Regional significance

The Bannockburn landscape has many features in common with other parts of Central Otago. What is particularly distinctive is the extraordinary richness of the history of this area, and its high degree of retention of features and systems. There is also a medium-high degree of integrity in the retention of the c. 1878 landscape, when the area was still being actively mined. It is not possible to make a properly informed comparison with other similar areas of Central Otago as no comparable studies have been done. However, from the authors' combined knowledge this is likely to be one of the best examples of a landscape showing the multiple layers of the past and present while still retaining a reasonably high degree of integrity of early landscapes. There are similar mining landscapes such as at Bendigo and St Bathans, but these places predominantly tell the mining story only. Bannockburn offers many stories of many eras.

Box 16: NATIONAL CLASSIFICATION MODEL

Historic Places Act 1993

While New Zealand does not yet have a classification model specifically developed for heritage landscapes, the criteria for historic places and areas in section 23 of the Historic Places Act 1993 provides some guidance.

Section 23(1) requires that registered historic places or areas have significance or value in any of the following areas: Aesthetic, Archaeological, Architectural, Cultural, Historical, Scientific, Social, Spiritual, Technological, Traditional.

Although the community highly values aesthetic aspects of the landscape, it is questionable whether the area could claim to have aesthetic value as the term is used in the Historic Places Act. The Act's focus is on historic heritage, so the aesthetic values of the natural aspects of the landscape would be of limited relevance. The term 'aesthetic value' is generally used to refer to the values of human-made structures or plantings.

The study area has significant archaeological value. Large parts of it are archaeological sites as defined in the Historic Places Act: that is, they show evidence of human use and occupation prior to 1900.

The study area has cultural value as evidenced by the interviews with community members and tangata whenua.

Bannockburn's particular historic significance is that, through its combined webs and layers, it tells the Central Otago story in a nutshell – Maori associations, the big pastoral runs, alluvial mining, hard-rock mining, dredging, coal mining, subdivision of the stations, the beginning of horticulture, small farming, the Clyde Dam, holiday and recreational uses, increasing urbanisation and now viticulture.

However, it is considered that the study area as a whole would be unlikely to qualify for Historic Places registration. As the Act is currently interpreted, the heritage features are too dispersed and multi-layered, rather than a compact area which highlights a particular aspect or era of historic heritage. The area is also too extensive and too diverse. Additionally, the values of the area are not confined to historic heritage, whereas this is the focus of the Act.

This is not to say the area lacks heritage value – assessed by other criteria, we believe it would rate highly (see Australian Cultural Landscapes (Box 17), for example). It is just that our nation's current way of defining heritage places was not designed around heritage landscapes concepts.

Some individual sites within the landscape are already registered as historic places (see section 2.5). It may be that certain smaller areas within the landscape (e.g. Carricktown and associated mines) would be eligible for Historic Area status, but more research would be required to establish this.

7.5 POTENTIAL FOR INTERPRETATION AND EDUCATION

Bannockburn area is potentially an excellent location for education and interpretation purposes because of its multiple layers of the past. Currently there is very little accessible information about the history in the landscape. Visitor experience is largely limited to driving through, and possibly seeing the Bannockburn sluicings and two or three old buildings on the Bannockburn-Nevis road. Few people appear to make the effort to walk up to Carricktown. While the interpretation at the sluicings reserve is good, the broader landscape and the patterns of settlement, use, and landscape change cannot be understood through uninformed eyes, but nowhere are they explained. There is great scope for sensitively developed interpretation of the heritage landscape, possibly based at a central point such as the Bannockburn Post Office.

**Box 17: INTERNATIONAL CLASSIFICATION MODEL:
Australian Cultural Landscapes definition
and
Historic Themes Framework**

Australia has moved further towards adopting a landscape approach to heritage than New Zealand. Cultural landscapes are described by the National Trust of Australia as those parts of the land surface which have been modified by human activity, including natural and cultural elements which may overlay each other over time. The resulting composite picture of layers is a cultural landscape created by inter-relationships between people, places, and events. These patterns of development and change present a record of human activity and are a manifestation of human values and ideologies. Memory and symbolism associated with landscapes are also considered to be part of cultural landscapes (National Trust of Australia 1999).

The Australian Heritage Commission has developed a Historic Themes Framework to assist in the identification and management of heritage places nationwide. The framework is intended to introduce a more balanced approach to heritage identification and to reveal previously ignored themes. (See www.ahc.gov.au/infores/publications/generalpubs/framework/html/intro.html)

If applied to the Bannockburn study area, the following themes could be relevant:

1. Tracing the evolution of the [NZ] environment
2. Peopling [NZ]
3. Developing local, regional and national economies
4. Building settlements, towns and cities
5. Working
6. Developing cultural life

The Australian National Trust approach to cultural landscapes and the Historic Themes Framework provide classification approaches which are much more closely aligned with the heritage values of the Bannockburn landscape than current New Zealand frameworks. Under the Australian system it appears that the Bannockburn landscape could be classified as a cultural landscape and could be shown to be representative of a number of national themes.

7.6 ROBUSTNESS

Robustness is the ability of a landscape or feature to tolerate change, or to retain its essential character in spite of change.

Sources of change

There are many new activities and processes occurring in the area today (see Section 6.5). All of these have a potential to change the heritage landscape. Table 1 summarises how different sources of change could affect particular features or aspects of the heritage landscape:

Relative robustness of key aspects of the landscape

Table 2 assesses the relative robustness of the key aspects of the landscape. This was developed through examining the current forces of change in the landscape, the aspects of the landscape that could be affected by these changes, and to what degree these aspects could withstand change and yet retain their integrity. The assessment is very general and only indicative—it was not within the brief of this project to examine robustness on a case-by-case basis.

If development pressures and changes continue into the future as they are doing at present, it is possible that the only aspects of the heritage landscape which will retain their integrity will be those in the left-hand column of Table 2 (highly

TABLE 1. SOURCES OF POSSIBLE CHANGE TO THE BANNOCKBURN LANDSCAPE.

