

Host Communities: siting and effects of facilities

An analysis of host community experience of the Bonny Glen Landfill (Rangitikei District)

by

Jane Douglas
James Baines

Taylor Baines & Associates

Working Paper FS6
Public Good Science Fund Contract TBA 802

July 2000

Acknowledgements

This case study has contributed considerable knowledge that is important to a better understanding of the effects which host communities can expect to experience from the operation of a sanitary landfill. The research would not have been possible without the co-operation of all those who were interviewed. The level of willingness to co-operate is worthy of acknowledgement - the research team met with no refusals. The research team wishes to express its gratitude to all those who participated in this case study - the rural neighbours in the vicinity of the Bonny Glen landfill; also to the other key informants, the operators and administrators of the landfill.

It is to be hoped that this case study may also lead to further improvements in the management of the Bonny Glen landfill, and to supporting the positive working relationship between those responsible for operating and overseeing the facility and members of its host community that already exists.

The research team also expresses its gratitude to the Foundation for Research, Science and Technology for its financial support of the research programme.

Table of Contents

A:	Introduction to this case study	1
	Public Good Science Fund Research	1
	Reasons for this research programme on facilities and their host communities	1
	Purpose of the case studies	2
	Methodology for the case studies	3
	Outputs of this research programme	4
	The research provider - Taylor Baines & Associates	4
B:	History and description of the facility	5
	Location	5
	Planning	8
	Site development and access	9
	The present situation (1999)	10
	Liaison between the facility and the host community	11
C:	The host community	13
	Overview	13
	Population change 1991-96	13
	Changes in land use - 1991-96	14
D:	Coverage of Consultation and Interviews	15
	Areas of interviewing	15
	Numbers and categories of interviewee	15
	List of other key informants	16
	Feedback meeting	16
E:	Operational effects of the landfill on neighbouring farmers and residents along Wanganui Road	17
	Litter	19
	Odour	21
	Vermin	22
	Surface water contamination	23
	Machinery noise	24
	Property values	25
	Stigma	26
	Seagulls	26
	Traffic effects	27
F:	Longer-term effects on the landfill on settlement patterns and development in the locality	29
	Changes in land use	29
	Extending Bonny Glen to receive out-of-district waste	29

A: Introduction to this case study

Public Good Science Fund Research

The research team at Taylor Baines & Associates was contracted by the Foundation for Research Science and Technology to carry out a piece of social research concerning the siting decisions and community experience of solid waste facilities. The research has been funded out of the Public Good Science Fund.

Spread over three financial years - 1997 to 2000 - the research programme aims to assist the processes of urban and rural planning (as it applies to future solid waste disposal infrastructure) by developing a body of knowledge on social factors that are relevant to the siting and operation of solid waste facilities.

In total, the research programme is intended to answer three core questions -

1. Is there a systematic pattern of solid waste facilities siting in NZ. If so, how would you characterise this historical pattern from the social perspective of host communities?
2. How do actual effects compare with effects that were projected at the time of siting?
3. What have been the longer-term effects on host communities of solid waste operations?

This research on solid waste facilities is part of a longer-term research programme currently being funded by the Public Good Science Fund into the siting and social impacts of a range of facility types. During the period 1997 to 2000, research has been carried out on solid waste facilities - landfills and transfer stations. During 1998 to 2001 other research is focussing on waste water facilities. Please refer to the TBA website - www.tba.co.nz - for more information.

The research programme has received the strong endorsement of Local Government New Zealand, the New Zealand Water and Wastes Association, the Ministry for the Environment, as well as several territorial local authorities.

Reasons for this research programme on facilities and their host communities

It is a common experience that assessing the effects of solid waste facilities at the time of site selection is a contentious process. The debates that surround such assessment activities are often informed more by prejudice and a strategic selection of hearsay information than by well-founded evidence.

This research aims to address both questions of possible social bias in site selection and lack of experienced-based information relevant to New Zealand communities. It is to be hoped that these objectives will be served by carrying out the research in a setting which is removed from the tensions of resource consent applications, and by a team of independent researchers who have no organisational affiliation with either the developers of such facilities (usually but not always Territorial Local Authorities) or the host communities involved.

