

# **WAIRAU VALLEY HYDRO ELECTRIC DEVELOPMENT PROPOSAL: SOCIAL IMPACT ASSESSMENT**

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## TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	-i-
1 PROJECT DESCRIPTION .....	-1-
1.1 Overview of proposed hydro electric power scheme .....	-1-
1.2 The proposed canal .....	-2-
1.3 Power stations .....	-2-
1.4 Transmission line structures .....	-3-
1.5 Other structures proposed .....	-4-
1.6 Approach to construction .....	-6-
2 APPROACH AND METHODS .....	-7-
2.1 Approach to SIA .....	-7-
2.2 Framework for social impact assessment .....	-7-
2.3 Methods used .....	-8-
3 COMMUNITIES OF INTEREST .....	-11-
3.1 Impact areas or levels of community of interest .....	-11-
3.2 The host community of interest - Wairau Valley .....	-12-
3.3 Regional community of interest - Marlborough .....	-22-
4 ASSESSMENT OF EFFECTS .....	-28-
4.1 Overview of social effects and related issues .....	-28-
4.2 Consent-phase social effects and issues for the host community .....	-30-
4.3 Construction-phase social effects and issues for the host community .....	-31-
4.4 Operational-phase social effects and issues for the host community .....	-36-
4.5 Construction workforce effects .....	-44-
4.6 Overview of social effects and issues within the wider Marlborough community .....	-48-
5 MITIGATION, MANAGEMENT AND MONITORING .....	-51-
6 CONCLUSIONS .....	-58-
6.1 Summary of social effects for the immediate host community .....	-58-
6.2 Summary of social effects for the wider Marlborough community. ....	-59-
REFERENCES .....	-60-

## **EXECUTIVE SUMMARY**

### **Project description**

1. TrustPower is proposing a canal and power station development to be located within the middle reaches of the Wairau Valley, in Marlborough.
2. The existing Branch River hydro electric power scheme will continue to operate as previously. In summary, the current proposal seeks to take up to 40 cumecs of water out of the Wairau River, while maintaining a residual flow regime within the river of between 10 and 20 cumecs depending on seasonal and ecological requirements. Of this 40 cumecs abstracted, 5 cumecs is used for sediment and fish diversion, leaving up to 35 cumecs of additional water for electricity generation. A total of up to 55 cumecs will pass through the existing Wairau Power Station before 15 cumecs is returned to the Wairau River via a slightly modified version of the existing tailrace outlet. Thereafter, up to 40 cumecs is available for hydro electricity generation at the five new power stations along the canal.
3. It is intended that up to 3.3 cumecs of the water carried via the proposed canal will be available for irrigation along this same middle reach of the Valley.

### **Social Impact Assessment approach**

4. Social Impact Assessment seeks to examine the full range of potential social effects - both positive and negative - and associated issues.
5. As practiced by Taylor Baines & Associates, social impact assessment is participatory in nature. To implement such a participatory process, a staged process was adopted. A scoping visit to Blenheim and the Wairau Valley took place between 27 and 28 July 2005, followed by a second round of interviews between 23 and 25 August 2005. Preliminary results of the assessment were presented to a community meeting in the Wairau Valley Hall on Wednesday 12 October 2005 and to a public meeting in Blenheim on Thursday 13 October 2005.

### **Communities of interest**

6. For this proposal, there are two relevant social contexts, representing distinct areas of impact or communities of interest. The broadest context is the regional community of Marlborough. The immediate host community for this proposal is a well defined part of the Wairau River valley, which has its social centre at Wairau Valley and covers the middle reaches of the Wairau River between the proposed Intake and outfall structures

### **Assessment of effects**

7. Some social effects arise because the Memorandum of Understanding between the Wairau Valley Water Enhancement Company (WVWEC) and TrustPower commits the two organisations to co-operate over provision of irrigation for the community. The technical and economic feasibility of the proposed hydro electric power scheme is not dependent on the resulting irrigation potential. However, it is the potential

complementarity between the two proposals which results in such a positive overall balance of social effects for the immediate host community.

8. For the wider regional community, the principal balance of social effects is between the changes in recreational amenity in the middle reaches of the River which result from TrustPower's proposed water diversion, and the benefits to regional electricity consumers from a more secure electricity supply.
9. The social effects of this TrustPower proposal can usefully be analysed in three phases - the consent phase, the construction phase and the operational phase. In summary the social effects identified during this social impact assessment are:

during the present consent phase:

10. for many landowners, a sense of being 'in limbo' with their own individual decision making about their futures until the outcome of the resource consent application is known with certainty;
11. for a few landowners, the experience of social discomfort arising out of diverse views, preferences and attitudes to the TrustPower proposal, especially if they hold what might be thought of as minority views;

during the construction phase:

12. temporary effects on farm management for properties through which the hydro canal will pass, due to the presence of construction activities, equipment and workers;
13. disruption to existing property access, due to canal construction crossing existing access roads;
14. the nuisances arising from dust, noise and unpleasant odours associated with earthmoving and construction activities and the use of heavy machinery and large vehicles;
15. the risk to water users from reduced water quality of streams due to canal construction;
16. increased traffic safety risks on SH63 and local roads, due to the presence of large vehicles involved in the construction works and the need to construct bridges on SH63 and local roads, where they cross the proposed canal;
17. increased risk of grass fires in the Valley during the dry summer period due to the activities of earthmoving equipment;
18. increased risk of opportunistic crime in the Valley associated with the construction sites and depots;
19. increased demand for accident and emergency services due to construction-related accidents;

20. workforce issues and social effects associated with a construction workforce that is expected to come largely from outside the Marlborough region and therefore requires accommodation, including:
- effects on regional construction sector firms and workers;
  - effects on the regional accommodation market;
  - effects on primary health services and schools;
  - effects of retail spending by the construction workforce; and
  - effects on the after-work social environment

during the operational phase:

21. increased electricity security and higher standards of electricity service for consumers in the Valley, and reduced risk posed by long-distance transmission constraints for electricity consumers elsewhere in Marlborough, due to increased levels of regional electricity generation and reorganised local distribution lines;
22. increased likelihood and increased uptake of irrigation throughout the Valley, with consequential population growth and other social effects;
23. issues related to uncertainties regarding the potential effects of TrustPowers water take on existing users of this stretch of the River and on existing users of tributary streams and ground water wells in this stretch of the Wairau Valley;
24. improved flood protection for several farming properties on the south bank of the Wairau River immediately downstream of the proposed river outfall, resulting from the new outfall structure;
25. improved access to emergency water supplies for fire-fighting associated with a canal which runs the length of the Valley;
26. changes in visual amenity arising from the presence of the canal, power station buildings and transmission lines;
27. permanent changes in farm management for properties through which the hydro canal passes;
28. changes in the way members of landowning households enjoy their properties, for properties through which the hydro canal passes;
29. risks to home and personal security and privacy associated with the possibility of public access along sections of the canal;
30. risk to students using the Wairau River for outdoor education training;
31. flow-on effects from increased irrigation to regional employment;
32. concerns about two equity issues; firstly that community benefits will come at the expense of some individual loss of existing amenity; secondly that the main beneficiaries of the proposed hydro electric power scheme are in fact outside the Valley and even outside the region.

### **Mitigation, management and monitoring**

33. The effectiveness of mitigation measures often rests upon good communication channels between various interests. For this reason, it is recommended that a Community Liaison Group be established if consents are granted, comprising representatives of the main interests in the Wairau Valley residential community. The primary focus of such a Community Liaison Group (CLG) would be to provide an active, on-going forum for the exchange of information between the community, TrustPower and TrustPower's construction contractors. Specific functions are described in Section 5.
34. Some measures to avoid or mitigate potential adverse effects will be developed at a later stage, if consents are granted. These are the kinds of detailed measures which would normally be contained in a Construction Management Plan, a Construction Traffic Management Plan, or an Emergency Response Plan to address construction-site emergencies. Such plans are usually evolving documents, initiated before construction begins and adapted periodically during the construction process if necessary. Given this, it is recommended that the CLG be consulted during the preparation of these documents, and periodically during the implementation of these plans.
35. Some of the potential effects of the proposal are difficult to predict with certainty; therefore they require monitoring. The CLG should provide an audit function of the monitoring results, on behalf of the community.
36. Besides the CLG, this social impact assessment has recommended several points of pro-active liaison or negotiation to address specific risks or social effects - for example, with emergency services, the District Health Board, rental property managers, and the Police.

### **Conclusions**

37. An overall summary of regional social effects cannot be gained from this SIA document alone, since an important element of social effects assessment was carried out separately - the recreational assessment carried out by Hovell Environmental Planning Ltd.
38. Amongst the other regional social benefits assessed here, the wider region stands to gain from construction-phase work opportunities equivalent to several typical infrastructure projects. Some specific segments of the regional community will experience minor benefits from providing services to the incoming construction workforce (accommodation providers and those working in the retail sector) while others may experience minor adverse effects from the presence of non-resident workers (primary health providers, leisure venues and the Police).
39. A range of effects for the immediate host community of the Wairau Valley will be experienced during both the construction and operational phases of this proposed project. The construction-phase effects are temporary and predominantly adverse. However, there is also the possibility of some minor local benefit in terms of job

opportunities in the construction workforce, and increased spending in local businesses.

40. In contrast, the operational-phase effects are dominated by the increased likelihood and extent of long-term, cumulative changes in land use in the Valley, resulting in a new wave of farming enterprise, increased demand for labour, a vibrant growing community and the consequent support for maintaining and enhancing social and community services arising from an increasing resident population working locally.
41. The view expressed by many of those interviewed for this assessment is that the overall effect of the TrustPower proposal is to make irrigation much more likely to happen, and to happen more extensively.
42. The main positive effect for Valley residents that is unique to the TrustPower proposal is the improvement in the security and quality of local electricity supply, and the opportunity to overcome constraints on land development, due to the existing electricity supply situation.
43. One other more than minor effect which generated considerable discussion is the improved access to emergency water supplies for fire fighting in the Valley.
44. In RMA terms, negative social effects for members of the immediate host community will be no more than minor, because -
  - either TrustPower and affected parties will have negotiated a satisfactory outcome which allows the project to proceed, or
  - TrustPower will have committed to avoidance and mitigation measures, some of which are specific and determined in advance, while others will be addressed through on-going monitoring and liaison mechanisms with affected groups in the community.

## 1 PROJECT DESCRIPTION

This summary description of the proposed project provided within this report includes only the major components of the hydro electric power scheme. Further details contained in the Assessment of Environmental Effects (AEE) and supporting assessments will not be repeated here, but are referred to in this social assessment report.

### 1.1 Overview of proposed hydro electric power scheme

TrustPower is proposing a canal and power station development to be located within the middle reaches of the Wairau Valley, in Marlborough.

As noted in the AEE, from an intake located within the Wairau River, on the south bank near the Branch River, some of the river flow (up to 40 cumecs) will be diverted through a series of canals to six new power stations. The new power stations utilise the fall between the Intake and the sixth power station to generate an annual new electricity output of 415 Gwh.

The proposed Intake is above the Branch River / Wairau River confluence and the proposed final point of discharge to the Wairau River will be close to the confluence of the Wairau and Marchburn Rivers. The majority of structures and activities associated with the proposed scheme are located on the southern side of the Wairau Valley, rather than within the river environment proper (refer to the layout plan on the following page).

The existing Branch River hydro electric power scheme will continue to operate as previously. In summary, the current proposal seeks to take up to 40 cumecs of water out of the Wairau River, while maintaining a residual flow regime within the river of between 10 and 20 cumecs depending on seasonal and ecological requirements. Of this 40 cumecs abstracted, 5 cumecs is used for sediment and fish diversion, leaving up to 35 cumecs of additional water for electricity generation. A total of up to 55 cumecs<sup>1</sup> will pass through the existing Wairau Power Station before 15 cumecs is returned to the Wairau River via a slightly modified version of the existing tailrace outlet. Thereafter, up to 40 cumecs is available for hydro electricity generation at the five new power stations along the canal.

It is also intended that up to 3.3 cumecs of the water carried via the proposed canal will be available for irrigation along this same middle reach of the Valley.

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<sup>1</sup> 20 cumecs from the existing Branch River Scheme and up to 35 cumecs from the proposed Wairau River abstraction.



## WAIRAU VALLEY HYDROELECTRIC POWER SCHEME - LAYOUT PLAN



Project Information as at June 2005



### 1.2 The proposed canal

The canals, totalling some 45.5 kilometres in length and typically 30m wide by 4m deep, generally run along the toe of the hills on the southern side of the Wairau Valley. The exception to this occurs as the canal progresses further east after Power Station 4, where the path of the canal moves increasingly up-slope and is therefore increasingly masked by the foothills themselves.

In order to achieve a steady gradient, some sections of the canal will be raised above the level of surrounding farmland while other sections will be cut into surrounding farmland. The maximum dam/canal embankment height is estimated to be 12m.

Overall, the path of the proposed canal passes through predominantly farm and pastureland, occasionally running alongside the Wairau River (near the Intake) and State Highway 63 (near Hillersden). The proposed canal will require TrustPower to negotiate agreements to obtain usage of land on approximately 60 individual properties in the Valley.

Canal maintenance will require access roads along the side of the canal, on top of the canal berm. These are expected to be no more than 3m in width. They will provide access to each section of the canal for vehicular traffic on public roads.

### 1.3 Power stations

Six new power stations are proposed (see previous layout plan). One of these power stations - by the existing Branch tailrace - replaces an existing power station and will be of

larger generating capacity to accommodate the larger flows of water at this point in the new system, as described in Section 1.1.

The power stations will be accommodated within small structures (around 250m<sup>2</sup> to 300m<sup>2</sup> of floor area), designed to fit within the form and scale expected in the surrounding rural environment. It is expected that they will be similar in form to the existing power station at the Branch hydro electric power scheme, with which many residents of Marlborough are already familiar.

#### **1.4 Transmission line structures**

It is proposed that transmission lines will be constructed to convey electricity from the new power stations to either the 'national grid' or the local network operated by Marlborough Lines. The 6 new power stations will also need to be interconnected by a network of 33 or 66 kVa power lines. Therefore there are four separate but inter-related projects which combine to form the transmission component of the Scheme.

The existing transmission line between the Wairau Power Station and the Argyle Power Station is of sufficient capacity to accommodate the electricity produced by the Scheme. As a consequence, no changes to the transmission line serving these power stations are proposed. The existing transformer at the Argyle Power Station will, however, be replaced with a larger unit. The existing substation compound will accommodate the larger unit without expansion.

A connection (by way of a substation) with the National Grid is proposed at or near Larkins Road. The substation will consist of 110kV outdoor switchgear, a single 110kV/33kV transformer, and a small building containing 33kV indoor switchgear. The equipment would be installed within a fenced and gravelled compound measuring approximately 20m x 25m.

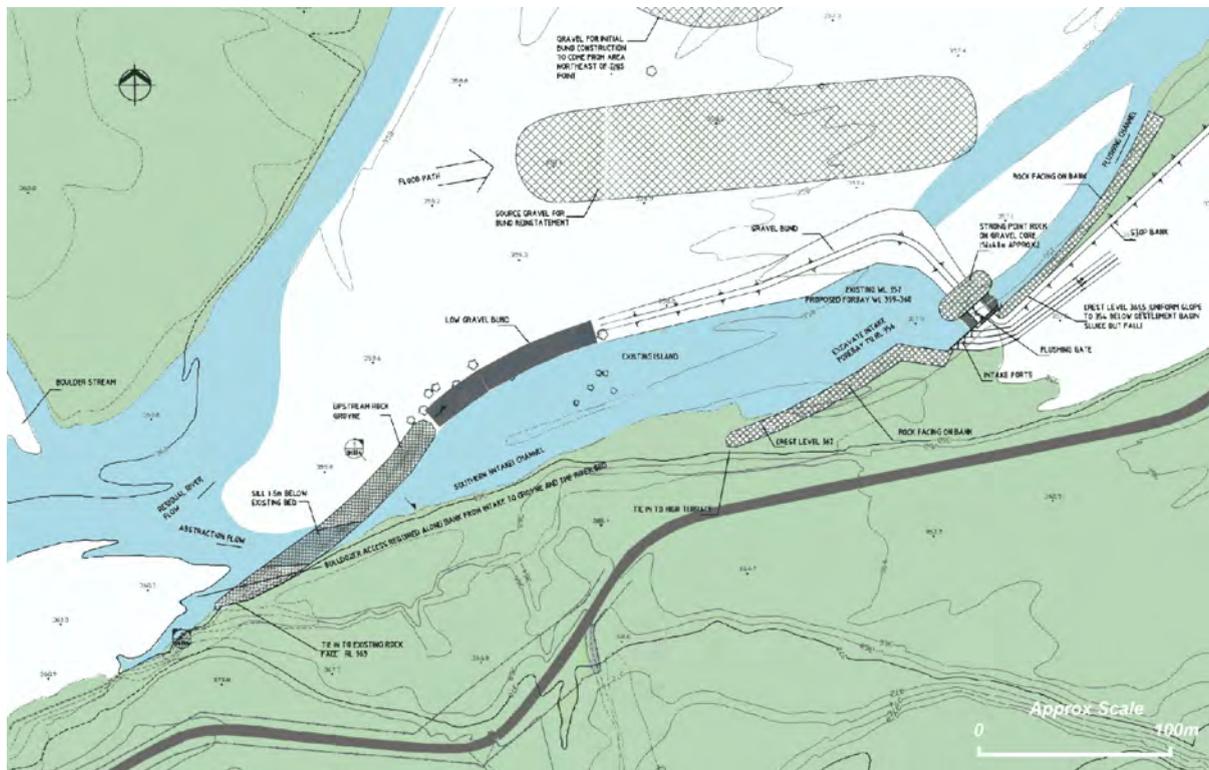
It is proposed that Power Stations 1 to 4 will be connected to the new Larkins Road substation via two 33kV overhead transmission lines. One of the transmission lines will connect PS1 and PS2 to the Larkins Road Substation. The second line would connect PS3 and PS4 to the new substation. The existing 11kV line (which is owned by Marlborough Lines) will be upgraded to enable the power stations to connect into the Larkins Road Substation. In this respect, the existing poles will be replaced with poles that are 3-4m taller. Single wooden or concrete poles are proposed. Lattice towers and dual poles are not needed. Figure 3.4.3A highlights the new length of line envisaged, while Plate 3.4.3B documents the proposed poles. Substations consisting of a small building containing 33kV indoor switchgear and a single 33kV/11kV transformer are to be established adjacent to PS1A through to PS4. The equipment is to be installed within a fenced and gravelled compound measuring approximately 15m by 20m.