KEY ASPECTS OF THE LANDSCAPE	SOURCES OF POSSIBLE CHANGE
Key tangata whenua values	
Stories and meanings ...	Lack of recognition; lack of passing stories on; loss of names from the landscape
Kaitiakitanga ...	Lack of recognition of relationship
Genealogical links ...	Loss of information
Key community values	
Economic—the land as a source of agricultural/horticultural production	Speculation, subdivision, urbanisation
Sense of place—distinctiveness	Bland development; no recognition of vernacular building styles; rapid urban expansion
Aesthetics—views, openness, textures, naturalness, tussock/tors, colour changes	Subdivision, housing development or forestry on tussock hillsides
Stories—from tales to family genealogies to broad histories	Loss of historic features that stories link to; lack of interpretation at significant sites; out-migration of longer-settled people; large increase in population
Genealogical links	Loss of information; out-migration of those with links to the area
Names of places	Loss of information; out-migration of those with links to the area
Sense of community	Lack of places to meet for community interaction (e.g. sale of church); no physical 'heart' to the town; loss of common interests; loss of common activities
Key webs	
Pastoral farming (characterised by extensive tussock country on the uplands, and farm building clusters (particularly Kawarau Station))	Tenure reviews resulting in breakup of economic farm units; new land uses
Water networks (characterised by races, dams, Stewart Town)	Cumulative loss of parts of water race systems
Small farming pattern (characterised by lot sizes, sod walls, tree clusters, mud huts)	Cumulative loss through subdivision, development, 'tidying up'
Hard-rock mining (characterised by mines on Carrick Range, Quartzville, Carricktown (and possibly other settlements), coal mines, access routes amongst these)	Cumulative loss through modern mining; earthworks; vandalism; over-use of tracks by 4WD, decay of buildings, vegetation growth
Alluvial mining (characterised by sluicings, water races, sludge channels)	Cumulative loss of individual features through vegetation growth, earthworks, subdivision, development
Settlement pattern (characterised by historic pattern/s of Bannockburn settlement)	Cumulative loss of parts of the historic pattern through subdivision, development, new housing
Key spatial aspects	
Underlying landforms	Earthworks
Quality of light	Street and exterior lighting at night
Tussock-dominated undeveloped upper country	Subdivision; housing development; forestry
Alluvial mining sites including sluice faces, sluiced gullies, etc.	Earthworks; viticulture; forestry; development; weed growth [Those in the DOC reserve are protected but under threat from weed encroachment]
Key nodes	
Kawarau Station homestead and farm building cluster	Owners who did not choose to care for and conserve
Homestead and farm building clusters from c. 1910 period	Owners who did not choose to care for and conserve
Cluster of Bannockburn hall, Presbyterian church and war memorial	Possible sale of church would lose significance of this cluster
Cluster of Bannockburn store, post office, bakehouse and corrugated iron house opposite Quartzville	Decay; lack of recognition of significance; new development
Quartzville	Natural decay; earthworks; vandalism
Carricktown	Natural decay; earthworks; vandalism
Stewart Town	Natural decay; vandalism

TABLE 1 (continued). SOURCES OF POSSIBLE CHANGE TO THE BANNOCKBURN LANDSCAPE.

KEY ASPECTS OF THE LANDSCAPE	SOURCES OF POSSIBLE CHANGE
Key networks	
Carrick race	[Robust because of continued use] Loss of use would probably lead to decay
Road networks	[Robust where continued use and legal status] Historic roading pattern could be lost through subdivision, development, earthworks, road closures.
Walking tracks	Loss of legal status; lack of legitimisation of customary walking trails
Key features	
Scattered cottages and other buildings relating to the mining era (usually mud or corrugated iron construction); archaeological sites	Decay; demolition; new development, earthworks
Sod or rammed-earth field walls	Decay, demolition; new development
Trees—old poplars, fruit trees, etc.	Death from old age; felling
Mines—remains of hard-rock mines, coal mines, antimony mine	Earthworks, decay
Key activities	
Pastoral farming	Tenure reviews resulting in breakup of economic farm units; new land uses
Public movement—walking, exploring, mystery, discovery	Urbanisation; fencing; new residents with different attitudes to public access; closing of paper roads

robust). Even these could potentially be lost—for example if the Carrick race were no longer used it would deteriorate over time; if pastoral farms were freeholded and subdivided or sold to speculators this could spell the end of this activity.

The key aspects listed in the central column of Table 2 (medium) may be physically changed or lose integrity should the current forces of change continue. Some of their current resilience depends on community and individual stewardship—for example, as long as the owners of historic homesteads and farm buildings take pride in them and care for them, they will be robust. Over time, cumulative changes of the types discussed above are likely to gradually erode the heritage values.

The aspects in the right-hand column of Table 2 are considered to be the most fragile. They are at immediate risk from changes which are currently occurring or appear likely to occur in the near future. The risks include the physical loss of features from decay or destruction (e.g. trees, buildings, archaeological sites); loss of integrity (e.g. urban/lifestyle development within tussock country); cumulative loss of parts of a system (e.g. alluvial mining system); or loss of meaning or significance (e.g. through public exclusion from previous public buildings or places).

Possibly the greatest risk is the fact that development is currently occurring largely in the same place as a great wealth of historic features. The area within and in the vicinity of Bannockburn township and its surrounding terraces and gullies was intensively mined, lived on and farmed, leaving behind many visible patterns and features (including many archaeological sites). Much has already

TABLE 2. ROBUSTNESS OF KEY ASPECTS OF THE BANNOCKBURN LANDSCAPE.

HIGH ROBUSTNESS	MEDIUM ROBUSTNESS	LOW ROBUSTNESS
Key values		
Genealogical links	Stories and meanings	Aesthetics – views, openness, textures, ‘naturalness’
Names of places	Kaitiakitanga Productive use of land Local distinctiveness Sense of community	Tussock-dominated upper country
Key webs		
	Pastoral farming ‘web’	Small farming pattern around Bannockburn settlement
	Water networks	Distinctive pattern of Bannockburn settlement and community buildings
	Historic hard-rock mining ‘web’ Coal mining ‘web’	Alluvial mining ‘web’
Key spatial aspects		
Underlying landforms	Quality of light	Sluice faces, sluiced gullies
Key nodes		
Stewart Town	Quartzville Carricktown Kawarau Station homestead and farm buildings Homesteads and farm buildings dating from c. 1910 period	Church/hall cluster Store/post office cluster
Key networks		
Carrick race	Walking tracks	
Key features		
Road networks	Hard-rock mines	Scattered cottages, sheds, (standing and ruins) relating to the mining era Sod or mud field walls Old trees Archaeological sites
Key activities		
Pastoral farming		Public movement through the landscape

been lost, and if current vectors continue, this part of the landscape could rapidly lose integrity and significance.