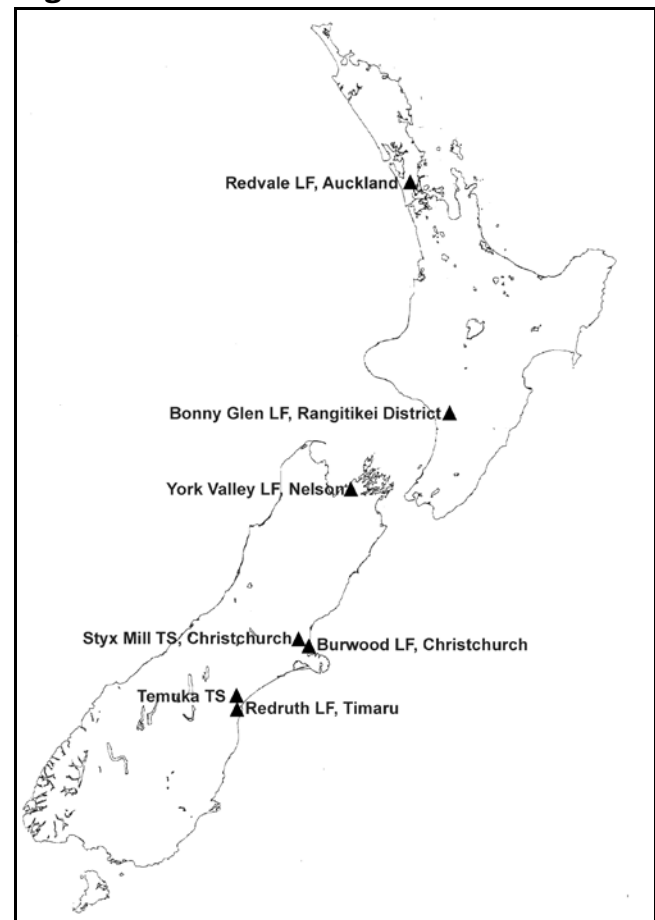
Purpose of the case studies

This case study on the Bonny Glen landfill is one of seven such case studies being undertaken as part of this research programme¹, as shown in Figure 1. The case studies were selected to provide a range of relatively recent facilities, from large metropolitan landfills and a transfer station, to the kinds of facilities more familiar in smaller cities and rural areas. As a result, the experience documented in these case studies should provide useful insights into contemporary New Zealand experience.

Each case study has been conducted at a time which avoids conflicts with active resource consent proceedings. Care has been taken in the social assessment research method to provide accurate² and useful descriptions of the effects experienced by host communities, by canvassing a wide range of local observations, by accessing other relevant data sources where possible to corroborate the observations of neighbours, and by engaging in a process of feeding back preliminary findings for checking and validation by the research participants. As a result, the experience documented in these case studies should neither overstate nor understate the experience of the host communities involved. This is important, if the research is to assist participants in future planning.

Nevertheless, the case studies each represent experience at a particular point in time. The research process itself, and the case studies resulting from the research, have the potential to trigger changes in the way the facilities are operated and managed. Thus it is important to interpret the findings of each case study in the context of the way the facility was operated and managed at the time of the case study fieldwork³.

Figure 1: New Zealand Case Studies



-
- ¹ The full list of case studies includes Burwood Landfill, Redruth Landfill, Bonny Glen Landfill, Redvale Landfill, York Valley Landfill, Styx Mill Transfer Station, Temuka Transfer Station.
 - ² The use of percentage figures in this case study is not intended to imply statistical analysis. Rather it should be interpreted for comparative purposes merely as indicating the proportion of respondents in any particular area of interviewing who gave a specified response.
 - ³ The fieldwork dates are noted explicitly in the case study report. Furthermore, the report attempts to describe as fully as possible the operating regime at the time of the case study.

It is also important to keep in mind the perspective of this research - the host community perspective. Primary emphasis has been put on capturing the experience of members of the host community - the rural neighbours in the vicinity of the Bonny Glen landfill. It is their experience of the off-site effects such as odour, litter and vermin, and the impacts of such effects that will be useful to others contemplating the siting of a new solid waste facility. By the same token, there are likely to be some off-site effects such as risks to groundwater quality that will not necessarily be informed by a focus on neighbours' experience, simply because such phenomena are not often readily detectable to casual observation, even if they do occur.