Power Station 5 is to be connected directly to the Marlborough Lines' distribution network. Marlborough Lines intend to extend their 33kV network southwest by approximately 6 km along SH63 to PS5. The alignment of this new line is also highlighted on Figure 3.4.3A. Of note is that Marlborough Lines would construct and consent (as necessary) this length of new line. As a consequence, it does not form part of the Scheme. A substation consisting of a small building containing 33kV indoor switchgear and a single 33kV/11kV transformer will be established adjacent to PS5. The equipment would be installed within a fenced and gravelled compound measuring approximately 15m by 20m.

In summary, the most notable additional transmission line development within the confines of the Valley would occur in the western portion of the Valley where existing Marlborough Lines Company distribution network poles will be replaced (i.e. in the existing corridor) with single wooden or concrete poles 3-4m taller. The proposed scheme does not itself require the creation of substantial lengths of new transmission corridor in the Valley.

### 1.5 Other structures proposed

It is proposed that the in-stream structure which will enable water abstraction from the Wairau River will be a gravel bund, not a concrete structure (see figure below). This gravel bund will be breached in flood flows and will have to be rebuilt after such flood events.



Two areas of recreational amenity enhancement are included as parts of the proposed scheme (see figures on following page). One is in the area of the existing Wairau River tailrace and the second is around the location of the proposed outfall. These will provide new facilities for kayakers, boaties, bird-watchers, walkers and picnickers, as well as areas of wetland enhancement and kanuka/manuka forest enhancement.



## 1.6 Approach to construction

As noted in the AEE, the linear nature of the Scheme lends itself to a number of development options in terms of how construction and commissioning is staged, ranging from full development of all of the proposed power stations in one construction exercise through to commissioning of stations singly or in groups with a time delay between the various stages. Having considered the available options, TrustPower has stated a preference to develop the scheme as a single construction exercise.

The construction programme has therefore been designed to apply the maximum level of construction resource that the site can practically sustain in order to complete the necessary works in the quickest time possible. Accordingly, the proposed construction programme provides for multiple work areas to be progressed simultaneously. On this basis, construction and commissioning of the scheme is expected to be completed in 2 years. The shortest possible duration for the canal earthworks will be 18 months, with all of the canal reaches being progressed simultaneously. On the substantial completion of any given reach of canal (and its associated control structures), the canal reach will be tested for leakage and general performance. This process will take an additional 6 to 10 weeks per reach. Some minor earthworks activities (completion of surplus fill disposal, contouring, reinstatement, and landscaping) will be in progress around the Canal during this period.

Full commissioning of the power stations can take place only after the canal has been tested and proven satisfactory for normal operation.

## 2 APPROACH AND METHODS

### 2.1 Approach to SIA

Social Impact Assessment seeks to examine the full range of potential social effects - both positive and negative - and associated issues. The assessment is aimed at identifying effects and issues in advance and recommending appropriate mitigation measures. Hence, the assessment has been focused most particularly on those effects and issues which are most critical from the perspective of the stakeholders involved, rather than being encyclopedic and merely descriptive in nature.

As practiced by Taylor Baines & Associates, social impact assessment is participatory in nature<sup>2</sup>. To implement such a participatory process, a staged process was adopted. A scoping visit to Blenheim and the Wairau Valley took place between 27 and 28 July 2005, followed by a second round of interviews between 23 and 25 August 2005. Preliminary results of the assessment were presented to a community meeting<sup>3</sup> in the Wairau Valley Hall on Wednesday 12 October 2005.

### 2.2 Framework for social impact assessment

Many effects analysed in social impact assessment have their origins in environmental effects. In social impact assessment, the analysis of such environmental effects is driven to their corresponding social consequences. For example, people may be concerned about the potential impacts of TrustPower's proposed water abstraction from the Wairau River on their ability to continue taking water from groundwater wells and tributary streams such as the Mill Stream. They might relate these potential effects on water access and water quality to their existing experience of fluctuations, and to interactions with other nearby water users. The social consequences may relate to the risks to essential household services<sup>4</sup>, or perhaps to risks for their businesses<sup>5</sup>. In social impact assessment, an effort is made to identify and assess potential or likely effects from the point of view of those who might experience them.

In addition, there may be effects that are primarily social in nature, such as the potential for new households to settle in the Valley, either during the construction period or during the subsequent operational lifetime of the project.

The Resource Management Act 1991 (RMA) sets out a statutory framework which aims to direct the assessment to consider whether the proposed project would be consistent with the sustainable management of resources in a way or at a rate that enables people and communities to provide for their social well being (as provided for in section 2 and section 5 of the Act).

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<sup>2</sup> This involves an active process of consultation with researchers visiting stakeholders at agreed times and locations.

<sup>3</sup> The meeting was advertised in the Wairau Valley Newsletter during the preceding week.

<sup>4</sup> i.e. the risks to their domestic water supplies for drinking, cooking and washing

<sup>5</sup> i.e. the risks to adequate supplies of irrigation water for crops, or the risks to the quality of freshwater supplies required to safeguard their organic production status.

Carrying out a social impact assessment within this statutory framework requires attention to a conceptual framework for thinking about social well being, and what are the factors which might contribute to people's experience of social well being. Such a conceptual framework, which has been adopted in a range of other SIA<sup>6</sup> and social research contexts in New Zealand in recent years comes from social indicators work in the OECD<sup>7</sup> and closely parallels the framework adopted by the Ministry of Social Development<sup>8</sup>. The OECD study identified eight key areas of social life which shape well being:

- health,
- education and learning,
- employment and the quality of working life,
- time and leisure,
- command over goods and services,
- physical environment,
- social environment and participation, and
- personal safety and autonomy.

In conducting this SIA, consideration was given to whether or not the proposed project is likely to have consequential effects on any of these areas of social life, and for which communities of interest this is most likely to be the case.

### 2.3 Methods used

Social impact assessment typically makes use of a range of research methods as ways of accessing primary data (i.e. data collected by the researchers themselves) and secondary data (i.e. data collected by other parties). In this SIA, research methods included:

- document review (e.g. the TrustPower AEE documents and the reports of other consultants in the assessment team; WWVEC newsletters; Wairau Valley Newsletters; etc.)
- primary data collection through face-to-face interviews with potentially affected residents and other key informants, and through direct observations by the assessment team,
- comparison case experience through key informant interviews (e.g. regarding community experience of direct and indirect effects of irrigation uptake; emergency services experience of the effects of other major construction projects in the region and appropriate planning measures; etc.); and
- secondary data access (e.g. Statistics NZ demographic data; Ministry of Education data on school rolls; MDC data on Class B water takes from the Wairau River; etc.)

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<sup>6</sup> e.g. Assessment of the effects of project Aqua on local communities and development of community mitigation proposals, for Kurow Aqua Liaison Committee, 2003; SIAs carried out by Taylor Baines & Associates on several wind farm proposals in 2005; social analyses carried out by Taylor Baines & Associates for assessing the social implications of commercial retail strategy development in Christchurch City between 2003 and 2005.

<sup>7</sup> OECD, 1998. Living Conditions in OECD Countries: a compendium of social indicators. OECD Social Policy Studies No.5. Paris.

<sup>8</sup> e.g. Ministry of Social Development, 2003. The Social Report 2003: Indicators of social well being in New Zealand. Wellington.

The targeting of candidates for interviewing was purposive, rather than random. The purpose of the interviewing was to gain input to the assessment from a cross-section of interests and sections within the community. The first scoping visit was successful in contacting a range of farming interests<sup>9</sup> (those likely to be involved with the canal passing through their land, as well as those who definitely would not have the canal passing through their land) but less successful in contacting residents of the Village and lifestyle landowners. Thus, these latter two groups became a particular focus for the main assessment visit, which also extended the range of interviews with farming residents.

Another trigger for contacting particular interviewees was if observations were made that pointed to possible effects about which others in the community might have more direct experience<sup>10</sup>.

In setting up any of the interviews which were carried out, there was no presumption of support or opposition to the proposal; this was not a criterion for interviewee selection.

In all, 46 residents of the Valley were interviewed, slightly more than 10% of the usually resident population recorded in the 2001 census. Of these 46 residents, 20 were farmers, 15 were lifestyle residents, and eleven were residents of the settlement of Wairau Valley.

In the time available, there was no intention to carry out a random statistical survey of Wairau Valley residents. Given the findings of the in-depth interviews, it is not likely that such a statistical survey would contribute significantly to an assessment of social effects<sup>11</sup>.

After a preliminary assessment had been made by the research team, feedback was solicited in various ways:

- a local feedback meeting was advertised through the Wairau Valley Newsletter and held on Wednesday 13 October at which 11 Valley residents were present<sup>12</sup>;
- a regional feedback meeting was convened by TrustPower and held in Blenheim on Thursday 14 October;

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<sup>9</sup> Property and Land Management Services Ltd provided samples of landholders in each segment of the Valley as an initial selection to contact: in the area of the proposed outfall; between the proposed outfall and the settlement of Wairau Valley; between Wairau Valley and Hillersden; upstream of Hillersden

<sup>10</sup> e.g. local business owners have a particular perspective on potential effects for their businesses, whether that business is the pub, the garage, or the organic salmon farm. Another example would be the potential effects of TrustPower's proposed water abstraction on those who have existing rights to take water out of the Wairau Valley, its tributary streams or ground water wells on the lower terraces north of SH63. Interview coverage with farmers covered those on both the northern and southern sides of SH63.

<sup>11</sup> It should be remembered that, even if there had been some additional purpose to be served in conducting a statistically valid survey, such large-scale quantitative methods should only be employed once a good understanding of the issues and likely effects has been gained.

<sup>12</sup> All residents who attended were offered the opportunity to review a draft SIA report and provide specific feedback comments; two of those present took up the offer.

- copies of the draft SIA report were sent to nine residents of the Valley<sup>13</sup> with the invitation to respond with comments<sup>14</sup>;
- the draft SIA report was peer reviewed by Dr Nick Taylor;
- the draft SIA report was submitted to TrustPower for comment.

The comments from all these sources have been taken into account in revising and finalising this SIA report.

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<sup>13</sup> Of these nine, four were village residents, three were lifestyle property owners and two were farmers.

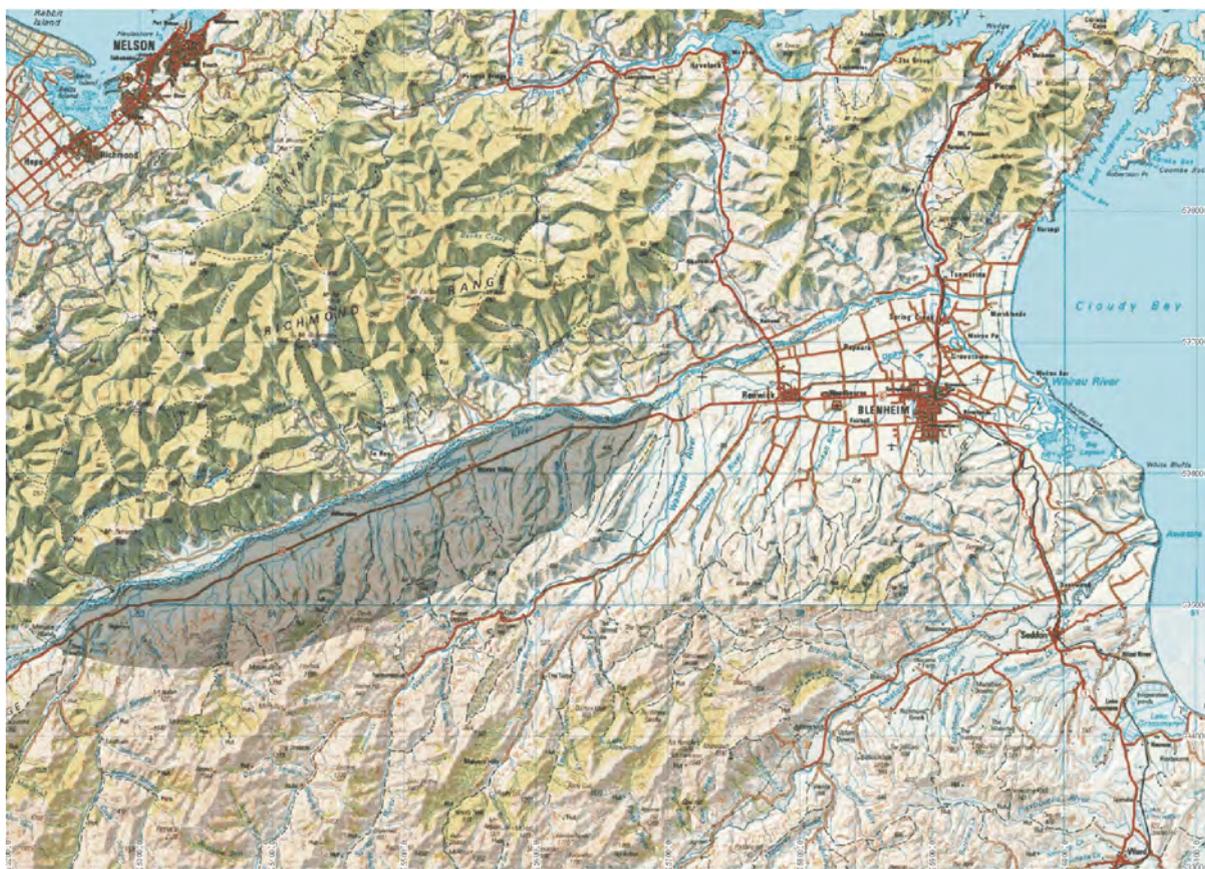
<sup>14</sup> Feedback comments were received from seven of the nine recipients of the draft report.

### 3 COMMUNITIES OF INTEREST

#### 3.1 Impact areas or levels of community of interest

The Wairau River runs through a long stretch of the Marlborough region. Furthermore, many people throughout Marlborough are likely to view the Wairau River as a regional resource.

Any social impact assessment must be put in its social context. For this proposal, there are two relevant social contexts, representing distinct areas of impact or communities of interest. The broadest context is the regional community of Marlborough. The immediate host community for this proposal is a well defined part of the Wairau River valley, which has its social centre at Wairau Valley and covers the middle reaches of the Wairau River between the proposed Intake and outfall structures (see shaded area in the map below).



The two communities are linked in various ways. For example, many people in the Marlborough region have recreational interests in some part of the Wairau River valley, whether it be for activities along the River itself or along its banks, or attracted by boating and fishing in the Argyle Pond, hunting in the hills, or playing golf on the Wairau Valley course. There is increasing interest in living on rural lifestyle blocks within easy commuting distance of Blenheim. Being typically about 30 minutes drive from Blenheim, makes the area around Wairau Valley a desirable place to live for those engaged in the regional labour market. It also means that the regional labour market is one potential source of skills for the project's construction needs.

In analysing the regional interests in this proposal, it is important to note that all the water which TrustPower proposes to abstract through its Intake structure on the Wairau River (just upstream of the Branch River confluence) will be returned to the Wairau River prior to its confluence with the Waihopai River. Most importantly, the return of this water occurs prior to the point at which the Wairau River water enters the recharge zone for the aquifers which supply water to much of the area between there and the coast, including Renwick, Blenheim and the surrounding rural hinterland. As a result, the potential physical and environmental effects of altered water flows (and their social consequences) will be experienced upstream of this discharge point. The electricity generated will cross this boundary, and the regional labour and accommodation markets span both sides of this boundary. Marlborough residents have interests in the recreational pursuits supported along the entire length of the Wairau River.

Thus, at a regional level, the focus of potential social effects will be related to the security of electricity supply, employment in construction and labour market effects, the social effects associated with accommodation for the construction workforce, workforce expenditure within Marlborough, and also to the potential effects on the recreational activities of Marlborough residents. All these matters will be discussed in Section 4.5 of this report. In some cases - for example, the potential effects on the recreational activities of Marlborough residents, or construction labour market effects - reference will be made to the assessments of other consultants<sup>15</sup>, whose detailed assessments will not be reported here.

While these matters are also of interest for the community of the Wairau Valley, this local host community for the proposed project has an additional range of effects derived from its immediate proximity. The additional range of effects includes both short term construction effects as well as longer term community development effects. The construction of a canal has the potential to serve both electricity generation and irrigation purposes. It is the links with irrigation potential that make this proposal of particular interest to the community of the Wairau Valley.

Consequently, this SIA is focused at two levels of community: one is the immediate host community of Wairau Valley and its environs; the other is the wider regional community.

### **3.2 The host community of interest - Wairau Valley**

#### *Geographic extent*

As shown in the map in on the previous page, the host community of interest around Wairau Valley extends along the southern bank of the Wairau River from just west of the Argyle Pond down as far as the Marchburn Stream, which is just upstream of The Narrows. This area is still predominantly rural in character and agricultural in economic activity. The area aligns closely with the area envisaged for irrigation under the Wairau Valley Water Enhancement Scheme; it also aligns closely with the school bus route and the catchment for Wairau Valley School.

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<sup>15</sup> Detailed analysis of recreational activities on the River, as well as an analysis of issues and potential effects of the proposal on these recreational activities has been carried out separately by Hovell Environmental Planning Ltd. Analysis of regional and national economic impacts has been carried out by Philip Donnelly & Associates Ltd.

### *Climate*

While high sunshine hours characterise the climate of the Wairau valley, extremes of drought and frost also feature prominently in people's experience of the local climate. At times, such events have been associated with significant financial cost and social upheaval, when crops have been lost and domestic water supplies interrupted. However, droughts on the east coast do not necessarily coincide with low river levels, which are fed by west coast rains; hence the degree of interest from landowners in supplementing their water supplies.

Extremely dry summers bring a constant risk of rural fires, generally grass fires<sup>16</sup> from unintentional causes such as farm equipment or grass mowers hitting a stone and generating sparks. Certainty of access to water is an ever-present issue

### *Land use patterns and trends*

In the early 1980s, extensive dryland stock farming predominated throughout the Valley and a number of large traditional family farms still existed. The end of farm subsidies in 1986 brought considerable upheaval in farm businesses, as it did elsewhere in the country; some farms went to the wall quickly, and most were under pressure of poor financial viability while still faced with supporting families or planning for farm succession.