7.7 WHAT IS CURRENTLY PROTECTED?

Some of the features discussed above are protected, as described in Section 2. In brief, protection extends to the three DOC reserves (Young Australian, Post Office, and Bannockburn Sluicings/Stewart Town), the fourteen individual items listed in the District Plan, and archaeological sites.

On the face of it, protecting fourteen items in the District Plan seem quite extensive. However, most are already protected in a sense, being publicly owned - eight of them are within DOC reserves, one on road reserve, and one is the war memorial. Of the rest, one is the Presbyterian church and three are privately owned (Bannockburn store and the Kawarau Station homestead and woolshed).

The archaeological protection provisions of the Historic Places Act 1993 would also appear (on the face of it) to protect many of the heritage features of the landscape. As described in Section 2, all pre-1900 archaeological sites are automatically protected whether they have been previously recorded or not. It is an offence to modify, damage or destroy a site without the prior approval of the NZ Historic Places Trust.

The Bannockburn landscape was intensively used by humans prior to 1900 and consequently it is rich in pre-1900 archaeology. However, only a small proportion of archaeological sites have been recorded so far. The study area has never been fully surveyed, with most of the known sites being recorded as part of the Clyde Dam project.

There is undoubtedly a wealth of archaeological sites in the area which have never been formally mapped or recognised. Some of the more obvious ones are shown in Fig. 2 but there will be many more. Examples have been discussed throughout this report, such as in the identification of key nodes, networks, and features (Section 6.4). There is generally some community awareness of some of these sites (an indication being the list of historic features identified by interviewees, Section 5.2). However, it is probable that many owners or developers (particularly those new to the area) do not know what features are on their land or may not know in advance what their legal requirements are, and thus may be in danger of prosecution if sites are damaged.

It is also a problem for authorities with responsibilities for heritage (DOC, the Historic Places Trust, and the Council), as no one is aware of the full extent and nature of archaeological features in the area. Often, too, archaeological sites can be under the earth surface (e.g. middens) and so not obvious to the untrained eye. What is certain is that subdivision and development is proceeding apace within an area which was intensively used prior to 1900, and it is likely that archaeological features are cumulatively being lost.

Even where a site is known and an application is made to destroy or damage a site, the fact that there is no record of the totality of archaeological features in the area means that it is difficult to assess the significance of any single part of it. Often, too, it is important to be able to understand an individual item in light of how it fits into a larger system—for example, a dam may be part of a system of water races. If the systems are not known, the cumulative effect of removing part of the system cannot be assessed.

Many of the key features and aspects of the landscape identified above have no protection. Sites or features created after 1900 (e.g. any places that relate to the post 1910 'settling down' period) are not protected under the Historic Places Act. Trees are not protected, nor are distinctive settlement patterns, nor open space. There is no formal recognition of systems or webs relating to particular eras or activities. Valued aspects of the landscape such as the upper tussock

grasslands could be altered forever through subdivision and development, or forestry, or high-level viticulture.

Is more protection required? The word 'protection' conjures up images of laws and bureaucracy. Sometimes these tools are needed, particularly as a 'bottom line' to prevent important things from being lost. But often the best protection is the goodwill and energy of a community which values its heritage and can see the long-term benefits of looking after it in a sustainable way. The next section discusses this further.

8. Conclusions

This study has attempted to bring together and evaluate an extraordinarily broad range of information to give a better understanding of the heritage values of the Bannockburn area. We have concluded that the study area is a rich heritage landscape, encapsulating all of the key stories and histories of Central Otago within a relatively small basin and its surrounding hills. The heritage values include man-made structures and features, archaeological sites, names, stories, activities, genealogical links, and memories, from which can be read the webs and layers of the past.

Through the interview process it became clear that people living in and associated with the area today value the landscape highly for a wide range of reasons, including its historic, spiritual, aesthetic, cultural, economic, and recreational attributes.

The influx of people into the area is at least in part generated by these special qualities. Paradoxically it is this influx of people (and related subdivision and development) that is the main source of change that threatens the integrity of the landscape.

While some aspects of the heritage landscape are likely to be robust in the face of change, many aspects are fragile and likely to be lost. The process is likely to be cumulative—every miner's cottage lost, or piece of water race filled in, or story forgotten, will contribute to the loss of integrity of the heritage landscape as a whole.

The dry climate has assisted greatly in the retention of heritage features which in wetter places would long ago have disappeared. However, ongoing deterioration is still a problem, and if unstemmed will result in eventual loss of many heritage features. Often decay can be slowed considerably by a 'stitch in time'—a little bit of preventative work to nail on a sheet of iron, or prevent a gutter leaking into a mud-brick wall, for example. Owners may often wish to retain their special places but may be hampered by lack of time, money, knowledge, or materials. There is scope here for the community to be a steward of its own heritage, to come together to work co-operatively to build up the skill base and offer assistance to maintain heritage places. Such an initiative could be supported by agencies with an interest in heritage management.

As things stand, with limited protective measures, a lack of basic information on what exists and where, and little active management of heritage features, many of the key aspects of the landscape are under threat.

Does this matter? We think it does. The heritage landscape has a remarkable wealth and complexity. Many people care about it deeply. It has much to offer in helping understand the many different layers of the past of Central Otago. While aspects have already been lost over recent years, it has survived remarkably intact to the present. But the current form and rate of change makes this unlikely to continue unless some actions are taken now. We suggest that it is critically important that the community and interested agencies begin to look seriously at how the area should be managed in the future so that the key values and distinctiveness of the landscape are sustained.

8.1 CONSERVATION OR SUSTAINABLE DEVELOPMENT?

Conservation

The methodology entailed recommendations on what needs to be done to conserve the heritage values of this landscape. But is *conservation* the appropriate approach for an entire landscape? As we worked our way through the issues this became an important question. We looked at the meaning of the term in the New Zealand context. The most relevant uses of the term ‘conservation’ were found to be in the Conservation Act 1987 (CA) and in the ICOMOS NZ Charter.