Such circumstances generated a degree of experimenting - hobby farming, deer, feral goats, ostriches, ferrets - many of which did not survive for long, resulting in considerable turnover (10-15%) of families in the local community and a similar level of turnover in children at the Wairau Valley School.

More significant changes in land use were also occurring, with several hill blocks being bought for pine plantation forestry, a trend which exacerbated existing climatic constraints because of the resulting reduction in water run-off to the flats. In the absence of irrigation, sub-division became the highest value land use in immediate financial terms for some landowners wishing to consider change; hence the arrival of the first wave of rural lifestyle residents around 1990. At the same time, vacant farm buildings became available for rent as the demand for farm labour declined dramatically. This cheap accommodation also attracted newcomers to the Valley, as did the attractive climate and the popularity of the Nelson-Marlborough region as a whole. Most of the lifestyle sub-division occurred in the lower part of the Valley, downstream of the settlement of Wairau Valley. A salmon farm established in the Valley around 1993 which is still operating, adjacent to the lower reach of Mill Stream and drawing supplementary water from this source. This salmon farm, which recently diversified into freshwater crayfish, is reliant on maintaining its water quality standards in order to maintain its organic produce status. Another example of diversification in local farming at about this time was the advent of a sheep dairy farm producing sheep's cheese.

Some years later (~2000) another wave of land-use change occurred, involving both intensified farming and further sub-division out of productive uses into even smaller lifestyle blocks. Since July 2001, at least 12 Class B permits for water abstraction have been issued

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<sup>16</sup> The Birchill Fire Party report that when the summers are not so extreme, there have been very few call outs for grass fires. The summer drought of 2001 generated up to a dozen call outs to quell grass fires.

in this section of the Valley<sup>17</sup>, and as a result the first changes out of dryland farming into irrigated farming have occurred. Contract cropping, dairying and a small block of grapes have appeared in this part of the Valley, as have several plant nursery operations.

This second wave of rural lifestyle dwellers were also noticeably different from the first, tending to be wealthier, in age groups involving fewer children, and working in professional jobs in Blenheim. There has been a marked clustering of small lifestyle blocks close to the settlement of Wairau Valley in the past 5 years.

The present situation regarding land use can be summarised as follows (travelling westwards along the Valley):

- between the Waihopai River and The Narrows irrigated grapes have been planted extensively on the river terraces, while olives and grapes have arrived at The Narrows in the last 2 years;
- the first five small lifestyle blocks are encountered in the vicinity of the Marchburn Stream, close to where the proposed canal will terminate; there are also some established small holdings in this area;
- near the settlement of Wairau Valley, a large property has had extensive irrigated flats for many years on which pea crops have been grown under contract, but most of the property is hill country;
- around Wairau Valley itself, several lots of 5-10ha sub-divisions exist with quite a few new dwellings constructed, all on the south side of the main road;
- between Wairau Valley and Hillersden there are predominantly smaller farm holdings (100-200ha), and in the Hillersden area itself, there is some minor cropping on the larger properties but without irrigation. The Hillersden settlement no longer exists; the hall was moved to Wairau Valley and connected to the Wairau Valley hall 10 years ago, while the church was sold for a private residence about three years ago;
- upstream of Hillersden, the farm holdings are much larger, typically >1000ha, with more hill country; also there is very little sub-division in this stretch of the valley, the most notable being a cluster of lifestyle properties with several re-located or new houses above the intake area. A number of the Class B water rights apply in this area resulting in changes to traditional farming type and intensity, including changed grazing patterns and stock type, the establishment of a large dairying operation, irrigated grassland and contract crop growing for Talleys.

### *The Wairau Valley Water Enhancement Scheme*

In light of the previous description of recent land use trends in the Valley, and particularly in light of the significance of irrigation to farming prospects, it is pertinent to the proposal being assessed in this report to note that the Wairau Valley Water Enhancement Scheme Committee (WVWESC) was established at a public meeting by the Marlborough District

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<sup>17</sup> 8 takes from the Wairau River itself, 3 from Mill Stream and one from Lake Argyle (MDC, 2005, pers. comm.)

Council in September 2001 to proceed with the development of proposals for a Water Enhancement Scheme in the Wairau Valley<sup>18</sup>.

There are various figures for the land area involved, depending on what is being referred to. The 'command area envelope' - all the land south of the Wairau River to the toe of the hills, from the Branch River to the Narrows - covers some 8,800ha, of which 6,000ha has been assessed as irrigable land. At September 2001, landowner interest covering 4,800ha of this had been expressed.

Like the TrustPower proposal, the Wairau Valley Water Enhancement Scheme proposes a canal structure along the Valley. In the case of the stand-alone irrigation scheme, the canal would be much smaller in its dimensions, and it was proposed that this irrigation canal would by and large follow the route of SH63 along the Valley. Early indications of landowner response appeared to show significant resistance to this proposed route, particularly by lifestyle residents on newly-acquired land close to the settlement of Wairau Valley. The proposition of taking a 5-metre strip of land off affected properties in the form of a 'community contribution' but without any financial compensation was not popular. Further negotiations with landowners for the land required for the irrigation canal have not been undertaken.

The water right involved is a Class B abstraction from the Wairau River in the vicinity of the existing tailrace for the Branch Hydro electric Power Scheme, and the original peak demand was set at 3.3 cumecs, calculated on the assumption that 3,000ha could be irrigated at crop-growing rates and 3,000ha at rates suitable for pasture. An additional 0.25 cumecs was sought from TrustPower's Wairau head pond if the TrustPower scheme proceeds, in which case an additional 500ha of land can be irrigated (an increase of some 8% on the original proposal). Consent for this water take was granted in September 2004, and the Wairau Valley Water Enhancement Company (WVWEC) was formed subsequently by the WVWESC to hold the water permit for irrigation for the Wairau Valley community.

In December 2004, a Memorandum of Understanding between WVWEC and TrustPower was signed as the basis of co-operation to deliver irrigation water to the proposed irrigation envelope. If the TrustPower proposal proceeds, TrustPower will convey up to 3.55 cumecs of irrigation water free of charge in the hydro canal and make it available for distribution to the shareholders of the WVWEC.

From the perspective of landowners wishing to take up an opportunity to irrigate their land, there is a substantial difference between the capital costs for headworks that they would face arising from the two alternatives. WVWEC estimates for off-farm capital costs for canal construction and pipe distribution range from \$800/ha to \$1,600/ha, depending on the degree of uptake by landowners. In contrast the off-farm capital costs for TrustPower's canal would be nil, although there would still be some administrative overheads associated with negotiating easements (estimated at ~\$100/ha<sup>19</sup>).

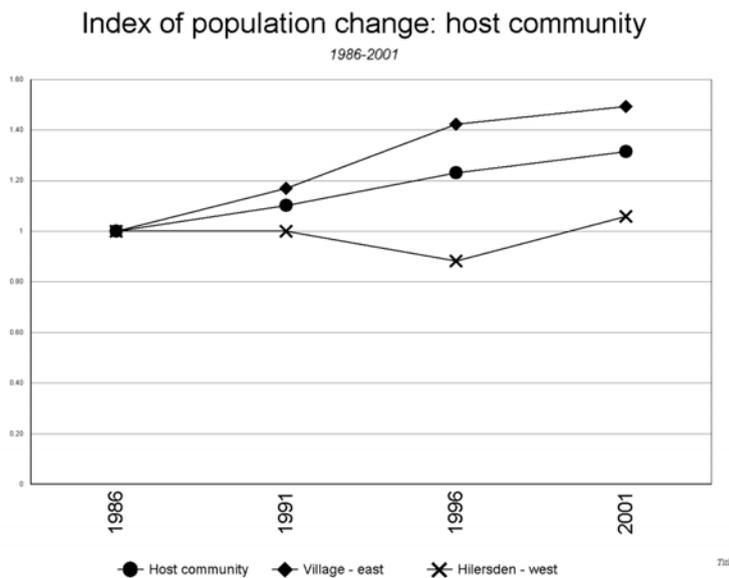
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<sup>18</sup> Source for these summary details is the May 2005 Irrigation Update distributed by the Wairau Valley Water Enhancement Company.

<sup>19</sup> Pers.Comm. S. Mckenzie.

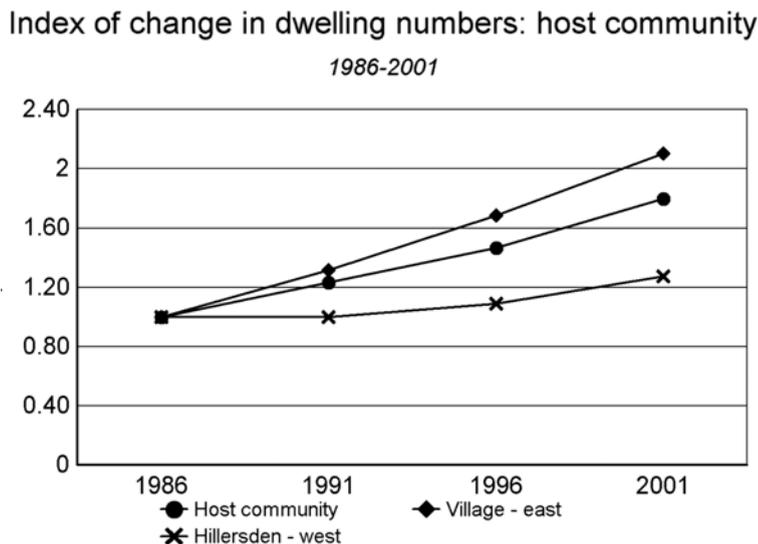
*The resident community*

The trends in land use change in the Valley described earlier have had a corresponding effect on the nature and composition of the local community. The qualitative trends are also reflected in population statistics.



Population data from the four census since 1986 show that the usually resident population for the host community increased by 30%<sup>20</sup> to 2001. However, practically all the increase in the Valley population occurred in the eastern part, close to Wairau Village where the increase over this time was almost 50%<sup>21</sup>. In the western end of the Valley, from Hillersden west, the population increase was a marginal 6%<sup>22</sup>.

Similar trends are evident in the increasing numbers of dwellings between 1986 and 2001, and their distribution along the Valley.



For the Valley as a whole, the numbers of dwellings increased from 90 in 1986 to 162 in 2001. This was made up of dwellings in the eastern end of the Valley, including Wairau Valley settlement where the increase was from 57 in 1986 to 120 in 2001, and dwellings in the western end of the Valley where the increase was from 33 dwellings in 1986 to 42 in 2001.

<sup>20</sup> 324 in 1986 to 426 in 2001. Statistics NZ, 2001.

<sup>21</sup> 213 in 1986 to 318 in 2001. Statistics NZ, 2001.

<sup>22</sup> 102 in 1986 to 108 in 2001. Statistics NZ, 2001.

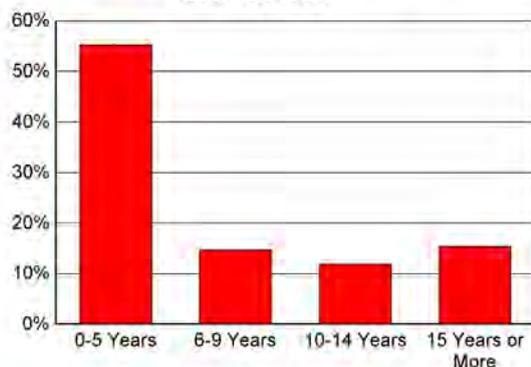
There are now four broad groupings evident in the Valley: households engaged in farming, households living in the settlement of Wairau Valley and owning their own homes, households living on lifestyle properties, and households living in rented accommodation and putting together varying livelihoods on a range of casual work opportunities or government benefits. Practically all the households with someone drawing a government benefit other than national superannuation<sup>23</sup>, and households living in rented accommodation<sup>24</sup> are in the eastern end of the Valley and around the Wairau Village settlement. The lifestyle households can be further broadly distinguished into three groupings: retired farmers from the Valley who have moved off larger farming properties, those from outside the Valley or the region who have bought in for investment purposes or to set up a lifestyle of rural amenity living and professional work in town, and those who have come in pursuit of a rural retreat.

Thus, over a period of almost 20 years, the community has changed from being almost exclusively a traditional pastoral farming community to one which is much more diverse. Farming however still predominates. Half of all those people in the workforce at the last census were working in agriculture. Just over a quarter (27%) were working in a range of professional occupations, mostly in Blenheim.

The extent of change in the resident population is indicated by the statistics on length of residence at the last census. In 2001, more than half the residents (55%) had lived in the Valley for no more than 5 years while just over one quarter (27%) had lived there for more than 10 years. This reflects both the numbers of non-farming new arrivals as well as recent recruits to farming in the Valley. Of the 69 professionals resident in the Valley, 48% had arrived in the previous 5 years, while 26% had been resident for 10 years or more. Of the 126 people working in farming, a similarly high proportion (48%) had arrived in the previous 5 years, but a more substantial proportion (39%) had been resident for 10 years or more.

It is evident that all sectors in the community were going through considerable change: those in professional occupations were starting to arrive in significant numbers, and farming was starting to experience positive development on a significant scale. As noted earlier, at least 12 water rights have been granted to farming interests in the Valley since July 2001.

Length of residence in the Wairau Valley  
2001 Census



Lifestyle residents in any part of the country are notoriously mobile and transient often staying for no more than two to three years; those in the Wairau Valley appear to be no exceptions. The net increase in resident population between 1996 and 2001 was 27, but the number of new arrivals during that same period was 237, indicating that 210 residents left the Valley. The turnover of population is reflected in the 'length of residence' data graphed on the previous page. This exodus can be expected to include youth of the Valley entering the workforce and

<sup>23</sup> 51 out of 57 beneficiary households in 2001. Statistics NZ.

<sup>24</sup> 33 out of 45 rented dwellings in 2001. Statistics NZ.

in search of work, retirement age residents moving into Blenheim, and lifestyle residents moving on. Numerous people interviewed for this assessment commented on the turnover in lifestyle residents. Some discover that despite the attractions of rural amenity living, the demands of property maintenance or providing for the educational, cultural or sporting needs of young children or teenagers can be compelling arguments for returning to live in town. Real estate agents comment that some properties have sold two to three times in the last six years.

### *Community organisation and services*

While for those who remember the traditional farming community as it used to be, the present community may not appear to be such a tight-knit community. Nevertheless, the vast majority of those interviewed experience it as a close, supportive community. Despite the more diverse elements which make up the Wairau Valley community in 2005, this assessment encountered many expressions of a strong community ethos from across the spectrum of those interviewed.

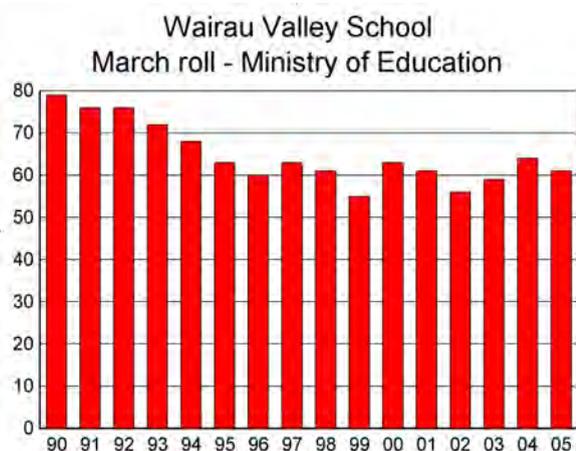
### Social networks

There continues to be a high level of local social networking which has the dual function of connecting different parts of the Valley community and also connecting longer-term residents with more recent arrivals. While certain traditional sporting clubs have phased out, such as cricket, tennis, bowls and rifle shooting, there are still active groups such as the golf club, the youth group, Rural Women, the Birchill Fire Party, the Volunteer Fire Brigade, the church discussion group, the gardening club/plant swap group, the spinning and weaving club, playgroup and kindergarten, and the Wairau Valley Social Club which meets weekly at the pub and has about 40 members.

A community newsletter - the Wairau Valley Newsletter - is distributed each month.

### The Wairau Valley School

The Wairau Valley School continues to be a very important local institution. Located in the middle of the settlement, near the Village Hall and the Golf Club, this is presently a 3 teacher country school. A declining school roll (see graph) resulted in the loss of a fourth teaching position at the end of 1995. Three-quarters of the school's current complement on children travel by school bus; the remainder travel by car, bicycle or on foot.



Changes in the fortunes of farming and the composition of rural communities can have significant consequences for school rolls. The decline in demand for farm labour in the 1980s, as many traditional pastoral farms retrenched, reduced the numbers of young families living on farms. In most rural areas, there is also a natural cyclical pattern in the numbers of school age children associated with the life-cycle stages of farming families. Numerous observations from residents in the Valley suggest that the two waves of lifestyle arrivals have had markedly different

outcomes in terms of the numbers of children attending the school. While the first wave (around 1990) brought some children to the school, the second wave of lifestyle arrivals has tended to contribute fewer children to the local school<sup>25</sup>. This is either because more of the households are at a stage where there are no children, or because both parents are working in Blenheim and it is easier to take young children into Blenheim for their schooling.

Nevertheless, the school's current roll reflects all three main groupings from the Valley community - farming families, lifestyle residents and households in rented accommodation or living in the Village. The Board of Trustees is similarly representative.

The March roll data shown in the graph above typically represents the lowest roll for any time of the year<sup>26</sup>. Nevertheless, the long-term trend is relevant. Fifty-seven is the critical threshold of pupil numbers between two-teacher and three-teacher schools, and the Wairau Valley School's March roll has been below that level twice in the last six years. Even though transient households in the community make up a very small group of children at the school, their movements can have a disproportionate impact on roll numbers and class size.

There is some concern within the school community about the current roll level, since the loss of a third teaching position might render the school vulnerable to parents sending their children to larger schools in Blenheim or Renwick. On the positive side, the school has recently had a new administration block built.

#### Access to shopping and services

The two most notable commercial outlets in the Village are the pub and the garage.

The pub serves bar meals, has two rooms for occasional accommodation, and a small convenience dairy. The pub serves a mix of patrons including farmers, farm labourers, lifestylers, golfers, and other people from town. In the tourist season (November to April) visitors also contribute to the clientele

The garage used to support three employees, but now supports one. It has an engineering workshop for vehicle repairs and machinery maintenance, while also providing petrol, mechanical checks, servicing and Warrants of Fitness. Business used to be largely farm oriented, including both machinery maintenance and servicing. There has never been any significant demand from passing motorists. Demand for garage services from the farming sector declined in the 1980s and 1990s with the decline in farm profitability. However, recent trends emerging associated with irrigation in the Valley have resulted in an increase in the amount of agricultural machinery, so that the trend in declining demand has begun to reverse. There is also a significant demand for servicing vehicles for lifestyle residents.