The Conservation Act defines conservation as ‘the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations’ (Section 2 CA). The ICOMOS Charter defines it as ‘the processes of caring for a place so as to safeguard its cultural heritage value’ (ICOMOS New Zealand 1993). The Charter states that the purpose of conservation is to care for places of cultural heritage value, their structures, materials and cultural meaning. Conservation is thus more than protection; it includes caring for places so as to extend their lifespan.

The practice of conservation in these contexts is usually applied to historic places which are limited in extent—most often a building or cluster of buildings, but occasionally a pa site or other archaeological feature. It has rarely, from our knowledge, been applied at a landscape scale except possibly where the entire area is managed for conservation purposes (e.g. Bendigo).

The Bannockburn study area presents an entirely different set of circumstances. It is an extensive area with historic features throughout, but intermingled with active economic and social processes, such as pastoral farming, orcharding, vineyards, and residential uses. It is almost entirely in private ownership or Crown lease; only three relatively small areas are reserves. We consider that it is unrealistic to expect the entire area to be ‘conserved’ (in the preservation sense), because it is a living landscape. People have always used the land to make a living and to live, and must be able to continue to do this. It is not

possible to regard it simply as a heritage artefact —it is simultaneously a place in which people have social, economic, and cultural stakes. While there are particular features, nodes, networks, and spaces that may require a conservation approach, we believe that this is inappropriate for a whole landscape.

Sustainable development

At the same time there are special values and special features of the landscape that should be better cared for. The current forces of change are likely to result in their loss, unless there are conscious decisions and actions taken to look after the heritage values of the landscape.

If we are not recommending that the landscape as a whole should be conserved, what approach should be taken?

Having reviewed national and international literature, we have concluded that the complex interests and values in the study area would be better served through using a sustainable development approach, while conserving particularly important aspects of the landscape. Internationally the concept of ‘sustainable development’ is increasingly being applied to valued cultural landscapes (see for example Tricaud 2000; Dejeant-Pons et al. 2001; Kirby 1992; Mumma 2002; Parliamentary Commissioner for the Environment (PCE) 2001, 2003). The concept was first given international prominence in the United Nations Brundtland Commission report in 1987 and is now the central tenet of international agreements such as the Earth Summit in 1992. In short, it means development which meets the needs of the present generation without compromising the ability of future generations to meet their needs.

It should be noted that ‘sustainable development’ is not the same as the ‘sustainable management’ promoted in the Resource Management Act 1991. The concept has been recently promoted by New Zealand’s Parliamentary Commissioner for the Environment. The PCE’s 2001 report investigated the perceived inadequacies in the current planning and management systems for areas around fast-growing towns and cities that had significant natural, landscape, and cultural heritage values. The report concluded that the current system may not be capable of promoting the sustainable development of such areas. Particular problems included reaching agreement as to the nature and significance of values to be protected, and recognising and providing for the public interest in the management of privately owned land. The management of cumulative effects also was seen as a critical issue. The Resource Management Act was seen to be deficient in promoting sustainable development, being largely a reactive tool which focuses primarily on environmental effects of single developments. The report proposed that sustainable development, which seeks to integrate environmental, social, and economic sustainability, should be the goal in areas with highly valued landscapes.

The concept of sustainable development differs from the Resource Management Act’s focus of ‘sustainable management’ in that it encompasses social, economic, environmental and cultural sustainability. The Local Government Act 2002 (LGA) provides for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach (Section 3 LGA). Local authorities

should take into account social, economic, and cultural well-being of people and communities, the need to maintain and enhance the quality of the environment, and the reasonably foreseeable needs of future generations (Section 14 LGA). Local authorities are only just beginning to develop the plans required under this legislation, but it provides some interesting possibilities for the Bannockburn area.

Taking a sustainable development approach means considering the people and the landscape holistically, and engaging with the community to a greater extent than has been possible within the limits of this study. It would involve considering environmental, economic, social, and cultural sustainability issues. While some aspects of the landscape may require protection or conservation, other parts may be able to absorb change. The challenge is to develop actions and strategies to improve the understanding, identification, and care of key aspects of the heritage landscape while sustaining the community, economy, and environment.

Improving understanding

The fundamental requirement for sustaining a heritage landscape is shared recognition of its values. People are unlikely to protect or care for places unless they understand why they are important. Community-wide pride, respect and stewardship should be seen as the primary means of achieving sustainable development.

Some community members have a deep knowledge of the history and landscape of the area. Further publications of local history would assist in disseminating information and developing local knowledge and pride.

The Bannockburn heritage landscape also has excellent potential for education and interpretation, not just of mining history but of the key layers of the past before and after this era. The key to any interpretation should be the connection between stories and the physical landscape. Interpreting the landscape offers great potential for tourism, which could contribute to economic sustainability.

Improving identification

In this study it was not possible to carry out any comprehensive on-ground mapping of heritage features. Further work needs to be carried out to record the key aspects of the landscape in detail: critically, the historic features in the northern quadrant of the study area, where subdivision and development are occurring apace.

Improving care

As discussed earlier, all pre-1900 archaeological sites are automatically protected, but this is of little help if people and agencies do not know they exist. The more detailed mapping mentioned above would assist with this problem.

Other aspects of the landscape may also need formal protection through, for example, district planning mechanisms or the tenure review process. While this report has identified key aspects of the landscape, we consider that more consultation and discussion is required before decisions are made about what is

protected and how. A critical aspect of these discussions must also be the form and nature of new subdivision and development, and where it should be located.

However, all the formal protection in the world means nothing if valued places are not cared for. Protected features can still degrade unless people are willing to put effort into conserving them. Stewardship by owners, community groups, and agencies should be actively encouraged and aided through appropriate training, information, and support.

8.2 SUGGESTIONS FOR FURTHER CONSIDERATION

We believe this study has provided a wealth of information about the nature and significance of cultural values in the landscape. It has shown that the landscape as a whole is distinctive and has significant heritage value. It has also found that the landscape will change very rapidly if current trends continue. Some of those changes are likely to be beneficial but others may well lead to irreparable harm to valued aspects of the landscape unless there is agreement and cooperation between the groups most closely associated with it.

From the privileged position of outsiders looking in, we would like to suggest some broad goals and some specific actions that we believe would assist in working towards sustainable development of Bannockburn's heritage landscape.

These suggestions are not worded as recommendations because we feel that future directions should not be determined without more extensive consultation with the community, tangata whenua, and agencies than has been possible as part of this study. Instead, they are worded as 'possible broad goals' and 'possible actions' and it is hoped that they can seed further discussion.

Possible broad goals

By 2020 the Bannockburn area will still retain:

- its distinctiveness
- its sense of community
- the stories and meanings associated with the landscape
- the connectedness between people and the landscape
- the key webs, nodes, networks, spatial patterns, and features that together tell the stories of the past
- the visual and spatial aspects of the landscape which people value highly

The Bannockburn area will be:

- a place where the community, tangata whenua, and agencies (e.g. DOC, District Council, Historic Places Trust) work in an integrated way towards a common goal of sustainable development
- a place where the land still retains its primary role as a source of production rather than speculation

- a place where the community and tangata whenua have pride in the heritage landscape and take an active role in sustaining it
- a place where the valued aspects of the landscape are conserved primarily through the stewardship of the owners and community
- a place where highly valued aspects of the heritage landscape are formally protected
- a place where change and development occur in a way which is respectful of the past and of the values that people hold for the landscape
- a place that people visit because of excellent presentation and interpretation of the many histories of Central Otago, while telling the particular stories of the Bannockburn area
- a place that people are able to walk and explore, within limits and respecting the needs of owners of private property
- a place which still retains a sense of mystery and surprise

Actions that the community may wish to consider

- discussions within the community to reach mutual understandings and agreement about what is important and distinctive about the landscape and its people
- discussions within the community about what aspects of the landscape need protection or enhancement and how this might best occur
- discussions within the community about the appropriate nature and scale of future development
- input by the community into the Central Otago District Council's current strategic planning process
- improving people's understanding of the sorts of heritage features that are present in the landscape, particularly those which are less easy to recognise (e.g. water races, archaeological sites)
- encouraging more detailed surveys and studies of the area (e.g. histories, genealogies)
- retaining and developing community stewardship practices - that is, people voluntarily taking action to care for valued places. There are many people who already do this at a personal level, but it could be enhanced through such things as:
 - leadership
 - basic training in conservation skills (e.g. stabilising mud-brick buildings and field walls)
 - getting together to carry out 'stitch in time' work on derelict buildings (e.g. weatherproofing, stabilising)
 - replanting tree species which are distinctive to this area but are reaching the end of their lives
- working towards improved interpretation of the heritage landscape and the history of the area
- retention or re-establishment of places where the community meets and interacts

(Some of these initiatives may require support from outside agencies such as DOC, NZ Historic Places Trust and/or the Central Otago District Council, at least initially. However they would ideally be initiated from within the community.)

Actions tangata whenua may wish to consider

- determining if there are aspects of the landscape that need protection and how this might best occur
- input into the Central Otago District Council's current strategic planning process
- retaining and developing kaitiakitanga practices

Actions that DOC may wish to consider

- supporting community initiatives such as those described above
- having input into the Central Otago District Council's current strategic planning process
- developing interpretation and trails around the webs and layers of the heritage landscape. The Bannockburn Post Office is a possible centre for such a project.
- initiating more detailed studies of aspects of the heritage landscape to support this project (e.g. the integrity of the 1878 landscape features; the Chinese presence; the Miners Terrace settlement; the way of life of women and families in a mining area)
- supporting local stewardship practices, possibly through offering training and leadership
- considering heritage landscape values when having input into pastoral lease reviews
- ensuring 'best practice' conservation of heritage places for which DOC has responsibility
- contributing to a more detailed study of heritage features, nodes, networks and spaces within the fast-developing part of the study area (from Adams Gully north)

Actions that the Central Otago District Council may wish to consider

- supporting community initiatives such as those described above
- reassessing the current District Plan heritage provisions in light of the values of this heritage landscape
- protecting important features, nodes, networks, and spaces in the landscape through planning provisions (including incentives). Possible examples include:
 - the upper landscape consisting of undeveloped slopes, tussock, tors, etc., together with its webs of the past
 - early settlement sites
 - physical traces of the past which together still form important webs (e.g. 19th century mining) particularly within the fast-developing northern area

- as the gatekeeper of subdivision and development proposals, being aware of the potential location of archaeological sites and develop an alerting mechanism for owners, and its own staff
- enhancing aspects of the heritage landscape through planning provisions (including incentives). Possible examples include:
 - foot access agreements
 - developing guidelines, information sheets and/or controls on the form and extent of subdivision and development
 - delineating the extent of new urban subdivision
 - compatible patterns for new sections and street layouts
 - form and scale of new buildings
 - delineating the extent and height up hillsides of 'lifestyle' subdivision
 - delineating an acceptable height up hillsides for vineyard planting
 - encouraging the retention and re-use of historic buildings using best practice
 - providing guidance on land management practices which respect historic features and cultural values
- contributing to a more detailed study of heritage features, nodes, networks, and spaces within the fast-developing part of the study area (from Adams Gully north)

Actions that the NZ Historic Places Trust may wish to consider

- supporting community initiatives such as those described above
- having input into the Central Otago District Council's current strategic planning process
- developing national evaluation and classification tools for heritage landscapes
- providing free advice and guidance to those who own registered or scheduled historic places
- supporting local stewardship practices, possibly through offering training and leadership along with DOC
- considering whether any places or areas should be proposed for registration (e.g. Carricktown and associated hard rock mines and battery sites)
- contributing to a more detailed study of heritage features, nodes, networks, and spaces within the fast-developing part of the study area (from Adams Gully north)

8.3 FURTHER RESEARCH OPPORTUNITIES

This study was carried out as a pilot to test a methodology for researching heritage landscapes (Appendix 1). We believe that the study has shown the strength and promise of a heritage landscape approach. Further work, however, is needed in the following areas:

- The methodology itself could be revised to a simpler, more straightforward format. The experiences of the study team could be used as a basis for such a

revision. The methodology could then be of greater use to other agencies wishing to assess heritage landscapes.

- The methodology could incorporate a greater emphasis on graphical representations at the evaluation stage of the process—for example to illustrate the key webs and layers in the landscape, and to identify those aspects of the landscape that have greater or lesser robustness.
- The study highlights the lack of legislative, policy, and methodological guidance within New Zealand for the identification, assessment and management of heritage landscapes. This is particularly notable in relation to other countries (e.g. Australia, England, Canada, USA) where such guidance is well-developed. There is considerable scope for further research (theoretical, policy and applied) and publications to guide the development of a coherent and integrated heritage landscape approach in New Zealand.