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<sup>25</sup> In 1986, the average household size in the Valley was 3.6 persons/dwelling, compared with the average household size in the Marlborough District of 2.9 persons/dwelling. By 2001, these figures had both declined to 2.6 persons/dwelling, a much more substantial decline in the Valley. Corresponding data for the 'lifestyle' or eastern portion of the Valley around the settlement of Wairau Valley were 3.7 in 1986 and 2.7 in 2001.

<sup>26</sup> Funding decisions tend to be based on rolls in July of each year.

With the exception of a few convenience items, Valley residents must travel to Renwick or Blenheim for all their shopping and most of their service needs. The local dairy closed more than 25 years ago.

There are no medical or pharmacy services in Wairau Valley, and currently all the medical practices in Blenheim appear to have closed books. However, several residents are trained nurses and in practical terms may provide a first point of contact in medical emergencies for rural residents, since there is no ambulance based locally and it takes approximately 30 minutes for one to arrive from Blenheim. In the past two years there have been about 6-8 call-outs in the Valley for search and rescue or medical evacuation. Such call-outs are currently serviced by the Wellington-based Westpac Rescue helicopter or the Nelson-based rescue helicopter.

Volunteer Fire Brigade services form the front line of local emergency services in rural areas around New Zealand. Increasingly, their activities and callouts are related to attending road accidents<sup>27</sup> in their area of responsibility<sup>28</sup>, rather than focusing just on their fire prevention and fire-fighting function. In its accident and emergency function, the Wairau Valley Volunteer Fire Brigade is backed up by the Renwick Volunteer Fire Brigade as well as ambulance services from Blenheim and helicopter services from Wellington, Omaka or Nelson.

The Wairau Volunteer Fire Brigade is active, with approximately 14 members, and fire prevention courses are run twice a year for the children at Wairau Valley School, with an evening course for parents once a year. VFB members have practice drills weekly during the summer. The nearest Hospital Accident & Emergency Unit is in Blenheim, but there is one nurse resident in the Village and several locals with paramedic training.

Secondary school pupils can make use of a school bus service to travel between the Valley and Blenheim. However, its route is not as extensive and some pupils have to drive or be driven several kilometres in order to connect with this service. A few leave cars parked all day as a result.

#### Commercial accommodation

Little commercial accommodation capacity exists within the Valley. The several properties that do offer commercial accommodation are all located relatively close to the Village. As noted above, the pub does have two rooms which can be used occasionally. In addition, the publican runs a small camping ground adjacent to the pub with sites for tents, campervans and caravans. Earlier in 2005, they hosted the Motor Bike Rally at Easter when ~150 people stayed.

The Landsdowne Farm Park combines a farming operation with a tourism operation, catering to the latter from October to February, with 2-cabin accommodation for up to 8 people and a dining capacity for up to 30. One other farm stay B&B operates close to the Village.

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<sup>27</sup> Almost 50% of callouts in recent years have been to road accidents

<sup>28</sup> The area of responsibility for the Wairau Valley VFB is from the Waihopai Bridge in the east to the Wash Bridge in the west.

Many people interviewed for this assessment observed that there is very little if any spare accommodation capacity in the Valley in terms of rental accommodation. Medium-term rental accommodation is much sought after and seldom remains unoccupied for long, since Wairau Valley is in easy commuting distance of Blenheim.

### Electricity supply

Many residents of the Valley - farmers, lifestyle and village residents alike - observed shortcomings with the existing power supply situation. For some, the shortcomings are only minor such as momentary flickering of lights when new loads in the Valley come on at times of peak consumption. Others have experienced a greater level of nuisance when voltage fluctuations have interfered with the operation of computers or microwaves, or supply interruptions have lasted for more than a few seconds. For a few, the shortcomings are viewed as more significant; for example, constraints on the extent of electrical farm machinery such as shearing equipment and water pumps, necessitating the installation or greater use of diesel-power back-up generation.

The Marlborough Lines Company indicates that the total load in the Valley is constrained for about 5-10% of days, a couple of times a day in the winter. Power fluctuations also are likely to be more noticeable further west up the Valley towards the outer limits of the local distribution network.

Marlborough Lines Company indicates that existing limitations on electricity supply to the Valley are mainly due to the local distribution network, first reticulated 60 years ago. There is potential for doubling the capacity of the local distribution network without adding more lines of structures, by doubling the voltage from 11kV to 22kV, and this is being done in some parts of the Valley.

At the present time, peak demand in the Valley occurs in the winter and results from peak domestic heating demands, rather than the summer irrigation loads, although the pattern of peak loads is shifting. This contrasts with the situation elsewhere over much of the Wairau plains<sup>29</sup>, where summer irrigation loads already are the major factor in peak electricity demand, a situation that is likely to become even more pronounced with the advent of the Southern Valley Irrigation Scheme described earlier.

### *Recreation*

Recreational activities between the Branch River and the Narrows include hunting in the hills, a variety of water-based recreation at Argyle Pond, fishing and picnics on the river in the vicinity of the existing power station, and a wide range of recreational activities by local residents at various points of access to the main River or some of its smaller tributaries. However, recreational users of this area come from further afield in Marlborough as well.

Levels of total recreational activity along the Wairau River have been the subject of detailed assessment by Hovell Environmental Planning Ltd, and will not be repeated in this assessment. What follows is a brief descriptive summary of recreational activity from the perspective of the host community.

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<sup>29</sup> Downstream of the Waihopai River confluence.

There are not many points of public access to the River along this stretch. Indeed, Church Lane is the principal point of local access used by residents and visitors alike. Local landowners enjoy access across private land, and there are some special access provisions for anglers. Anglers drive here from Blenheim or Lake Rotoiti and enjoy good co-operation from property owners - little signs indicating accepted points of access to the River across private property. It was observed by some local residents that, at this stretch of the River, anglers tend to access it from the northern side.

Local residents described a wide range of recreational pursuits which they enjoy along this stretch of the River and some of its smaller tributaries; activities such as picnics, swimming, eeling, fishing, rock collecting, canoeing, duck shooting, exploring, jet boating, mountain biking, quad biking and horse riding. Church Lane also provides easy access for school trips and playgroup trips, and young children enjoy playing on the sand banks. These activities are evidence of the high value that local residents attach to their local river resources. Several also commented on the changing nature of the river braids and the ability of the River environment to recover from major flooding events.

### Crime

While crime within the local community did not attract any comment at all, criminal activity by visitors and those passing through did attract some comment, reinforced by the observations of the Police.

Breaking and entering and subsequent theft or damage is the most notable. Items which seem to have been of particular interest have been quad bikes or farm bikes (2-3 per year) and items stolen from parked cars<sup>30</sup>.

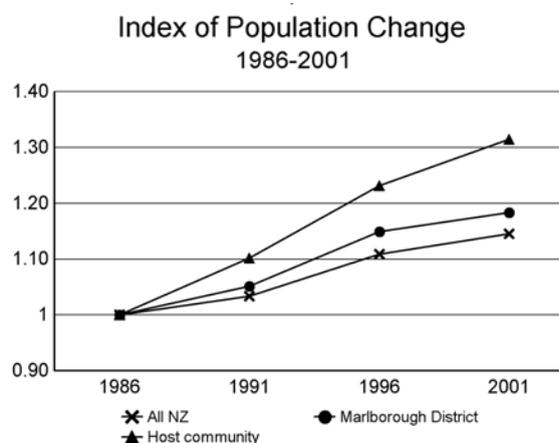
### 3.3 Regional community of interest - Marlborough

As noted earlier, at a regional level, the focus of potential social impacts will be related to addressing increasing demands for electricity and the security of electricity supply, employment and labour market issues, accommodation for the construction workforce and recreational activities. Electricity demand, employment benefits and opportunities for accommodation and construction providers are addressed quantitatively in the economic assessment prepared by Philip Donnelly & Associates Ltd, while recreational activities have been analysed in detail, both quantitatively and spatially, by Hovell Environmental Planning Ltd.

This section provides a complementary regional summary in terms of population numbers and jobs.

#### Population trends

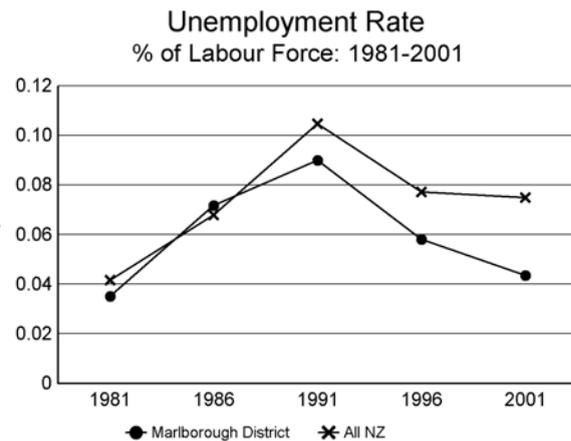
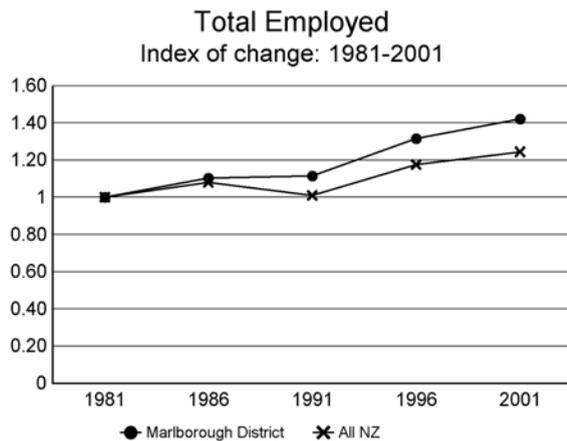
Population trends for the immediate host community of Wairau Valley were shown in the previous section. The adjacent graph



<sup>30</sup> For example, cars left parked in a driveway all day by teenagers using the secondary school bus.

indicates how those trends compare with trends for Marlborough District and for New Zealand as a whole. Over the past 15 years, Marlborough's resident population has grown by 18%<sup>31</sup> compared with the nation's 15% growth and the host community's 31% growth.

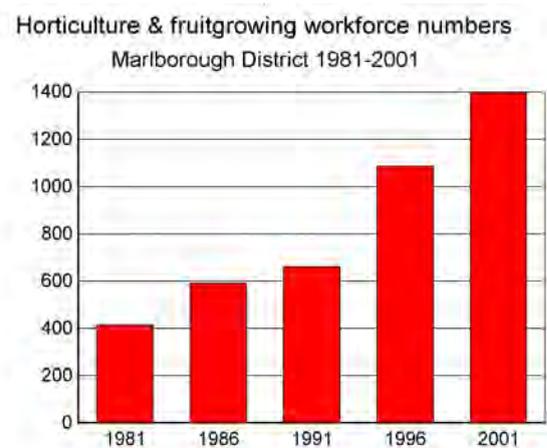
*Employment numbers*



Similar data for total employed and unemployment show that the District economy has been relatively buoyant when compared with the whole country, with the District's unemployment rate falling well below the national average in recent years, reflecting strong demand for skills and labour. For example, the Riverlands industrial estate has seen much development in recent years, and although the PPCS plant closed 3 years ago, it is now fully occupied and tenanted and further development may be pending.

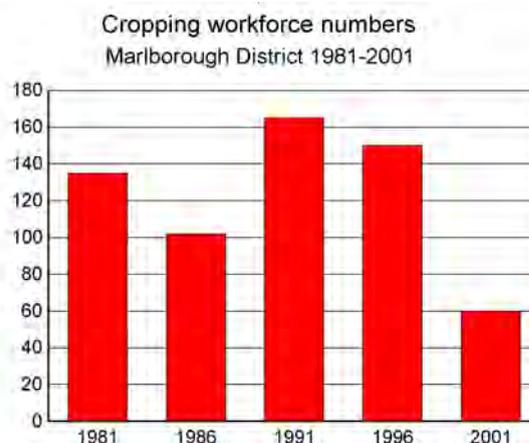
*Land-based sectors of employment*

In terms of land-based economic activity, this buoyant trend has been driven strongly by several sectors, including the wine industry and tourism, as shown by the workforce trends for horticulture and fruitgrowing, and restaurants and cafes.



<sup>31</sup> From 33,408 in 1986 to 39,552 in 2001

In contrast to the rapid growth of the vineyard and wine industry, trends in more traditional agricultural sectors have tended either downwards (e.g. sheep farming and cropping) or fairly steady (e.g. mixed farming or dairy farming) over the past decade.



### Access to water for irrigation

Access to water for irrigation from the Wairau River is an issue not just for the farming community in the middle reaches of the Wairau Valley. The District Council has determined that 15 cumecs of Class B water abstraction is available above the Tuamarina Bridge<sup>32</sup>. Prior to the advent of the Southern Valleys Irrigation Scheme (SVIS), only one cumec of this total had been allocated. SVIS takes 2.5 cumecs, and the WWES takes 3.3 cumecs. At the present time, the 15 cumec allocation of Class B water rights is slightly less than 50% allocated. While the proposed TrustPower hydro electric power scheme's allocation would mean no further scope for abstraction in the middle reaches of the River, all of TrustPowers water will return to the River upstream of the Waihopai River confluence.

<sup>32</sup>

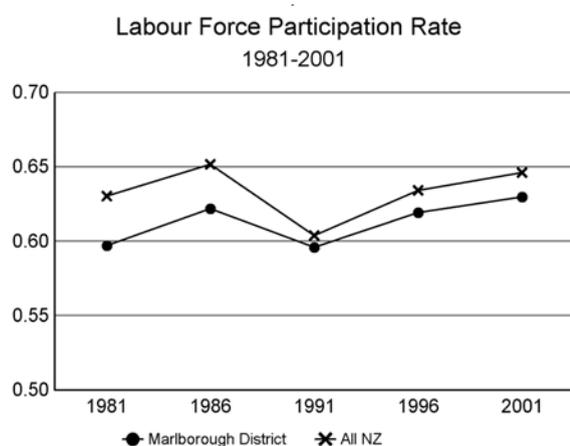
The Tuamarina control signals to upstream abstractors that rationing begins when the flow river flow reduces to 30 cumecs and cuts off completely at a flow of 8 cumecs.

### Retirement patterns

Marlborough District, and Blenheim in particular, is noted as a retirement centre. Hovell Environmental Planning Ltd's demographic analysis, carried out for the recreation assessment, shows the relative concentration of residents in the 65+ years age group in Marlborough District, and in Blenheim in particular. These data also reflect the tendency for older rural people to retire to town.

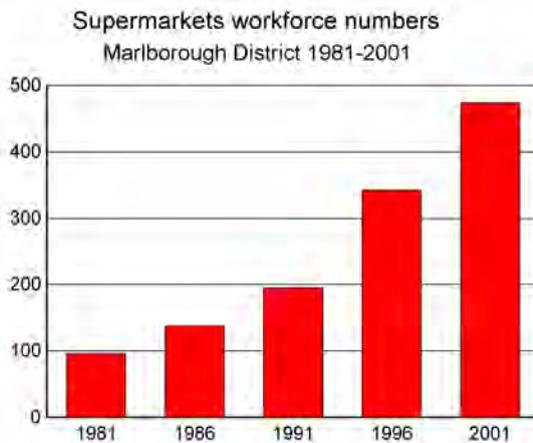
Census area (2001 census)	% of Usually Resident Population aged 65 years and over
All New Zealand	12.1%
Marlborough District	15.5%
Blenheim	16.7%
Wairau Area Unit (rural)	7.8%

The higher-than-average proportion of retired residents is reflected in other data as well, such as the District's lower-than-average Labour Force Participation Rate and the numbers of people employed in resthomes and similar establishments.



### Service sector employment trends

Blenheim continues to be a service centre for surrounding rural residents, both in terms of basic consumer services (as indicated by numbers employed in supermarkets and retailing) and also in terms of services to primary producers (as indicated by employment numbers in agricultural contracting services).



### *Building and construction sector*



Marlborough also has a sizeable and growing construction industry workforce. Apart from the viticulture sector, this sector is currently one of the regions largest employers, reflecting the buoyant economic times and the extent of new development. The economic assessment indicated that the regional construction sector is heavily committed, although it might have some spare capacity if recent tenders are an indication<sup>33</sup>. However, several major development projects<sup>34</sup> are expected with varying degrees of certainty in the District within the next few years, during the time frame when the TrustPower construction

activity could reasonably be expected to occur, if consents are granted. It should be noted, however, that neither campus of the Nelson Marlborough Institute of Technology offers short block courses in training for the construction industry.

<sup>33</sup> Road construction and maintenance projects in the region currently attract three to four bids, where they attracted only one or two a year ago (Marlborough Roads, pers comm.)

<sup>34</sup> e.g. the Awatere Bridge replacement, a new combined club and conference centre, a combined central carpark and hotel development, and several large retail developments

### Commercial accommodation (rental) sector

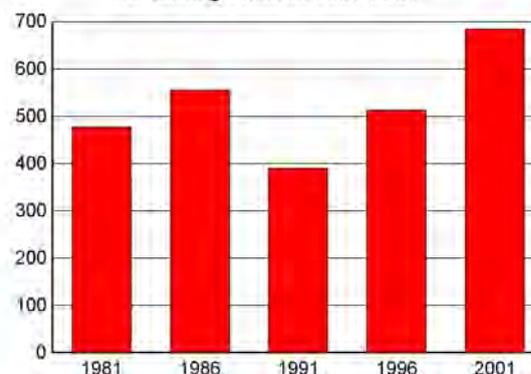
The commercial accommodation industry, much of which is focused in and around Blenheim itself, comprises hotels, motels and camp grounds where the last category offers a range of accommodation from single cabins/units to large group accommodation. While some components of accommodation demand are highly seasonal, such as internal and international tourists, other components span most of the year. In particular, demand for lower-budget accommodation for the ever-expanding wine industry workforce spans almost 10 months of the year, covering both the main harvesting season as well as off-season pruning and planting work.

Many such workers who came originally as itinerant, seasonal workers have returned to take up longer-term residency having gained semi-permanent work. However, a sizeable transient wine industry workforce (estimated to be in the hundreds) still exists, and sector-wide demand for casual labour is expected to keep growing over the coming years as new plantings come into production.