9. Acknowledgements

Over the period of this study we have been privileged to get to know a very special landscape through the eyes of its people.

We would like firstly to give our heartfelt thanks to the Bannockburn community for sharing their stories, thoughts, photographs, and family histories with us, and for being so welcoming to the strangers in their midst. Our thanks also to the tangata whenua for generously sharing their knowledge and stories of the area, in particular Huata Holmes.

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A number of people took up our invitation to draw personal maps of the Bannockburn heritage landscape. The resulting maps are a real treasure, and we believe they will be part of Bannockburn's future heritage.

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Appendix 1

HERITAGE LANDSCAPES:¹ A LANDSCAPE APPROACH TO THE IDENTIFICATION, CONSERVATION AND INTERPRETATION OF HISTORIC AND CULTURAL RESOURCES

Tony Nightingale

Department of Conservation

1. Introduction

Why develop a landscape methodology?

New Zealand heritage managers have tended to focus on the discrete site. Sites have usually been managed and developed to express one period or idea, while interpretation, where it exists, has focused on describing the physical remains relating to the selected period or idea.

In the last few decades the United States, United Kingdom, and United Nations have developed and refined the concept of a heritage landscape to facilitate the identification, management, and interpretation of larger areas where there are multiple historical assets, as well as a variety of stories and community relationships with the land.

In New Zealand there is provision under the Resource Management Act² and the Historic Places Act 1993³ to develop landscape approaches, but up to the present this has tended not to happen. This methodology has been developed by the Department of Conservation to co-ordinate the department's thinking on what a heritage landscape is in order to carry out several case studies. The methodology will be trialled and adapted in the case studies.

This methodology has been designed to assist the Department of Conservation. A focus group⁴ was assembled by DOC to discuss landscape and this

¹ The term 'heritage landscape' is chosen in preference to cultural landscapes used by the World Heritage Convention. See UNESCO *World Heritage Convention* (1972) and *Operational Guidelines for the Implementation of the World Heritage Convention* passed at the sixteenth session, 1 December 1992, and the four categories of cultural landscape adopted by the UNESCO Intergovernmental Committee for the Protection of the World Cultural and Natural Heritage in February 1994. The reason for DOC's use of heritage is that the term is broader and the use of cultural has generally been restricted to current relationships with the landscape. Former relationships are defined as historic. This choice is consistent with the definition of 'cultural heritage' as defined in the ICOMOS New Zealand charter but differs from the definition of 'cultural significance' in the ICOMOS Australia, 'Burra Charter'.

² Resource Management Act 1991, sections 187, 188, 189.

³ Historic Places Act 1993, sections 22, 23 and 31.

⁴ Aidan Challis (Heritage Policy DOC), Paul Dingwall (Geomorphologist DOC), Kevin Jones (Archaeologist DOC), Tony Nightingale (Historian DOC), Simon Smale (Landscape Architect DOC), Janet Stephenson (Heritage Adviser and Planner, Historic Places Trust), Professor Simon Swaffield (Landscape Architecture Lincoln), Garmini Wijesuriya (Principal Regional Scientist DOC).

methodology is an outcome of those meetings. It represents a synthesis of the ideas from those discussions, although it became clear early on in discussions that the term 'landscape' is used in different ways. It is also likely that landscape studies will vary considerably and the methodology is deliberately permissive to encourage experimentation. During the year in which the case studies are undertaken, the methodology will be distributed amongst others for comment and the methodology reassessed.

Landscapes and space

Identifying, managing, and interpreting heritage at a landscape scale requires different techniques from identifying discrete site heritage (e.g. individual buildings or archaeological sites). A heritage landscape approach attempts to identify significance by examining the interactions between physical remains, stories associated with those physical remains, and current relationships with the heritage site. A landscape methodology attempts to mark key interrelationships between these three general factors⁵ in a bid to assess overall site significance. The concepts of *nodes*, *networks*, *spaces*, *stories*, *webs*, and *layers* been developed to highlight these relationships in terms of space, time, and community associations.

Nodes are central points of heritage significance in a landscape. They are usually physical features or remains such as a kainga site, a sacred mountain, a whaling station, a gold battery site, an early cheese factory, etc.

Networks are physical or notional features that connect the nodes. They can include tracks, supply routes, roads, railway lines, water races etc. They may not be physically traceable e.g. former tracks across a mountain pass or passages across a lake. They can be lines of sight or cultural meaning, e.g. a *pepepha* (a Maori saying).

Spaces could include field and farming patterns, Maori gardening activities and associated storage pits, designed gardens, settlement layouts, or mining remains. Open space or landscape patterns around a site can contribute to the integrity of a heritage landscape. Physical relationships and viewsapes between sites can also enhance the significance of a landscape.

Stories explain human relationships with the landscape. These can be formal written histories, traditions, or beliefs. Sometimes only a part of the stories will remain, e.g. a name or an association. What makes stories powerful is that they link the present and people with the landscape.

Webs connect nodes, networks, spaces, and stories, e.g. the concept of the 1860s gold rush, a bush tramway system, or a system of beliefs, e.g. the Tuwharetoa and Taranaki Maori stories about the relationships between Mounts Tongariro, Ngauruhoe, Ruapehu and Taranaki.⁶

A major function of the heritage landscape assessment is to synthesise information from a variety of sources to provide an assessment of the

⁵ 'Physical, cultural and historic' are the criteria used by New Zealand Historic Places Trust in Assessing Places and Areas. Vossler, G. 2001: *Assessing Places and Areas on the Historic Place: Guidelines for Interpreting Registration Criteria for Historic Places and Areas* (New Zealand Historic Places Trust). However, these three criteria are a generalisation of the many criteria listed in the New Zealand Historic Places Act 1992, section 23, ss 1 and 2.

⁶ These terms are commonly used in a range of disciplines. They have emerged from landscape work, particularly in geography. See, for example, Haggett, P.; Chorley, R.J. 1969: *Network analysis in Geography*. Edward Arnold, London.

cumulative landscape values. A landscape perspective emphasises the value of an ‘holistic’ perspective—it looks for common threads, links, and relationships and enables heritage management to be linked to the management of other resources. This document outlines a proposed methodology for the analysis of heritage landscapes. The process involves information gathering and recording, consultation with community groups, analysis and evaluation, all of which are likely to be iterative processes. The methodology is described in terms of the contents of a final report, even though the study process is unlikely to be carried out in such a linear fashion.

2. A heritage landscape methodology to assist in the Department of Conservation’s landscape case studies

What is a heritage landscape study?

A heritage landscape study examines the inter-relationships between human pasts and the environment over time.⁷ A landscape study encompasses cultural perceptions, practices, traditions and stories, as well as the physical expressions of those relationships.⁸ It is extensive, comprehensive, and multi-disciplinary.

Terms

Cultural perceptions: could include views of Tangata Whenua, Pakeha, Pacific Islander, other ethnic groups, landowners, land administrators, and numerous community groups on their relationship with part or all of a landscape.

Cultural practices: land uses and community activities including agriculture, fishing, hunting as well as spiritual, religious, social, and or/ recreational, activities. Cultural practices can also include transportation networks, boundaries, patterns of spatial organisation, and festivals.

Traditions: Beliefs or associations with a landscape, e.g. taniwha on the Whanganui River, moral purity associated with wilderness.

Stories: history, folk lore, myth, and any accounts of change over time.

Physical expressions: Relict landscapes (i.e. what remains on or in the ground); archaeological sites; buildings; tracks, fences, etc.; responses to the natural environment; vegetation related to land use; clusters of objects; small scale objects.⁹

⁷ Kirby, V.G. 1992: Heritage or millstone? A review of the relevance of historic landscapes to sustainable land management in New Zealand today’ in: Henriques, P. (ed.) *Sustainable Land Management: Proceedings of the International Conference on Sustainable Management*. Palmerston North International College.

⁸ The National Trust (UK) Historic Landscape Survey Guidelines focus on the survey of physical remains as the starting point for determining an historical landscape. While not undermining the importance of archaeological survey as an influence in historic landscapes, this methodology emphasises the interaction and fluidity between physical remains, cultural perceptions, practices and traditions and stories in assessing heritage landscapes.

⁹ There is no master list of possible features but a good starting point is: McClelland, L.F.; Keller, J.T.; Keller, G.P.; Melnick, R.Z. 1992: Guidelines for Evaluating and Documenting Rural Historic Landscapes. *National Register Bulletin, US National Parks Service* (40)

Examples of expertise that may be useful in a landscape study include archaeology, architecture, community group knowledge, descent group knowledge (usually iwi, hapu, whanau), engineering, genealogy, geology, geomorphology, history, historical geography, landscape architecture, and policy analysis.

The following stages provide a straightforward and transparent way to organise the assessment of a heritage landscape. They correspond to the approaches taken by planning and design disciplines. There are several advantages in using a staged approach: it is ideal for project planning and cost management; it enables delegation and subcontracting; and it provides a coherent basis for recording and reporting results. However, with landscape it is always important to retain the 'big picture', and for people involved in each stage to understand how their work contributes to the wider purpose of the study. The stages are only a guide, and when preparing a summary report it may be possible to avoid some of the repetition inherent in the description, characterisation, and analysis steps.

Step 1: Statement of intent

Step 2: Statement of context

Step 3: Landscape description

Step 4: Landscape characterisation and analysis

Step 5: Landscape evaluation

Step 6: Recommendations

Step 1: Writing a clear statement of intent

A heritage landscape study has a context and needs a statement of intent, i.e. what is the study's purpose. (Although the statement of intent is addressed first, there is considerable interaction between the statement of intent and statement of context in Section 2, i.e. given the context, the aim of the study is to ...).

Note that, because it is addressed first, the statement of intent appears to be independent of the rest of the study, but the aim can be explicitly changed during and by the study.

Step 2: Writing a clear statement of context

Any landscape study occurs within wider contexts. Explicitly acknowledging key contexts helps focus the work towards what is new, relevant and distinctive about the study. These statements need to be relatively broad and brief. Example of contexts include:

- 2.1 Bio-physical context: What are the broad geomorphologic (land forming) and ecological processes at work in the particular landscape area?
- 2.2 Cultural context: How do current communities of interest use and value the landscape? What current policies or designations are relevant to the study? (This could be at a local, regional, national level or international level).
- 2.3 Historic context: What are the significant stories associated with this landscape? These could relate to any of:
 - (a) the time before the landscape was designated historic;
 - (b) the time the place was defined historic;
 - (c) the period of its subsequent administration;

(d) the current period as its historic designation is now understood;¹⁰

(e) no definable time period.

2.4 Academic context: Where does this study fit with academic work already completed? While this should be implicit in any bibliography, it is better to state it explicitly.

2.5 Conservation context: How does this study fit in the context of wider natural and historic conservation work undertaken in relation to this landscape?

Detail the contexts in which your study is being undertaken. The examples above should be broad enough to encompass key ideas, but if you have something that does not fit put it in as another context.

Step 3: Preparing a detailed landscape description

The aim here is to achieve a detailed description of the key bio-physical, historical and cultural aspects of the landscape. There will be stories associated with all three aspects, and these stories may be links that help characterise the landscape.

The description should include the biophysical aspects, historic aspects (including non-contemporary cultural associative values) and cultural aspects (contemporary associative values).

3.1 Biophysical

Describing the bio-physical landscape could include a general description of the underlying geological formation as well as its geomorphologic and ecological development. While many of these phenomena are largely prehistoric, they will have influenced subsequent human interaction with the landscape. There will also be stories associated with the development, and understanding of how these phenomena have evolved, that may provide considerable insight to subsequent perceptions and use.

A physical description should as far as possible describe subsequent cultural modification. A landscape may have been altered many times and it is useful to have a good idea of the different modifications and the approximate time periods when these took place. These descriptions need to be detailed and to reflect what is currently known about the landscape, although there is an interaction between description and the (his)stories in that ultimately the stories should provide links among the bio-physical, cultural and historic.