At the last census, out of more than 15,000 dwellings in the Marlborough District, there were more than 3,200 rental dwellings, most of them within the vicinity of Blenheim. Short-to-medium term rental accommodation in and around Blenheim appears to be in very short supply, relative to demand, a situation which has existed for several years and become more constrained. Several real estate firms which manage large portfolios of rental properties described a situation over the past twelve months that is characterised by waiting lists rather than vacancies.

Despite the critical shortage of reasonable standard worker accommodation in Marlborough reported by numerous parties interviewed, strategic responses seem slow to occur<sup>35</sup>. Unlike Nelson, which has developed some dedicated seasonal worker hostel accommodation, this has not happened in Blenheim. A recent trend for accommodating short-to-medium-term groups of workers has seen the emergence of accommodation brokers, facilitating the rental of whole motel complexes for sub-lease to individual workers.

Commercial accommodation workforce numbers  
Marlborough District 1981-2001



<sup>35</sup>

Anecdotal reports of over-crowding in sub-standard accommodation for casual vineyard workers was commonplace.

## 4 ASSESSMENT OF EFFECTS

### 4.1 Overview of social effects and related issues

Some social effects arise because the Memorandum of Understanding between the Wairau Valley Water Enhancement Company (WVWEC) and TrustPower commits the two organisations to co-operate over provision of irrigation for the community. The technical and economic feasibility of the proposed hydro electric power scheme is not dependent on the resulting irrigation potential. However, it is the potential complementarity between the two proposals which results in such a positive overall balance of social effects for the immediate host community. For the wider regional community, the principal balance of social effects is between the changes in recreational amenity in the middle reaches of the River which result from TrustPower's proposed water diversion, and the benefits to regional electricity consumers from a more secure electricity supply.

The social effects of the TrustPower proposal can usefully be analysed in three phases - the consent phase, the construction phase and the operational phase. In summary the social effects identified during this social impact assessment are -

during the present consent phase<sup>36</sup>:

- for many landowners, a sense of being 'in limbo' with their own individual decision making about their futures until the outcome of the resource consent application is known with certainty;
- for a few landowners, the experience of social discomfort arising out of tensions between diverse views, preferences and attitudes to the TrustPower proposal, especially if they hold what might be thought of as minority views;

during the construction phase:

- temporary effects on farm management for properties through which the hydro canal will pass, due to the presence of construction activities, equipment and workers;
- disruption to existing property access, due to canal construction crossing existing access roads;
- the nuisances arising from dust, noise and unpleasant odours associated with earthmoving and construction activities and the use of heavy machinery and large vehicles;
- the risk to water users from reduced water quality of streams due to canal construction;

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<sup>36</sup> The consent phase can be thought of as the period since the current hydro electric power scheme proposal was first announced publicly until the final decision has been announced on the resource consent application. This phase includes the negotiations between TrustPower and individual landowners, public consultation activities by TrustPower and assessment activities by TrustPower's consultants, formal lodgement of the resource consent applications and AEE, public submissions and the resource consent hearing.

- increased traffic safety risks on SH63 and local roads, due to the presence of large vehicles involved in the construction works and the need to construct bridges on SH63 and local roads, where they cross the proposed canal;
- increased risk to property and life from grass fires in the Valley during the dry summer period due to the activities of earthmoving equipment;
- increased risk of opportunistic crime in the Valley associated with the construction sites and depots;
- increased demand for accident and emergency services due to construction-related accidents;
- workforce issues and social effects associated with a construction workforce that is expected to come largely from outside the Marlborough region and therefore requires accommodation, including:
  - effects on regional construction sector firms and workers;
  - effects on the regional accommodation market;
  - effects on primary health services and schools;
  - effects of retail spending by the construction workforce; and
  - effects on the after-work social environment.

during the operational phase:

- increased electricity security and higher standards of electricity service for consumers in the Valley, and reduced risk posed by long-distance transmission constraints for electricity consumers elsewhere in Marlborough, due to increased levels of regional electricity generation and reorganised local distribution lines;
- increased likelihood and increased uptake of irrigation throughout the Valley, with consequential population growth and other social effects;
- issues related to uncertainties regarding the potential effects of TrustPower's water take on existing users of this stretch of the River and on existing users of tributary streams and ground water wells in this stretch of the Wairau Valley;
- improved flood protection for several farming properties on the south bank of the Wairau River immediately downstream of the proposed river outfall, resulting from the new outfall structure;
- improved access to emergency water supplies for fire-fighting associated with a canal which runs the length of the Valley;
- changes in visual amenity arising from the presence of the canal, power station buildings and transmission lines;
- permanent changes in farm management for properties through which the hydro canal passes;

- changes in the way members of landowning households enjoy their properties, for properties through which the hydro canal passes;
- risks to home and personal security and privacy associated with the possibility of public access along sections of the canal;
- risk to students using the Wairau River for outdoor education training;
- flow-on effects from increased irrigation to regional employment;
- concerns about two equity issues; firstly that community benefits will come at the expense of some individual loss of existing amenity; secondly that the main beneficiaries of the proposed hydro electric power scheme are in fact outside the Valley and even outside the region.

These social effects are assessed in the following sections: consent-phase social effects for the immediate host community (Section 4.2); construction -phase social effects for the immediate host community, excluding construction workforce effects (Section 4.3); operational-phase social effects for the immediate host community (Section 4.4); construction workforce issues and social effects (Section 4.5); and operational-phase social effects for the wider Marlborough community (Section 4.6).

## **4.2 Consent-phase social effects and issues for the host community**

### Being 'in limbo'

Any major new proposal with the potential to impact on existing properties is likely to create a hiatus in decision making affecting the autonomy of individual landowners until the outcome of the resource consent applications is known. The fact that the hydro canal would pass through some 60 properties is likely to have this effect for some of these property owners. Others who are interested in water for irrigation but who would not have their properties intersected by the hydro canal face a similar situation of uncertainty. This situation is unavoidable and potentially significant for some individuals. Furthermore, it is little different from the situation that would arise in the Valley if the WWEC's own canal proposal were to be advanced.

The effect potentially has both positive and negative aspects. While the TrustPower canal proposal may make other individual decisions about future development difficult, it also introduces the possibility of new opportunities; farms may be rationalised and re-structured as a result of the physical changes created by the canal; similarly new land-use opportunities may come into consideration.

In terms of the applicant's role, mitigation of this effect is best achieved by moving the resource consent applications forward as expeditiously as possible. Having lodged its resource consent applications (at the time of this report), TrustPower as the applicant does not control the time frame for decision making any more. TrustPower can attempt to move the property-by-property negotiations forward as quickly as is practicable in order to hasten the resolution of this element of uncertainty. For this to happen, other parties to the negotiations have to be prepared to do likewise.

The social effect is temporary, and from a community perspective, is assessed as minor.

#### Social discomfort within the local community

Not everyone living in the Valley faces the same potential opportunities or effects from the TrustPower proposal. The likelihood that many households could benefit and the possibility of significant community benefits as a consequence of this, can create tensions within the community and thereby affect the social environment and individuals' participation in social activities. This is particularly true for those who may stand to be most directly affected by the physical and landscape changes but who for some reason do not want the change, whether or not they might benefit in other ways. In the face of a strong community ethos, it is difficult to hold minority views, and this situation can create discomfort if people are challenged about their views in social settings.

This social effect is potentially significant for a few individuals. It is likely also to be a temporary effect. In this instance, mitigation takes the form of the potential for general community benefit in the longer term, including benefits to the social environment, as discussed later in Section 4.4.

### **4.3 Construction-phase social effects and issues for the host community (excluding construction workforce effects)**

#### Disruption to existing farm management practices

Earthworks and other construction activity will occupy land and obstruct traditional patterns of farm activity, to a greater or lesser extent, on up to approximately 60<sup>37</sup> properties in the Valley. This effect is certain, and without mitigation would be significant.

For the project to proceed, all examples of this will have been addressed by TrustPower and affected parties, negotiating satisfactory outcomes which allow the project to proceed<sup>38</sup>.

TrustPower has committed to re-positioning property fences, gates, access-ways and other farming infrastructure in order to maintain farmers' abilities to continue their farming operations. TrustPower has also committed to avoiding extreme construction disturbances during lambing, a measure that will require close coordination with individual farmers.

With such mitigation, the effects on farmers' autonomy and working environment will have been rendered acceptable in terms of the negotiated property agreements, and therefore are considered minor in terms of the Act.

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<sup>37</sup> While there are approximately 60 individual rural properties through which the canal is expected to pass, some of these are no longer in productive farming use, having been converted to lifestyle blocks.

<sup>38</sup> The assumption which underpins this logic is that such negotiations are carried out freely and willingly by all parties, and without duress. Specifically, the logic assumes that TrustPower does not have 'requiring authority' status in its dealings with individual landowners.

### Disruption to existing property access

The proposed canal will intersect access roads to five properties. This effect is certain, and without mitigation would be significant.

TrustPower has committed to providing bridges to preserve existing levels of access to each of these properties.

The resulting effects on the landowners' working environment and freedom of movement will therefore be minor.

### Nuisances from dust, noise and unearthed offal pits

Construction of the canal involves major earthworks and the operation of heavy machinery and other heavy transport vehicles. These activities will create noise and dust; the latter particularly in dry and windy weather, which will inevitably be experienced at some stage during a construction period lasting up to 24 months. There is also the possibility that canal construction may encounter previously buried farm offal pits, giving rise to the likelihood of unpleasant odours, although it is uncertain how often this might occur. Such physical nuisances abate with distance from the construction activities. Nevertheless, even though the construction period is of finite duration, these nuisances have the potential to cause transient but acute (significant) effects on residents' physical environment, working environment, autonomy and health if not adequately mitigated. Dust also has the potential for more than minor deleterious effects on farm productivity, as noted in the air quality assessment.

TrustPower technical studies<sup>39</sup> of the construction buffer zone indicate that there are nine dwellings within 100m of the proposed canal construction zone and a further 19 dwellings within 300m. This is indicative of the maximum number of dwellings likely to be affected by such nuisances.

TrustPower has committed to a range of mitigation measures in order to ameliorate or avoid the impacts of such nuisances during the construction period. In many cases, these will constitute part of the negotiated agreements with individual property owners. In terms of specific nuisance-related mitigation, noise nuisances can be mitigated by such measures as restrictions on the hours of construction and the erection of temporary noise barriers. Dust nuisances can be mitigated at source by restrictions on construction activities in extremely windy circumstances, or dust suppression using water carts and sprays, and at receptor locations by providing periodic cleaning services or air conditioning of dwellings. Odour nuisances can be avoided by liaison with individual landowners and mitigated by planning for removal of smelly materials in certain conditions and at certain times. In situations where such measures are considered likely to be inadequate, alternative temporary accommodation will be negotiated between TrustPower and the affected residents for the duration of the relevant construction period.

In addition to these measures, two other aspects are part of the overall approach to mitigation recommended. These are the preparation and on-going updating of a

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<sup>39</sup> Carried out by URS New Zealand, consultants in Engineering and Environmental Management, with data reported in Figure 5.12.3.4A of the AEE.

Construction Management Plan, and the establishment of a community liaison mechanism and complaints protocol. The latter is relevant to monitoring (in a social sense) the effectiveness of mitigation measures in conditions that may be extremely variable and unpredictable (particularly in respect of windiness) and to addressing circumstances beyond the 300m buffer zone if necessary.

The expected cumulative outcome of these mitigation measures is that the nuisances will be managed to levels which are acceptable to the residents most likely to be affected. The community liaison mechanism and complaints protocol represent measures aimed at adapting mitigation measures if this should prove to be necessary in light of experience. With mitigation, these effects will be no more than minor.

#### Risk to water users from reduced water quality of streams from canal construction

Canal construction will intersect streams or create sediment-laden run-off into streams. Canal construction also has the potential to interrupt existing patterns of underground water movement<sup>40</sup> or draw down on groundwater levels adjacent to the construction zone, as shown in Figure 5.4.1A of the AEE. These physical effects have the potential to affect both the quantity and the quality of water in sections of some streams, to an extent that is more than minor, as concluded in the aquatic ecology assessment.

Streams with the potential to be affected during construction are the Excell, Huddleston and Mill Streams<sup>41</sup>. The social effects derive from the fact that some property owners currently draw water from these sources for essential services such as household consumption, farm use or particular commercial purposes such as supplementing water supplies to an organic salmon farm.

To avoid the effects on stream flows, TrustPower intends to channel existing streams underneath the canal so that they continue to flow essentially along their historical paths, with the exception of the small diversions created during culvert construction. Sediment-laden run-off in the vicinity of construction activities will be minimised through good-practice measures contained in a Construction Management Plan and subject to monitoring of construction activities by the Council.

Liaison with downstream property owners (maintaining a register of names and contact details), and the operation of a communications and complaints protocol (providing information on key construction events or soliciting information on critical periods of water use) is also recommended.

Taken together, these mitigation measures will reduce the risks to being less than minor.

#### Increased traffic and road safety risks on SH63 and local roads

Changes to the traffic environment in the Valley will occur for two reasons; additional vehicles associated with construction activities, and alterations to the road infrastructure

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<sup>40</sup> If this were to occur, it is likely that it would become evident only after construction was completed - i.e. during the subsequent operational phase of the project.

<sup>41</sup> Keesing, Pers.Comm.

itself, made necessary by the fact that the proposed canal will intersect SH63 at four points along the Valley and intersect local roads at another 10 locations.

Additional vehicles associated with construction activities include workforce transport<sup>42</sup> and heavy vehicles used to transport materials or construction machinery, as described on p.26 of the Transport Assessment prepared by Traffic Design Group (TDG). It is expected that construction traffic will use public roads until the whole canal route has been created, at which time they will use the canal berm road as much as possible rather than SH63.

Most local roads have very few properties along them and therefore carry relatively little traffic. However, these households are most important targets for information exchange regarding changes in traffic patterns at various stages of the construction programme.

During construction of the bridges (SH63 and local roads) over the canal, temporary deviations will be required around the construction sites. TDG assessed the traffic safety effects due to the presence of construction vehicles in the existing road network of the Valley as minor. However, TDG assessed the traffic safety effects due to the construction of new road infrastructure (bridges and deviations) as more than minor. The social effects associated with these changes in the road safety environment are likely to be very localised and relate to personal autonomy over trip choices for households in the vicinity of canal or road construction activities, and perceptions<sup>43</sup> of risk to children<sup>44</sup> and less experienced drivers<sup>45</sup>.

Mitigation of the risks associated with these temporary changes in traffic environment will be addressed through a variety of measures (p.29 of the TDG Transport Assessment), including the preparation of a detailed Construction Traffic Management Plan. While these mitigation measures address the regulatory requirements and refer to consultation and standards associated with various roading authorities, it is recommended that they be complemented by a community liaison and complaints mechanism, aimed at ensuring that residents in the Valley have regular opportunities to make input to the traffic management planning as it progresses during the construction period. In terms of communication channels between the construction contractors and the resident community, it is recommended that there be periodic briefings with children at the Wairau Valley School on traffic changes they can expect to encounter in their neighbourhood, and use of the monthly Wairau Valley Newsletter to provide information and updates on traffic changes to all Valley households.

With such mitigation, the risks are no more than minor.

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<sup>42</sup> Workforce transport between accommodation in Blenheim and the construction sites is expected to occur largely via collective arrangements such as min-vans.

<sup>43</sup> This is a case where perceptions of risk can be powerful influences on people's decisions and behaviours; in other words, it is an example of where perceived effects can have real social impacts.

<sup>44</sup> e.g. young children walking or cycling.

<sup>45</sup> e.g. teenage drivers from local households.

### Increased risk to property and life from grass fires during very dry periods

The increased risk of grass fires in the Valley could arise if the early stages of topsoil removal coincided with particularly dry conditions and long grass. Inadvertent grass fires tend to result from such activities as grass cutting when mower blades strike stones and create sparks. Concern has been expressed that the early stages of topsoil removal during construction earthworks could produce similar circumstances. Even if the probabilities are not high, the consequences for personal safety workers and residents are potentially critical (significant), and the timeliness of response is most important. Furthermore, cigarette smoking on site by members of the construction workforce, unfamiliar with the degree of risk in this rural setting, would also pose such risks. The use of explosives during construction would need to incorporate the fire risk in its planning.

Recommended mitigation needs to focus on both prevention (through workforce induction training about the potential risks, and associated operating procedures) as well as the presence of fire-fighting water resources, also used for dust suppression. Formalised<sup>46</sup> coordination between construction contractors (site managers) and local fire-fighting groups<sup>47</sup> is therefore recommended.

With such mitigation, the risks are no more than minor.

### Increased risk of opportunistic crime at construction sites/depots

Police note that opportunistic crime which occurs in the Valley at the present time tends to revolve around occasional thefts, as described in Section 3.3. The risk of such opportunistic crime could increase if it were perceived that construction sites and depots provided targets attractive to would-be criminals. Police suggested that items such as vehicle batteries and radio-telephone sets or similar might attract such attention, or worker belongings left in minivans or cars during the working day. This effect is assessed as minor.

Nevertheless, workforce induction training and site security provisions controlling access to accredited workforce members are recommended as suitable mitigation, which would reduce such risks to being less than minor.

### Increased demand for accident and emergency services due to the risk of construction-related accidents

Construction-site accidents will require responses<sup>48</sup> from the Wairau Valley Volunteer Fire Brigade as the first line of emergency services and therefore add to its existing load. As noted before in Section 3.3, the Wairau Valley VFB is backed up by the Renwick VFB and the ambulance service from Wairau Hospital in Blenheim, as well as helicopter emergency services from Wellington, Otago or Nelson.

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<sup>46</sup> e.g. exchange of contact details between construction site management and emergency fires services; involvement of fire service personnel in workforce induction, etc.

<sup>47</sup> The Birchill Fire Party at the western end of the Valley, as well as the Wairau Valley and Renwick Volunteer Fire Brigades.

<sup>48</sup> Via the Police Christchurch Communications Centre in response to 111 calls

While the probability (frequency) of construction-site accidents is unlikely to be high, the consequences for victims health or for service providers are potentially critical.

Minimising the additional demands on A&E services will require attention to both prevention and the coordination of resources to respond to any emergency. Prevention will need to focus on systematically identifying all the risks and hazards, and meeting OSH requirements in the Construction Management Plan, ensuring that all levels in the construction workforce undergo suitable induction training on worksite safety, and maintaining high standards of secure access to the construction sites. Certain types of equipment for emergency medical response may need to be maintained at the construction sites. In addition to this, strategic information needs to be assembled and maintained up-to-date for all the emergency services involved<sup>49</sup> in order to minimise response times in the event of emergencies. Such measures together would constitute part of an Emergency Response Plan. It is likely that each site would have its own appointed Safety Officer, and Emergency Services suggest that contact details for site management be provided before construction begins.

Discussions with Wairau Valley VFB and the Blenheim Ambulance Service indicate that with the kind of mitigation measures recommended above, the level of additional demand likely for its services is acceptable and manageable. Experience on other major construction sites in Marlborough indicates a high standard of on-site safety performance. Emergency response staff do not anticipate significant problems, indicating that the effect on service providers will be no more minor with such an Emergency Response Plan in place.

#### **4.4 Operational-phase social effects and issues for the host community**

##### Increased security of electricity supply and higher standards of consumer service

Levels of electricity supply security and service in the Valley are constrained by the existing local distribution network. The existing Branch hydro electric power scheme has been operating nearby for many years but has had no effect on local consumer experience, since this generation source is connected directly to the main national transmission network, not the local distribution grid. The current experience of electricity consumers in the Wairau Valley derives from their situation towards the outer limits of the local distribution network.

Under the new proposal, there will be a direct connection from the new hydro electric power stations into the local distribution network within the Valley and a new Grid Exit Point in the middle of the Valley.

These changes will provide tangible benefits to many households in the Valley in terms of avoiding the interruptions or constraints they currently experience, and providing the basis

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<sup>49</sup> For example, GPS coordinates for each construction site should be held by Communications Controllers and emergency helicopter operators; similarly, Rapid Gate Numbers for the best road access to each construction site should be held by ambulance operators and VFB units. If the construction site is some distance from the main public road, arrangements should be in place to send someone to meet the emergency services on their arrival at a pre-arranged rendezvous.

for some growth in local demand<sup>50</sup>. This is assessed as a more than minor positive social effect expected to be experienced by many households in the Valley.

#### Increased likelihood and increased uptake of irrigation

The primary effect here is the increase in likelihood of broadscale irrigation and the potential for increased uptake of irrigation by present or future landowners. The secondary effects which are likely as a consequence of broadscale irrigation in the Valley encompass a range of social effects for the community as a whole, some of which extend to the wider Marlborough region as well (see Section 4.6).

Regarding the primary effect, farmer interviewees reported that there had been considerable resistance to the initial WWVEC canal proposal largely following the line of SH63 down the entire length of the Valley, except where it would pass through the settlement of Wairau Valley itself. This resistance appeared to focus mainly on the expectation that the landowners would contribute the easements over their land without compensatory payments, as a form of 'community contribution' to the local irrigation scheme. Several aspects of the TrustPower proposal make a potential difference to this. The proposed TrustPower canal is clearly much bigger in physical scale than the proposed WWVEC proposal. However, it also follows a very different path down the Valley. Furthermore, and of particular relevance to this effect, TrustPower brings external capital resources to the negotiations with landholders over canal easements. If TrustPower is successful in its negotiations and in its resource consent applications, then landowners considering irrigation prospects will face much lower entry costs since TrustPower will be paying for the capital and maintenance costs of the canal structure. Thus the unit costs to each landowner for investing in irrigation would be very much lower<sup>51</sup>, leaving more of their own financial resources to invest in on-farm development. Furthermore, the TrustPower canal offers the possibility of pressurised water to some properties, further reducing pumping costs and therefore the operating costs of future irrigation .

Therefore, it is logical to conclude that, if the TrustPower proposal proceeds, the scope for broadscale irrigation becomes certain and the number of properties in the Valley for which irrigation would potentially provide an economic return is significantly increased. This change in likelihood and potential extent is the primary effect.

Discussions with an irrigation consultant, based on experience of land-use change in several other parts of the country<sup>52</sup> that resulted from community-level access to irrigation rather than individual water right-based development, suggest a range of potentially very significant social changes would follow. The diversification of potential land use options under irrigation is the key linkage.

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<sup>50</sup> As noted previously in Section 3.2, there is scope to double the capacity of the local distribution network without adding more transmission structures by doubling the voltage from 11kV to 22kV, which is already being done in some parts of the Valley (Marlborough Lines Company, Pers.Comm.)

<sup>51</sup> As noted in Section 3.2, the difference in entry costs would be of the order of \$700-\$1,500/ha, based on estimates of \$800-\$1,600/ha for the stand-alone WWVEC proposal and \$100/ha with the TrustPower proposal.

<sup>52</sup> e.g. in North Otago, South Canterbury, Mackenzie Basin and North Canterbury. A. McFarlane, Pers.Comm. 2005.

The consequential social effects of irrigation are driven mainly by changes in land use, and the nature of land-use diversification depends on the high value land-use options that may become suitable in a location. Sometimes change will involve intensification of pastoral farming and sometimes it will lead to a change out of pastoral farming in to cropping or horticulture.

Research on previous irrigation schemes in New Zealand has identified a general pattern of successive land use and ownership changes<sup>53</sup>. Land use change typically occurs in three waves. The first wave of existing pastoral farmers improve their traditional base of production, and some older farmers retire in favour of the next generation. The second wave of farmers also stay within the same production system, but invest heavily in irrigation and increase their stock numbers and productivity. Some of these farmers learn that adding irrigation to their existing production base is not compatible, and sell their properties. Those farmers who remain radically change their production base to incorporate intensive arable farming, dairying or horticulture. The third wave of newcomers buy converted farms or directly convert them to another form of production. They are usually dairy farmers by choice and experience and frequently move into the area from an established dairying district.

Several case studies of land use change under irrigation in the Lower Waitaki, Rangitata, and Amuri districts<sup>54</sup> indicate that the following potential social effects can be expected in the Wairau Valley and Marlborough Region:

- more intensive use of existing grazing and arable properties by some current farmers in the valley;
- other current farmers converting their predominantly dryland grazing properties to dairy or irrigated mixed production;
- some older farmers, particularly those with smaller dryland grazing properties, selling to buyers who will convert the properties to dairy or irrigated mixed production;
- an inflow of newcomers to the district to purchase properties and work on dairy and irrigated mixed farms;
- conversion to dairy and irrigated mixed production will generate more expenditure and employment in the region, provide greater access to higher quality jobs for residents, and improve household incomes in the Wairau Valley relative to the rest of the country;
- the present decline in the farming population<sup>55</sup> in the Valley will be arrested leading to strengthened viability of educational, health and other community services in the Valley and the region;
- the age structure of both residents and farmers and farm workers occupational groups in the Valley is likely to become more youthful;
- value conflicts may occur between dryland farmers and dairy farmers because of their different work routines, lifestyles and rates of participation in community activities;

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<sup>53</sup> McCrostie Little and Taylor, 2001

<sup>54</sup> McClintock *et al* 2002; Ford 2002 and Harris *et al* 2004

<sup>55</sup> Note that the farming population has been declining even though the total population is growing.

- participation in community activities and membership of voluntary organisations may decline in the short term as newcomers adjust to their situation, but may strengthen in the long term because of the larger population base.

Access to irrigation water increases the value of rural land, making productive uses competitive with rural sub-division. Based on experience elsewhere, it is possible that up to 50% of farm land in the Valley could change hands within five years. Such changes in land use tend to result in substantial increases in the demand for rural labour. For example, whereas a 500-acre dryland sheep unit will support one labour unit, the same land in irrigated mixed farming will support 2 labour units and the same land in irrigated dairying will support 4.5 labour units. In some instances, 'labour units' translate into 'households'. A feasible increase in the agricultural labour force by a factor of 2 to of 2.5, would bring more young families to live in the Valley and more discretionary income to spend; perhaps one third of the additional farm workforce will be married with children, on average 2 children per household, providing considerable numbers of additional children for the local school in the longer term and new members for the range of social networks and groups that currently exist in the Valley. This has the potential in the long term to arrest the recent decline in roll at the Wairau Valley School, and to increase the demand for other community services in the Valley.

Further regional effects are discussed in Section 4.6.

To conclude, it is the increased likelihood of such changes occurring that is the primary effect of the TrustPower proposal. They have the cumulative potential over the long term to be significant, positive social effects for the Valley.

#### Potential effects on existing users of this stretch of the Wairau River

Within the community in the Valley, the range of recreational pursuits associated with the middle reaches of the Wairau River and its tributaries was described in Section 3.2; they include activities such as picnics, swimming, eeling, fishing, rock collecting, canoeing, duck shooting, exploring, jet boating, mountain biking quad biking and horse riding.

Reference to the findings of the recreational assessment by Hovell Environmental Planning Ltd suggests that the prospects for some of these - jet boating and canoeing - will be marginally reduced. TrustPower has committed to mitigating this loss of recreational amenity by providing improved access to other stretches of the River for boat launching<sup>56</sup>. The recreational assessment concludes that those who enjoy fishing are likely to differentiate their choice of location; more advanced anglers are likely to turn their attention

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<sup>56</sup> As a result of the recreational assessment of the Wairau River from the Wash Bridge to the sea, carried out by HEPL, TrustPower has incorporated two specific recreational amenity areas into the design of the proposed works. Towards the western end of the proposed scheme, the regulating pond at the Wairau tailrace will be a new recreational and wildlife amenity area. Similarly, at the eastern end of the proposed scheme, the river outfall recreational area will be created. While these new recreational amenity areas are not targeted solely at local recreational users, residents of the Valley will be the closest potential users. As noted previously, the number of points of public access to the stretch of the Wairau River covered by the scheme is relatively limited. Given the fact that some residents of the Valley already use the existing Argyle Pond recreational area and described it as a valued amenity, it is highly likely that local residents of the Valley will be amongst the users of these proposed recreational amenity areas.

further upstream, while novice anglers will still be well catered for in the middle reaches of the River. The recreational assessment concludes that the prospects for all the other recreational activities will either experience little change or may even be enhanced. In all cases, the net effect is assessed as minor.

#### Uncertainty concerning potential effects on existing users of tributary streams and ground water wells

When TrustPower begins abstracting up to 35 cumecs of water into its canal scheme, there is the potential for groundwater effects along the margins of the Wairau River in the zone most influenced by River flows (refer to Figure 5.4.1B of the AEE). At the same time, the presence of the canal may influence groundwater levels nearby, since the canal is not totally impervious and water can migrate between canal and surrounding groundwater. Some sections of the canal will be above the adjacent groundwater level, resulting in the potential for mounding of the groundwater, while other sections of the canal will be below the adjacent groundwater level, resulting in the potential for draw-down. These zones of influence are also shown in Figure 5.4.1B.

Changes in groundwater levels could affect water flows in streams and wells, from which some residents in the Valley draw water for a variety of essential uses (domestic, farming stock or crops, organic salmon farming, etc.). Such changes might produce effects which are critical in times of water shortage. The areas of greatest concern are on the lower terraces along the southern margins of the Wairau River, where a number of landowners have their own rights to take water.

There is some uncertainty surrounding the extent of such potential changes in groundwater and the precise boundaries of these effects. It is however likely that effects may be deleterious in some locations but beneficial in other locations.

TrustPower has committed<sup>57</sup> to monitoring water levels in potentially affected streams and wells, starting before any construction has occurred and continuing during construction and into the operational phase of the proposed project. If it is discovered that water levels are changing as a result of TrustPower's water abstraction, then mitigation will be provided in the form of alternative supplies of water, either from the canal itself, or from lowering pumps, digging deeper wells or transferring water from locations of surplus to locations of deficit. Quality considerations will also be critical for some users<sup>58</sup>.

Liaison with downstream property owners (maintaining a register of names and contact details), and the operation of a communications and complaints protocol (soliciting information on critical periods of water use) is also recommended. This is akin to the Mill Stream Water Users Group which has been existing for several years, with participation by Marlborough District Council.

Such mitigation measures will ensure that existing users of groundwater and stream water are not disadvantaged by the proposed hydro scheme's operation.

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<sup>57</sup> This includes written letters of agreement to individual landowners.

<sup>58</sup> e.g. those using water for household consumption or those dependent on certified quality in order to maintain organic production status.

### Improved flood protection

Several landowners downstream of the proposed canal outfall suggested that the outfall structure is likely to afford a degree of improved flood protection for south bank properties, when compared with the level of protection currently experienced from willows and other vegetation. While this is possible, it is likely to be only a minor effect.

### Improved access to emergency water supplies for fire fighting

The existence of the canal will mean that ample water supplies would in future be available along the length of the Valley, with scope for planning additional off-take points along the Valley if the community wishes to negotiate these. It should be noted that TrustPower undertakes to provide off-take points at 1 km intervals along the length of the Valley.

While the frequency of use will not often be high, the knowledge of secure water supplies is a critical benefit in terms of reduced risks of negative outcomes in the event of fires and increased certainty of response - an effect that is positive and more than minor.

### Changes in visual amenity

In discussing potential changes in visual amenity values which will result from the proposed hydro electric power scheme proposal, residents referred to three aspects: potential changes resulting from the canal, the power stations and transmission lines.

#### *The canal*

With the exception of several kilometres between Hillersden and the settlement of Wairau Valley where the canal will be close to SH63, and the two locations where the canal actually crosses SH63<sup>59</sup>, the alignment of the canal takes the structure away from most public viewpoints. For properties where dwellings will be close to the canal, the completed structure will replace familiar elements of landscape. In a few instances, the canal will occupy a central part of the main view from dwellings; in some other instances, the canal will pass behind the dwellings. In much of the more densely populated eastern end of the Valley, the canal will be hidden from view where it passes through the foothills. For much of its length, the canal will be a minor visual element - *"it will have quite a benign influence in the long run"*. For some, it will offer a permanent water feature and an opportunity for planting. One interviewee noted that TrustPower had agreed to terrace the bank of the canal to assist with this.

#### *Power stations*

The visual effects of the power stations elicited very little comment during the assessment interviews. Four of the five new power stations will be located in the western end of the Valley, which is most lightly populated. Furthermore, three of these will be located some distance from SH63 and therefore not visible to many people unless an effort is made to visit them. By and large, residents are familiar with the style of structure proposed as most have seen the existing Argyle Pond power station.

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At the western end just upstream of Power Station 1 and at the eastern end just downstream of Power Station 5

### *Transmission lines*

The potential for new transmission lines elicited concerns from a number of those interviewed. However, the only new lines associated with the hydro electric power scheme itself will use the existing Marlborough Lines Company distribution corridor<sup>60</sup>, and only in the western end of the Valley between Power Station 1 and Power Station 4, an area where there are relatively few dwellings compared with the eastern end of the Valley. This area of the Valley also has far fewer lifestyle residents, who generally were more likely to express concerns over the threat to visual amenity from transmission lines than members of the farming community.

It is also noted that the assessment of visual, landscape and natural character effects carried out by Boffa Miskell Ltd concluded that such effects will be no more than minor.

### Permanent changes in farm management

These effects are very similar in character and range to those referred to under construction-phase effects on existing farming practices (see Section 4.3). They relate to the fact that the canal permanently reduces the amount of land available for farming to a finite extent; it also physically divides farming properties. As was the case then, the permanent impact on farmers' autonomy and working environment may in some instances be substantial but will have been rendered acceptable in terms of the negotiated property agreements, and the specific mitigation measures they contain will result in no more than minor resulting effects.

### Changes in the way farm households enjoy their properties

If the TrustPower proposal proceeds, several farming properties will have the canal pass close by their dwellings. The physical environment that forms their everyday outdoor living space and recreational space may therefore be changed substantially. Some households may find themselves in close proximity to the canal or having to cross the canal whenever they venture out to enjoy their property. Some households will experience this to a far greater extent than others. Nevertheless, this is an effect that will have been rendered acceptable as a result of negotiations with TrustPower. In some cases, the changes may even result in the minor positive effects of enhanced amenity.

### Concerns about home and personal security and privacy

Sections of the proposed canal will pass through approximately 60 properties in the Valley. Maintenance of the canal will require the construction of access roads alongside the canal. As such, it provides a potential access route to these properties, either water-borne or over land. A number of those interviewed for this assessment expressed concern as to how public access to their properties via the canal would be restricted so as to maintain their existing levels of privacy and personal security.

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<sup>60</sup> Figure 3.4.3A indicates that a new 33kV overhead transmission line will be constructed over the top of existing 11kV overhead distribution lines. Figure 3.4.3B shows an example of such an arrangement.

Another factor which needs to be remembered when considering security provisions is the need for farmers to gain access when moving stock and carrying out other normal farming practice.

In general it is expected that public access to most sections of the canal will be restricted by fences, gates, locks and signage. TrustPower has already committed to two substantial new areas of recreational amenity as part of the scheme; one towards each end of the Valley. Hence the pressure for public access to other parts of the canal system should not arise. Taken together, these mitigation measures will result in a situation where the social effects are likely to be no more than minor.

It is recommended that this situation be subject to monitoring and review, in case additional measures are required or in case there are changes in residents' expectations for public access. Such monitoring and review activities are discussed later in Section 5.

### Equity issues

Two sorts of equity issues were raised during the interviews, and also at the public meeting in Blenheim<sup>61</sup>. They are (1) that general community benefits may result but at particular costs to some individuals; and (2) the balance of benefits between Wairau Valley/Marlborough and external consumers and shareholders over the benefits to be derived from the use of a regional resource - some of the water in the Wairau River.

The first is an issue that has been alluded to at several points already - in connection with specific effects such as the disruption to farming operations during construction, or the changes in the way households will enjoy their properties once the canal has been constructed. It has been noted that some individual property owners will experience exceptional levels of change in order that the community at large may enjoy the benefits of the proposed scheme (both electricity and irrigation related benefits). It has also been noted that TrustPower has committed to negotiating property settlements for each property. While the distribution of costs and benefits may not be evenly distributed across all landowners in the Valley, the negotiated outcomes allow each landowner to establish terms that are acceptable to them. From a community perspective, this should result in a social effect that is no more than minor. That is to say, voluntarily negotiated outcomes should not leave any party unduly disadvantaged or advantaged.