Examples

- A volcano
- Indigenous ecosystems
- Early Maori occupation and modifications
- 'Classic' Maori occupation and modifications
- Maori post-European contact occupation and modifications
- 19th century land occupation and modification
- 20th century land occupation and modification

¹⁰David Hamer suggests three phases but practice has shown that we need to consider the period before a landscape is designated historic. See David Hamer 'Historic Preservation in Urban New Zealand: An Historian's Perspective' in *New Zealand Journal Of History* vol. 31, no 2 (October 1997), pp. 251-269, especially pp. 253-254.

Note that all descriptions need to be related to the landscape and as far as practical be given approximate physical boundaries. There is no reason why all or any features should be physically congruent. It is desirable, however, that they share a considerable amount of overlap. This is really the point of the landscape approach.

3.2 Historic

The key stories here are of human interaction with the landscape. The stories must be located in, and will almost inevitably be associated with, the physical and cultural aspects of the landscape. These links can be detailed in those sections but can be cross-referenced here.

Primary (original or contemporary with historical event) and secondary (subsequent interpretation) evidence does not need to be documentation in the conventional sense of the term. It could include creation/location stories, oral testimony, carvings, maps, photographs, paintings, and fictional material related to the landscape. However, the evidence must ultimately tell an accessible story.

There are also stories about development and changes in the stories told about a landscape. Sometimes these disputed and evolving stories can provide an insight into the significance of the landscape. It is sufficient here to note and describe the different stories and there is no need to create one unified narrative. A plurality of stories will make it easier to isolate nodes or webs of meaning.

3.3 Cultural

The cultural values focus is contemporary. This can be quite varied and the easiest way to identify these cultural values is to identify groups who have associations with the landscape and to look at those associations. Associations can be heavily influenced by stories of the past. For tangata whenua there may be no effective distinction between the past and the present when interpreting a landscape, e.g. Tipuna associations are ongoing. This can be true for other groups also, e.g. burial sites remain sacred in most cultures. However, there are also many new and rapidly evolving uses and values that will, in due course, become part of our heritage landscape (e.g. adventure and eco-tourism). These can be important influences upon our understanding of landscapes

Step 4: Characterise and analyse the landscape

The analysis is aimed at 'making sense' of the descriptive material collected and collated in the previous stage. There are several parts to this: characterisation of the landscape patterns and process; determination of changes, threats and vulnerabilities; analysis of the ways in which the heritage values may be expressed; and identification of the relevant frameworks by which the landscape may be evaluated. This stage is a crucial refinement of the description exercise and has to be undertaken thoroughly in order to make meaningful generalisations about the physical, historic, and cultural aspects of the landscape.

There are several ways to do this, and each applies to the physical, cultural and historic dimensions of a landscape. Here are five key sets of questions

- (a) What patterns are there within this landscape? How is it ordered? What are the continuities and discontinuities?
- (b) What are the most significant elements in the landscape?
- (c) What are the different scales or levels, in the landscape? (There may be several—some patterns or elements may be significant only at a particular scale. Others may be part of nodes, networks or webs).
- (d) What are the dominant processes now taking place?
- (e) How are the landscape patterns, elements and processes connected to other landscapes?

Step 5: Landscape evaluation: Links between the physical, cultural, and historic resources

5.1 Visual, spatial and experiential aspects

- (a) Is there a distinctive visual quality the landscape? (visibility, aesthetics, perspective, e.g. could relate to an image)
- (b) What are the key spatial aspects or links for an understanding of the heritage significance of the landscape?
- (c) Which aspects of the landscape can be considered nodes or webs (i.e. intersections between the physical, cultural and historic that collectively can add to the site's meaning)
- (d) What are the key experiential values of the landscape - i.e. how do visitors experience the landscape?

5.2 Is the landscape robust?

- (a) What are the current elements of change in this landscape?
- (b) What aspects of the landscape could or could not tolerate change?
- (c) What are the main risks to this landscape in the medium term—say 5 years?
- (d) Are there zones within the landscape that need special consideration, interpretation, or protection?

5.3 What is the heritage landscape value?

- (a) What is the significance of the landscape to the communities of interest?
- (b) What is the significance of the inter-relationships among elements?
- (c) What is the relative contribution of individual landscape elements to the integrity of the landscape as a whole?
- (d) What are the key nodes, routes, and boundaries that coalesce from an examination of the physical, cultural, and historic aspects of the landscape?
- (e) Are they of sufficient significance to designate one significant landscape?
- (f) Can you determine physical boundaries? If so what are they?
- (g) Using the Australian Heritage Commission's Thematic Framework what might this landscape be classified as?¹¹

¹¹ See <http://www.ahc.gov.au/infores/publications/generalpubs/framework/index.html>
The Australian thematic framework is being used because there is no New Zealand framework.
NB. The Australian framework appears weak on indigenous peoples' relationships with the land.

- (h) Would the landscape potentially qualify for Historic Places Registration? List your reasons why.
- (i) Does this landscape have integrity – why?¹²
- (j) Can this landscape be compared with similar landscapes and, if so, how does it compare?
- (k) What current use is made of the landscape? Is it potentially a good landscape for conservation, educational, interpretation purposes? Why?
- (l) What are the contributing and non-contributing elements in this landscape?
- (m) What is the overall significance of this landscape in international/national/regional/local terms?

Step 6: Key issues and recommendations

- 6.1 Goal: Make a positive statement about what needs to be done to conserve the heritage values of this landscape.
- 6.2 Guided by the statement of intent for the project, your interpretative framework, and your goal above, what are the recommendations for conservation? This might relate to identification, research, conservation management, interpretation, or standards of practice.
- 6.3 Do these recommendations mitigate potential risks to the heritage value of the landscape?
- 6.4 Can these recommendations be taken up under current policy or is there a need to change policy?
- 6.5 Do these recommendations have implications for protective and/or regulatory mechanisms?
- 6.6 Do these recommendations have implications for landscape interpretation?
- 6.7 What is the proposed involvement of communities of interest?
- 6.8 Identify opportunities or actions that could enhance conservation e.g. changed public attitude, change of tenure, new communication networks, approaches
- 6.9 Identify further research opportunities

¹² An assessment of integrity relates to the sum of the physical, cultural and historical contributions. There is considerable detail on such an assessment in McClelland, L.F.; Keller, J.T.; Keller, G.P.; Melnick, R.Z. 1992: Guidelines for Evaluating and Documenting Rural Historic Landscapes. *National Register Bulletin, US National Parks Service* (40)