The second is an issue that was raised both within the Valley and also for the District as a whole, reflecting the importance of the Wairau River as a District resource. Two aspects of this issue appear to be at the root of public concerns. The first is that the electricity generated from these proposed power stations will be distributed to feed the demands of consumers in other parts of the country, rather than used to provide local and regional benefits. The second aspect is a perception that an inordinate level of profit from TrustPower's electricity generating activities will benefit foreign shareholders rather than New Zealanders or Marlborough residents. In respect of the first aspect, TrustPower representatives have pointed out that the grid connections for the new proposal are different from the existing situation. Power Stations 1-4 will have a new connection into the Marlborough Lines Company's district reticulation network, while Power Station 5 will be

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<sup>61</sup> The second issue was raised during a Q&A session at the public meeting in Blenheim on Thursday 13 October.

connected directly to Blenheim. This contrasts with the present situation in which the Branch River hydro electric power scheme connects directly into the national grid. In respect of the second aspect, TrustPower representatives pointed out at a public meeting in Blenheim<sup>62</sup> that the company is ~75% owned by New Zealand shareholders (some of whom live in the north of the South Island) and the board of directors consists entirely of resident New Zealanders. Consequently, the social effect is assessed as minor.

#### 4.5 Construction workforce effects

The construction workforce expected for this project will be of the order of 200 people over a period of ~24 months<sup>63</sup>. These 200 include 20 salaried staff in engineering and construction management, 20 working foremen, 50 skilled labourers, 60 vehicle and plant operators, and 50 unskilled labourers<sup>64</sup>. A project workforce of this scale is comparatively large for a single infrastructure project in the Marlborough region<sup>65</sup>, reflecting TrustPower's preference to develop the Scheme as a single construction exercise involving multiple construction sites simultaneously, as noted in Section 1.6. Furthermore, a large proportion of this workforce will come from outside the region, estimated at ~75%<sup>66</sup>. This takes into consideration the capacity of the resident construction workforce as well as the possibility of other construction projects that might be underway at the same time.

While this incoming workforce is large compared with other single infrastructure projects, it is not large compared with the itinerant workforce which comes to Marlborough to work in the wine industry<sup>67</sup>. However, the incoming construction workforce is likely to be different in several respects. About 20 (i.e. 10% of the total workforce) are likely to be salaried professionals and managers, many of whom will have families. A substantial proportion of the site foremen and skilled plant operators are also likely to have families, being older and more experienced workers. On the other hand, unskilled labour on the construction sites is most likely to comprise single men.

Given the above scenario, the range of potential social effects associated with the construction workforce includes effects on labour demand and the regional construction and fabricating sector, effects on the accommodation market, effects on the demand for social services and primary health services in particular, effects of workforce expenditure within the region, and effects associated with after-work recreational and leisure behaviours of workers.

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<sup>62</sup> Meeting held in Blenheim on Thursday 13 October 2005.

<sup>63</sup> Graeme Boyd, Pers.Comm.

<sup>64</sup> Estimates provided by economic consultant.

<sup>65</sup> By comparison, the port development at Shakespeare Bay in 1999 involved a workforce of up to ~30 workers over a fifteen month period (50% coming from outside the region) while the Awatere Bridge replacement project due to start in January 2006 is expected to have a workforce of between 20 and 30 workers over the next two years.

<sup>66</sup> Philip Donnelly, Pers.Comm.

<sup>67</sup> Also estimated anecdotally in the hundreds of workers, and expected to grow substantially in the near future in order to service the new areas of vines currently and recently planted.

All these potential effects point to the wider region as being the appropriate community of interest within which to assess the effects, rather than the immediate host community, as defined. Very few if any of the region's construction workers are living in the Valley at the present time, although there may be locally-resident contractors interested in tendering for work in support of the construction activities.

There is little rental accommodation capacity in the Valley. Census data in 2001 showed that 24% of the occupied dwellings in the Valley were rented<sup>68</sup>. However, numerous interviewees indicated that rental accommodation in the Valley is fully subscribed, and is never vacant for long when tenants move on. Nevertheless these data indicate that there may be some opportunities for those who do have rental accommodation to derive increased financial returns for the period of the construction activity.

There are no primary health services based in the Valley, whose residents access such services in Blenheim. Families bringing additional children to the Wairau Valley School would help to address the recent decline in pupil numbers. However, a small school such as the Wairau Valley 3-classroom school may find it more difficult than larger schools in Blenheim and Renwick to cope with fluctuating rolls if pupils do not stay for long - the so-called 'boom-bust' phenomenon which is often associated with construction projects.

Opportunities for after-work recreational and leisure pursuits do exist in the Valley (e.g. the golf course and the pub, and outdoor recreation on the river) but they have limited capacity to absorb more than a small proportion of the external workforce without the risk of causing displacement of locals and tensions between the residents and non-residents. This is not to say that some level of local (i.e. in the Valley) recreational activity by the workforce would not be acceptable and beneficial.

The nature and location of the social effects listed above will depend on how and where members of the workforce choose to find their accommodation, or where specific provision might be made for their accommodation.

While not wishing to preclude individual members of the workforce and individual accommodation providers from taking advantage of the opportunities that might exist in the Valley, we would recommend that any organised initiatives in relation to workforce accommodation be focused on Blenheim and the wider region. Furthermore, regional social benefits will be enhanced if efforts are made to maximise the recruitment of construction workers from within the region.

#### Effects on regional construction sector firms and workers

Given the assumptions outlined above, it is estimated that ~50 local jobs will be created in the construction industry; equivalent to ~5% of the regional construction workforce, or double the workforce of a typical infrastructure project. This potential order of magnitude for local recruitment is reinforced by expressions of interest in tendering for construction work.

The economic consultants expect that the degree of overlap between skills required and skills available regionally will result in minimal inflationary pressure on sector wages.

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<sup>68</sup> 39 out of 162 total occupied dwellings.

Wherever practicable, regional social benefits from the construction workforce would increase to the extent that local labour and contractors are used<sup>69</sup>. Hence it is recommended that TrustPower or its lead construction contractor establish a position of workforce liaison responsible for liaising between regional contractors and Work and Income NZ to maintain updated information on project workforce requirements and timing, and the status of the regional labour market, particularly individuals with appropriate skills who might be transitioning between jobs.

This is a significant positive, although temporary, social effect.

#### Effects on the regional accommodation market

Around 80 kilometres (or a hour's driving time) is considered the maximum distance that people will travel between their residence and workplace, and similar distances have been used for social assessments of the Globe Progress Mine at Reefton (90 km) and Project Aqua in the Waitaki Valley (85 km). In the context of this project proposal, 80 kilometres would incorporate the main nearby towns of Blenheim and Renwick and their hinterland, and in which the bulk of existing rental accommodation capacity is located.

The effects arise from the need for medium to long term rentals associated with a two-year construction period. Marlborough has plenty of rental accommodation; the potential effects arise from the possible lack of availability at the time required. This might pose a risk to the project construction schedule unless pro-active measures are taken to arrange accommodation, if the current tight situation for rental accommodation persists.

Various sector operators interviewed expressed the view that workers with families would have less difficulty obtaining rental accommodation than single workers. Furthermore, given the differential in wage rates between construction workers and itinerant wine industry workers, there is little likelihood of competition between these two groups for the same standard of accommodation.

Options exist to be pro-active in planning for sufficient workforce accommodation, if this should prove necessary. For example, several real estate companies manage large portfolios of private rental accommodation. Timely approaches to them would improve the chances of sufficient accommodation for married workers or workers with families. It is recommended, if a coordinated approach is adopted, that where practicable, the construction workers and their families should be dispersed around the Blenheim/Renwick area (see effects on social services below).

For single workers, one strategy that has become evident in recent times is for companies to contract for complete motel complexes and then sub-let units to workers. This would be beneficial for motel owners who experience periods of lower occupancy. Blenheim also has several motor camps which provide a range of short-term accommodation types, with some possibility for medium-term arrangements, although current occupancy patterns leave little scope for accommodating a large group of workers for six months of the year, between November and April. Two of the motor camps expressed interest in negotiating medium-

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<sup>69</sup>

e.g. rental accommodation pressures reduce, more of the region's existing households have household expenditure supported by the project, additional pressures on health services are minimised, risks of anti-social behaviours are reduced.

term arrangements, and one was prepared to consider investment in increased capacity if there is sufficient certainty and lead time to plan for this. Alternatively, the lead construction contractor could consider entering into a joint venture to develop accommodation facilities in or near Blenheim which could be used for workforce accommodation during the construction period and then be used for back-packer accommodation thereafter.

In summary, the arrival of ~150 workers from outside the region will create significant benefits for a range of accommodation providers, and they could experience additional benefits if rents increase as a result, as suggested by the economic assessment. This indicates that another effect on the regional accommodation market is that others seeking rental accommodation at the same time will encounter longer waiting lists and/or higher rents, the outcome of a constrained accommodation market.

#### Effects on primary health services and schools

Access to primary health services (e.g. medical centres) in the Blenheim/Renwick area is highly constrained at the present time. Enquiries indicated that all medical centres have closed books, leaving no options for health services apart from accident and emergency services at the hospital, for anyone who is not already enrolled.

This situation creates a potentially more than minor risk to the health status for incoming workers and their families if they are without access to medical services, except when their medical conditions have reached the stage of requiring emergency treatment. This situation needs to be addressed pro-actively. There is also potentially a minor effect on existing medical centre clients if medical centres take on additional clients without the corresponding personnel resources.

It is recommended that TrustPower or its lead construction contractor enters negotiations with the District Health Board to ensure that workforce members and their families are able to access primary health services during the construction period.

With such mitigation, this effect will be no more than minor

The other main 'social' service of interest to families of incoming construction workforce members will be schooling. The Blenheim/Renwick has 12 state primary schools, one intermediate school and separate secondary schools for girls and boys. Nine of the 12 primary schools have rolls considerably larger than the Wairau Valley school roll of ~60, ranging from 130 to 380.

Enquiries with the Ministry of Education indicate that very few if any schools in the Blenheim/Renwick area operate enrolment schemes, designed to limit pupil numbers to those living within specified areas. Furthermore, government funding follows pupils if they move from another area or school. If additional pupils are enrolled at any school, the school must apply for additional funding to the Ministry and this will be provided once evidence of increased pupil numbers has been established. With an incoming workforce dispersed around the Blenheim/Renwick area, the Ministry expects no more than minor adjustment effects at any school, while funding arrangements are made. In general, they expect that increased funding from having additional pupils in a school would bring benefits of more discretionary expenditure.

As noted previously, larger schools are also better able to cope with boom-bust fluctuations in roll numbers, which might arise with a temporary workforce.

#### Effects of retail spending by the construction workforce

The region's retailers stand to benefit for the duration of the construction period from the household retail expenditure of the incoming workforce.

This is a minor positive effect (incorporated quantitatively in the economic assessment of indirect effects).

#### Effects on the after-work social environment

There is potential for social disorder and tensions to arise between incoming workers and members of the resident community outside of working hours; for example, in pubs and clubs when workers are away from their familiar social networks for extended periods of time.

Police note that at the present time, half of all arrests for anti-social and disorderly behaviour and dishonesty involve itinerant workers coming to the region to find casual work, a situation that has changed markedly just in the past two years<sup>70</sup>. While the demographic characteristics are likely to be different between the itinerant wine-industry workforce and the temporary incoming construction workforce, it would be naive to ignore the potential for this social effect to occur. Furthermore, the social effects for the resident community would be more noticeable in a small rural community like Wairau Valley than in a regional centre like Blenheim. To minimise such risks is a major reason for recommending the avoidance of temporary housing initiatives for single workers in the Valley and encouraging, where practicable, the dispersal of the construction workforce accommodation in the Blenheim/Renwick area.

The Police point out that responsibility for patron behaviour in pubs and clubs rests with venue managers as part of their liquor control and host responsibility. Nevertheless, the Police maintain a general liaison with such leisure venues.

With sensible precautions - for example, liaison between out-of-town workforce contractors and the Police, the scope for minor incidents can be minimised or avoided altogether.

#### **4.6 Overview of social effects and issues within the wider Marlborough community**

Note that the construction workforce effects discussed in the previous section occur largely in the wider Marlborough region.

In summary the operational-phase social effects and issues identified during this social impact assessment for the wider Marlborough community are:

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<sup>70</sup> Police Intel Section, Pers.Comm

- increased electricity security for consumers in the region due to increased levels of regional electricity generation;
- effects on existing regional recreational users of the stretch of Wairau River between the intake and outfall (refer to Hovell Environmental Planning Ltd's report);
- safety issues for students in Nelson-Marlborough Institute of Technology's Outdoor Recreation course associated with training activities in the Wairau River and the take-out point close to the proposed intake location;
- flow-on effects to regional providers of agricultural and horticultural services from the increased likelihood and increased uptake of irrigation in the Valley;
- equity issues - it's our River, our water.

#### Security of electricity supply for regional consumers

Prior to this proposal, security of electricity supply to the District has been totally reliant on bringing electricity from power stations in other parts of the country via the national grid, operated by Transpower. In the past, interruptability clauses in supply contracts were close to being invoked<sup>71</sup> when peak demands in the District approached Transpower's grid capacity.

This proposal will create direct connections between the new power stations and the local and District distribution network, operated by the Marlborough Lines Company. Even though the new installed capacity will not meet the entire Districts electricity demands, it will provide greater security to all regional electricity consumers against the risk of long-distance transmission constraints. For residential consumers this translates into reduced risks of loss of service. For commercial consumers, it translates into reduced business risks and therefore improved certainty for the associated employees and their jobs and livelihoods.

The magnitude of these risks, which would be mitigated by the increased security of local generation, may not be large at the present time. However, these risks are growing every year, due to the above-average rate of resident population growth in the region and the above-average rate of economic and employment growth in the region - both factors which drive increases in electricity demand. Nevertheless, the effect of increased security of regional electricity supply is assessed at the present time as minor and positive.

#### Effects on existing regional recreational users of Wairau River between intake and outfall

This is covered in full detail by the recreation assessment conducted by Hovell Environmental Planning Ltd (HEPL). Results will not be repeated here but can be found in the AEE document in Volume 3(A) of the Appendices.

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<sup>71</sup> Information from G. Purches (TrustPower) to the public meeting in Blenheim, 13 October 2005.

### Safety issues for students using the Wairau River for outdoor recreation training

Only two educational establishments responded to HEPL's survey of recreation use that they make regular use of the middle or upper reaches of the Wairau River for educational purposes. Nelson Marlborough Institute of Technology's Blenheim Campus was one and the Wairau Valley School was the other.

Discussions with NMIT staff involved in the one-year Outdoor Recreation training course noted the regular use of the River between the Wash Bridge and the proposed Intake point for TrustPowers water take. Their usual take-out point for rafts or kayaks is near the proposed inlet structure. This take-out point is important because it is the last time the river comes over to the south bank (true right bank) for a long stretch, making access difficult at other parts of the River further downstream. As a result, they make little use of the middle reaches of the River. Their observations reinforce that few others use this stretch of River for boating or rafting either.

Discussions with the recreation consultant confirm that the traditional take-out point for these students will remain safe and accessible. Furthermore, land-side access will be facilitated by a construction track to which controlled access can be negotiated.

The resulting social effect is minor and positive.

### Flow-on effects to regional providers of agricultural and horticultural services from the increased likelihood and increased uptake of irrigation in the Valley

Section 4.4 described one operational-phase effect of the proposed hydro electric power scheme in the Valley as the increased likelihood and increased uptake of irrigation in the Valley. The discussion at that point elaborated on the potential social effects that will be experienced in the immediate host community of Wairau Valley. However, there are additional indirect social effects from this that will be experienced in the wider region.

Changes in land use of the area serviced by the irrigation scheme are likely to have flow-on effects for local business enterprises as well as for firms in Blenheim and other centres in the region. Additional sales will allow firms to expand their activities and employ more staff. A study of the intra-regional expenditure of Canterbury farmers (Agriculture New Zealand Ltd 2001) found that farmers commonly purchase the majority of direct inputs as close to the farm as possible, while services (both professional and semi-skilled) and capital items are purchased in Christchurch and Ashburton. There can be a lag effect as local firms adjust to the supply of new irrigated farming systems. They may be unable to take full advantage of these new opportunities as farmers look further afield for equipment and services (including irrigation machinery, building contracting and veterinary supplies), potentially reducing the level of indirect regional benefits derived from the increased agricultural production. Marlborough also has an important vegetable processing facility in the region. In recent years, vegetable crops have increasingly been sought from irrigated cropping areas in other parts of the South Island. Existing irrigated cropping in the Wairau Valley has demonstrated its feasibility.

Overall, the social effect on indirect regional employment is assessed as minor and positive.

### Equity issues

See Section 4.4.

## 5 MITIGATION, MANAGEMENT AND MONITORING

Much of the detailed mitigation for specific effects had already been proposed prior to the SIA activities. However, the SIA work has resulted in some additional recommendations relating to specific social effects. The table on the following pages summarises the social effects identified and collates them with the associated mitigation measures, some of which had already been offered by TrustPower, and some of which arise from this SIA.

The effectiveness of mitigation measures often rests upon good communication channels between various interests. For this reason, it is recommended that a Community Liaison Group be established if consents are granted, comprising representatives of the main interests in the Wairau Valley residential community. The primary focus of such a Community Liaison Group (CLG) would be to provide an active, on-going forum for the exchange of information between the community, TrustPower and TrustPower's construction contractors. Its specific functions could include (1) building effective working relationships and mutual trust, especially during construction; (2) promoting the flow of information in all directions between the parties involved, in order to try to anticipate and resolve any potential issues before they arise; (3) evaluating monitoring activities and results on a periodic basis; (4) overseeing a pro-active Community Complaints Procedure, ensuring appropriate responses are forthcoming, and thereby maintaining the confidence of all parties in the effectiveness of such a procedure; and (5) recommending any changes to proposed mitigation measures that might be appropriate in light of the monitoring.

Some measures to avoid or mitigate potential adverse effects will be developed at a later stage, if consents are granted. These are the kinds of detailed measures which would normally be contained in a Construction Management Plan, a Construction Traffic Management Plan, or an Emergency Response Plan to address construction-site emergencies. Such plans are usually evolving documents, initiated before construction begins and adapted periodically during the construction process if necessary. It is likely that community input and local knowledge would contribute positively to such planning activities. Given this, it is recommended that the CLG be consulted during the preparation of these documents, and periodically during the implementation of these plans.

Some of the potential effects of the proposal are difficult to predict with certainty; therefore they require monitoring. The CLG should provide an audit function of the monitoring results, on behalf of the community.

The value and effectiveness of CLG-type arrangements has been demonstrated in several other infrastructure projects in other parts of the country - for example, for the Redvale regional landfill north of Auckland, the Canterbury regional landfill at Kate Valley, north of Christchurch, and the Ashburton District Council's waste water treatment plant.

Besides the CLG, this social impact assessment has recommended several points of pro-active liaison or negotiation to address specific risks or social effects - for example, with emergency services, the District Health Board, rental property managers, and the Police.

<b>Social effect</b>	<b>Degree of effect <u>prior to mitigation</u> (distribution, likelihood and level of significance)</b>	<b>Recommended management and mitigation of the effect</b>	<b>Degree of effect <u>after mitigation</u> (level of significance)</b>
<b>Construction-phase effects:</b>			
Canal construction effects on farm management practices	- likely to affect farming properties through which the canal will pass (up to ~60); - significant effect on farmers' autonomy and working environment	TrustPower has committed to re-positioning property fences, gates, access-ways and other farming infrastructure in order to maintain farmers' abilities to continue their farming operations. TrustPower has also committed to avoiding construction disturbances during lambing, a measure that will require close coordination with individual farmers.	Minor adverse
Disruption to property access	- the canal will intersect access roads on 5 properties in the Valley; - significant effect on farmers' autonomy and working environment	TrustPower has committed to providing bridges to preserve existing levels of access to each of these properties.	Minor adverse
Nuisances associated with dust, noise and unpleasant odours during construction	- likely to affect up to 28 dwellings within 300m of the canal route; - potential for transient but significant effects on the physical environment, working environment, autonomy and personal health of occupiers	TrustPower has committed to a range of nuisance-specific mitigation measures. In many cases, these will constitute part of the negotiated agreements with individual property owners: - for noise: e.g. restriction on hours of construction; temporary noise barriers, etc.; - for dust: e.g. restriction on activities in windy conditions, use of water carts and sprays, etc.; - unpleasant odours: landowner liaison over locating buried offal pits; In situations where such measures are considered likely to be inadequate, alternative temporary accommodation will be negotiated between TrustPower and the affected residents for the duration of the relevant construction period; - establishment of a community liaison mechanism and complaints protocol to support adaptive management	Minor adverse
Risk to water users from reduced water quality of streams due to canal construction	- streams with potential for risk identified as Excell, Huddleston and Mill Streams; - potential for more than minor effects on essential services	- channel existing streams underneath the canal so that they continue to flow along their historical paths; - sediment-laden run-off in the vicinity of construction activities will be minimised through good-practice measures contained in a Construction Management Plan and subject to monitoring of construction activities by the Council.	Less than minor adverse.

Social effect	Degree of effect <u>prior to mitigation</u> (distribution, likelihood and level of significance)	Recommended management and mitigation of the effect	Degree of effect <u>after mitigation</u> (level of significance)
Increased traffic and road safety risks on SH63 and local roads during construction	- associated with alterations to the existing road infrastructure where the canal crosses SH63 at 4 locations - more than minor effects on personal/household autonomy; - associated with the presence of construction-related vehicles - minor	- construction-related traffic movements and new roading infrastructure to standards set by Road Controlling Authorities; - preparing and updating a Construction Traffic Management Plan (CTMP); - establishment of a community liaison mechanism and complaints protocol to provide community input to the CTMP; - periodic briefings to children at Wairau Valley School and regular use of the Wairau Valley Newsletter to keep residents informed of forthcoming changes in traffic environment.	Minor adverse or less.
Increased risks to property and life from grass fires in dry periods	- probability not high but consequences for personal safety potentially critical (significant);	- workforce induction training and procedures; - planning for fire-fighting water resources; - coordination between construction management and local emergency services (Volunteer Fire Brigades)	Minor or less.
Increased risk of opportunistic crime associated with construction sites and depots	- credible, but likely to be episodic; - minor effect on workplace environment	- workforce induction training; - site security measures; - establish and maintain liaison between site managers and police	Less than minor adverse
Increased demand for accident and emergency services due to the risk of construction-related accidents	- probability may not be high but consequences potentially critical for worker health;	- preparation of a Construction Management Plan; - workforce induction training on worksite safety; - site security measures; - require preparation of Emergency Response Plan by the contractor(s), including on-site emergency equipment requirements, important contact information, site location information updated regularly, etc.	Minor adverse
Construction workforce effects on labour demand and the regional construction sector and related sectors	- positive for locals who are employed, and associated contractors and sub-contractors	- maximise use of local labour by establishing a workforce liaison person responsible for liaising with regional contractors and also with Work and Income NZ to maintain updated information on project workforce requirements and timing and the status of the regional labour market, particularly individuals transitioning between jobs	Significant positive but temporary

Social effect	Degree of effect <u>prior to mitigation</u> (distribution, likelihood and level of significance)	Recommended management and mitigation of the effect	Degree of effect <u>after mitigation</u> (level of significance)
Incoming construction workforce effects on accommodation market	<ul style="list-style-type: none"> <li>- significant benefits to some accommodation providers;</li> <li>- potential risk to meeting project schedules, extending the duration of the construction period;</li> <li>- potential negative effects on some groups wishing to access rental accommodation over the same period</li> </ul>	<ul style="list-style-type: none"> <li>- purchase or rent houses for salaried staff and their families in Blenheim;</li> <li>- liaise with existing providers of short-term accommodation or any party<sup>72</sup> interested in building worker hostel accommodation to expand regional accommodation capacity for single workers</li> <li>- in general, where practicable, disperse construction workers (and their families) around the Blenheim/Renwick area</li> </ul>	Mixed (i.e. some positive and some negative)
Incoming construction workforce effects on health services and schools	<ul style="list-style-type: none"> <li>- potentially more than minor effect on the health aspect of wellbeing for incoming workers and their families;</li> <li>- minor effect on accessibility for existing medical centre clients;</li> <li>- minor adjustment effects for schools</li> </ul>	<ul style="list-style-type: none"> <li>- TrustPower or its lead construction contractor enters negotiations with the District Health Board to ensure that workforce members and their families are able to access primary health services during the construction period</li> </ul>	Minor adverse
Increased retail spending by construction workforce	<ul style="list-style-type: none"> <li>- minor, positive</li> </ul>	N/A	Minor positive.
Incoming construction workforce effects on after-work social environment	<ul style="list-style-type: none"> <li>- risk of social friction/tensions in leisure venues</li> <li>- potentially significant if large numbers of single labourers accommodated in the Valley;</li> <li>- potentially more than minor if large numbers of single labourers accommodated in other parts of the region</li> </ul>	<ul style="list-style-type: none"> <li>- avoid temporary housing initiatives in the Valley;</li> <li>- where practicable, disperse the construction workforce in the Blenheim area;</li> <li>- ensure adequate standard of accommodation for single workers (associated recreational facilities preferred)</li> <li>- establish liaison between workforce contractors and Police</li> </ul>	Minor adverse

<sup>72</sup>

e.g. parties who might be interested in using the same accommodation subsequently for backpacker accommodation, industry worker accommodation

Social effect	Degree of effect <u>prior to mitigation</u> (distribution, likelihood and level of significance)	Recommended management and mitigation of the effect	Degree of effect <u>after mitigation</u> (level of significance)
<b>Operational-phase effects:</b>			
Increased electricity security and higher standards of consumer service	<ul style="list-style-type: none"> <li>- likely that many electricity consumers in the Valley will experience improved security of supply and standards of service;</li> <li>- some scope for increased electricity demand within the Valley to be met;</li> <li>- likely to reduce (but not eliminate) the risk posed by long-distance transmission constraints for electricity consumers elsewhere in Marlborough;</li> </ul>	N/A	More than minor positive
Increased likelihood and increased uptake of irrigation throughout the Valley	<ul style="list-style-type: none"> <li>- the scope for broadscale irrigation throughout the Valley becomes certain;</li> <li>- increases the number of properties in the Valley for which irrigation would provide an economic return;</li> <li>- long-term land-use change and increase in resident population, particularly younger households with dependent children, increasing support for the WV School and for other local social organisations;</li> <li>- increased demand for rural services in Marlborough resulting from higher production levels in the Valley;</li> <li>- higher levels of disposable household income to be spent (partly) in the regional economy.</li> </ul>	N/A	Significant positive, long-term and cumulative
Effects on existing users of Wairau River and tributaries (for recreation and for essential services of domestic, stock water, crop irrigation, organic production)	<ul style="list-style-type: none"> <li>- for recreational effects, refer to the assessment by Hovell Environmental Planning Ltd;</li> <li>- uncertain changes in ground water levels due to abstraction from the River or leakage from the canal - negative effects in some locations and positive effects in other locations;</li> <li>- effects most likely for a small number of landowners on the lower terraces along the southern margins of the River;</li> <li>- potential for effect to be individually more than minor and mixed;</li> <li>-degree of effect is uncertain;</li> </ul>	<ul style="list-style-type: none"> <li>- TrustPower has committed to monitoring water levels in potentially affected streams and wells;</li> <li>- mitigation will be provided in the form of alternative supplies of water, either from the canal itself, or from lowering pumps, digging deeper wells or transferring water from locations of surplus to locations of deficit;</li> <li>- establishment of a community liaison mechanism and complaints protocol to support adaptive management;</li> </ul>	Minor and mixed (i.e. some negative and some positive)
Improved flood protection for south bank properties downstream of the canal outfall	<ul style="list-style-type: none"> <li>- possible;</li> <li>- less than minor positive</li> </ul>	N/A	Less than minor positive

Social effect	Degree of effect <u>prior to mitigation</u> (distribution, likelihood and level of significance)	Recommended management and mitigation of the effect	Degree of effect <u>after mitigation</u> (level of significance)
Improved access to emergency water supplies for fire fighting	- certain presence of water in the canal and access to water off-takes at 1 km intervals along the Valley; - probability of use not high but consequences potentially critical/positive;	N/A	More than minor positive.
Changes in visual amenity due to the presence of canal, power stations and transmission lines	- canal (passing through ~60 properties) will be a benign visual feature; by some landowners viewed as having a positive visual effect; - power stations will be low-profile structures, similar to existing Argyle Pond structure - minor adverse; - new transmission lines will use existing Marlborough Lines Co distribution corridor - minor adverse	N/A (see Landscape assessment for details of how potential landscape and natural character effects have been addressed in the design of the scheme)	Minor or less, and mixed (i.e. some negative and some positive)
Changes in farm management practices due to presence of the canal	- likely to affect farming properties through which the canal will pass (up to ~60); - more than minor effect on farmers' autonomy and working environment	TrustPower has committed to re-positioning property fences, gates, access-ways and other farming infrastructure, including the provision of canal crossings, in order to maintain farmers' abilities to continue their farming operations.	Minor adverse
Changes in the way households enjoy their farm properties with the canal present	- this effect is similar in character to, and the residential equivalent of, the previous effect; - most likely to occur for a small number of properties (~10) where the canal passes close by the dwelling; - potential to be significant, but could in some cases be viewed as positive;	TrustPower has committed to provision of canal crossings where required, and to other amenity features such as terracing the canal bank.	Minor and mixed (i.e. some negative and some positive)
Changes in personal security and privacy due to the potential for public access along the canal	- possibility that members of the public will try to access sections of the canal or adjacent properties (~60) for recreational or mischievous purposes; - potential for individually significant adverse effects	- public access to the canal and canal maintenance roads restricted by fences, gates, locks and signage; - TrustPower has committed to two substantial new areas of recreational amenity as the focal points for public access	Minor adverse
Risk to students using the Wairau River for outdoor education training	- potential for increased risk to personal safety due to proximity of boat take-out point to canal intake - potential for significant negative effect	- sufficient separation distance preserved by scheme design; - no hard concrete structures in the river bed; - land-side access enhanced by construction/maintenance track with controlled access	Minor/positive
Flow-on effects from increased irrigation to regional employment	- marginal increase in regional jobs numbers in businesses servicing irrigated land use in the Valley	N/A	Minor positive

Social effect	Degree of effect <u>prior to mitigation</u> (distribution, likelihood and level of significance)	Recommended management and mitigation of the effect	Degree of effect <u>after mitigation</u> (level of significance)
Equity effect - distribution within the Valley of the costs and benefits of the canal infrastructure	<ul style="list-style-type: none"> <li>- some landowners will bear disproportionate level of negative effects from canal construction in order to achieve general community benefits for all</li> <li>- potential for significant effects for individual landowners</li> </ul>	<ul style="list-style-type: none"> <li>- TrustPower commitment to negotiated property settlements described elsewhere, in which residual negative effects will have been rendered acceptable in terms of the negotiated property agreements; in some cases, the re-arrangements may even have enhanced the amenity values.</li> </ul>	Minor adverse
Equity effect - distribution within New Zealand of the costs and benefits of using the regional water resource for hydro-electricity generation, and distribution between New Zealanders and nationals of other countries of profits from such electricity generation	<ul style="list-style-type: none"> <li>- the risk that electricity generated from Wairau River water will be used preferentially to meet the demands of electricity consumers in other parts of the country - minor;</li> <li>- the risk that profits from such electricity generation will benefit foreign shareholders rather than New Zealanders and Marlborough residents - minor</li> </ul>	<ul style="list-style-type: none"> <li>- the proposed hydro-electric scheme will be connected into the Marlborough Lines Company's distribution network and not directly into the national transmission grid;</li> <li>- TrustPower is ~75% NZ-owned with Board of Directors consisting entirely of resident New Zealanders</li> </ul>	Minor adverse

## 6 CONCLUSIONS

### 6.1 Summary of social effects for the immediate host community

A range of effects for the immediate host community of the Wairau Valley will be experienced during both the construction and operational phases of this proposed project. The construction-phase effects are temporary and predominantly adverse. However, there is also the possibility of some minor local benefit in terms of job opportunities in the construction workforce, and increased spending in local businesses.

In contrast, the operational-phase effects are dominated by the increased likelihood and extent of long-term, cumulative changes in land use in the Valley, resulting in a new wave of farming enterprise, increased demand for labour, a vibrant growing community and the consequent support for maintaining and enhancing social and community services arising from an increasing resident population working locally. While there is a range of other minor effects - some adverse, some positive and some mixed - one other more than minor effect which generated considerable discussion is the improved access to emergency water supplies for fire fighting in the Valley.

The hydro electricity proposal is not the only possible route to irrigated farming and land use in this Valley; the Wairau Valley Water Enhancement Company holds a separate water right which could be the basis for future broadscale irrigation in the Valley, if the TrustPower proposal does not proceed. And if that scheme also did not eventuate, then individual landowners could continue to develop private irrigation schemes as some have done already.

The view expressed by many of those interviewed for this assessment is that the overall effect of the TrustPower proposal is to make irrigation much more likely to happen, and to happen more extensively.

The main positive effect for Valley residents that is unique to the TrustPower proposal is the improvement in the security and quality of local electricity supply, and the opportunity to overcome constraints on land development, due to the existing electricity supply situation.

This rural community appears to be accepting of the short- to medium-term nuisances, risks and disruptions from construction activities as the price to pay for the chance to achieve substantial community development and growth and a healthy rural economy in the longer term.

Another dominant view expressed in the host community is that the TrustPower route to such irrigation-based development should not occur at the expense of the health of the Wairau River and the well being of its existing users. They expect the environmental integrity of this stretch of the River to be maintained, and many expect that TrustPower's proposal will achieve that outcome.

In RMA terms, negative social effects in the Valley will be no more than minor, because -

- either TrustPower and affected parties will have negotiated a satisfactory outcome which allows the project to proceed, or

- TrustPower will have committed to avoidance and mitigation measures, some of which are specific and determined in advance, while others will be addressed through on-going monitoring and liaison mechanisms with affected groups in the community.

## **6.2 Summary of social effects for the wider Marlborough community.**

An overall summary of regional social effects cannot be gained from this SIA document alone, since an important element of social effects assessment was carried out separately - the recreational assessment carried out by Hovell Environmental Planning Ltd.

Amongst the other regional social benefits assessed here, the wider region stands to gain from construction-phase work opportunities equivalent to several typical infrastructure projects, even though three-quarters of the construction workforce is expected to come from outside the region. Some specific segments of the regional community will experience minor benefits from providing services to the incoming construction workforce (accommodation providers and those working in the retail sector) while others may experience minor adverse effects from the presence of non-resident workers (primary health providers, leisure venues and the Police).

## REFERENCES

Agriculture New Zealand Ltd (2001). *Intra-regional Spending Patterns of Canterbury Farmers*. MAF Technical Paper No: 2001/2, prepared for MAF Policy, Wellington.

Ford, S. (2002). *Economic and Social Assessment of Community Irrigation Projects*. MAF Technical Paper No. 2002/13, Ministry of Agriculture and Forestry, Wellington (with contributions from G. Butcher and Taylor Baines & Associates).

Harris, S., Clough, P., Walton, M. and Taylor, N. (2004). *Regional Economic Analysis - Uses of Water in the Waitaki Catchment*. ME 566, Ministry for the Environment, Wellington.

Hunt, L. (1998). *Changing to Cows : the impact of land use change in the Amuri*. NSOF Dairy Programme 1997-98 Internal Report 2.2, Agresearch, Lincoln.

McClintock, W., Taylor, N. and McCrostie Little, H. (2002). *Social assessment of land use change under irrigation*. Working Paper 33, prepared for the Foundation for Research Science and Technology Project - Resource Community Formation & Change (TBA 801). Taylor Baines & Associates, Christchurch.

McCrostie Little, H. and Taylor, N. (2001). *Social and economic impacts associated with irrigated land use change*. Paper presented to the New Zealand Association for Agricultural and Resource Economics (NZAERS) Conference, Blenheim, 6-7 July.

Ministry of Social Development, 2003. *The Social Report 2003: Indicators of social well being in New Zealand*. Wellington.

OECD, 1998. *Living Conditions in OECD Countries: a compendium of social indicators*. OECD Social Policy Studies No.5. Paris.

Statistics New Zealand, various years. *Census of Population and Dwellings for 1986, 1991, 1996 and 2001*. Wellington.

Taylor Baines & Associates, 2003. *Assessment of the effects of project Aqua on local communities and development of community mitigation proposals, for Kurow Aqua Liaison Committee, 2003*.

Taylor Baines & Associates, 2005a. *Social Impact Assessment of the Tararua 3 wind farm extension proposed by TrustPower Ltd. Evidence to the Commissioners' Hearing on resource consent applications in Palmerston North, May 2005*.

Taylor Baines & Associates, 2005b. *Social Impact Assessment of Project West Wind proposed by Meridian Energy Ltd. Evidence to the Commissioners' Hearing on resource consent applications in Wellington, October 2005*.