Methodology for the case studies

The research method drew on the practical and theoretical approach to social assessment described in Chapter Four of "Social Assessment: theory, process & techniques" (Taylor et al., 1995). Stages in the research included scoping the particular cases to clarify the appropriate time frame and communities of interest, community profiling, a structured survey of nearby residents and business people, in-depth key informant interviews, and accessing a range of existing data sources.

A structured questionnaire was developed to gather detailed information about the experience of many individuals living in the host community. The questionnaire explored people's experience of day-to-day operational effects of the landfill, their perceptions of how the presence of the landfill has impacted on the longer-term development of the host community, and their knowledge of what has happened in their community during the years prior to and since the landfill was established. The detailed analysis is descriptive and sometimes quantitative, but not statistical in nature⁴.

In carrying out the comparative case assessments, the assessment team had to address several issues relevant to interpreting the results and their usefulness in providing valid comparative information. These included the debate about 'perceived' or 'real' effects, the need for corroboration, and the importance of timing or context as a potential influence on individual responses.

The assessments focussed on people's experiences of living or working near waste management facilities. The results are therefore based on a large body of individual perceptions of effects. In some feedback discussions, the distinction was made that these effects are "*only people's perceptions; they're not necessarily real.*" The question arises therefore as to what is the difference between a 'perceived' effect and a 'real' effect. Can 'perceived' effects ever become 'real' effects? In practical terms, the assessments identified clearly the proportions of those interviewed who experienced certain types of effects. Furthermore, wherever possible, the assessment sought to investigate these effects from other respondents and from independent sources (e.g. local key informants; secondary data records) or different perspectives (e.g. the facility operator)⁵. As researchers, it was pleasing to note how, in the great majority of cases, neighbours' experience was strongly corroborated by the perceptions and experience of the facility operator.

⁴ A statistically-based analysis would have increased the scale of field work and cost several fold.

⁵ As a matter of assessment methodology, we have adopted the stance that unless more than two individual neighbours reported and corroborated the same effect, or unless a neighbour's observation could be corroborated by an independent source, the effect would not be reported in detail, but simply noted. This reflects the stance that, while social assessment acknowledges the importance of individual observations, such observations still need to be subject to verification.

A number of factors have a bearing on individual experiences. Different people have different thresholds for noticing effects depending, for example, on their ability to hear or to smell, or on their perception of what is 'exceptional'. Increasing sample size addressed this factor. Different living or recreational patterns are likely to influence people's experience of effects - whether they are on the property all day, every day, or working off the property. Day-time interviewing addressed this factor by increasing the likelihood of including individuals with a relatively high rate of occupancy. People get used to effects after a while - they can seem less exceptional. Following unprompted questions with prompted questions addressed this factor, by allowing interviewees 'a second chance' to respond.

Does the distinction between 'perceived' and 'real' effects matter? The primary purpose and value of comparative case assessment is to answer two types of questions - (i) if neighbours around a facility are experiencing certain effects, and finding that they have unacceptable impacts, what can be done to reduce or eliminate the effect, or make it less likely to happen? and (ii) if neighbours around Existing Facility A experienced certain effects and impacts from its operation, what is the likelihood that neighbours around Potential Facilities B, C or D will experience similar effects and impacts? In either situation, whether such effects are labelled as 'perceived' or 'real' is probably immaterial. However, from a "technical" perspective, replication of reported effects is important to their validation, while from a "political" perspective, the perceptions of just a few people affected can be sufficient to galvanise social action.

It is also important to remember that technical experts are not necessarily in a position to offer any more than assessments of 'perceived' effects. In the case of technical experts, their perceptions are derived with the aid of technical lenses (i.e. frameworks for analysis used by the technical expert). For example, an acoustical engineer can provide measures and predictions of likely noise levels at certain distances away from the source of the noise. The acoustical engineer is not usually in a position to draw any inferences as to likely social impacts associated with these levels of noise.

The tendency for potentially affected parties to distort or exaggerate the likelihood of effects when participating in EIA activities is not an uncommon experience for SIA practitioners. Indeed, in one of the comparative case studies, background documentation from an environmental tribunal declared this point explicitly. In these comparative case assessments, this factor was addressed by ensuring that all the case studies were carried out on facilities which had no consent applications or reviews in progress.

Outputs of this research programme

Outputs from this research have taken the form of public presentations and discussion sessions, as well as a range of hard copy formats.

The latter include a series of research Working Papers, conference papers, and an abbreviated summary document for each case study.

The research provider - Taylor Baines & Associates

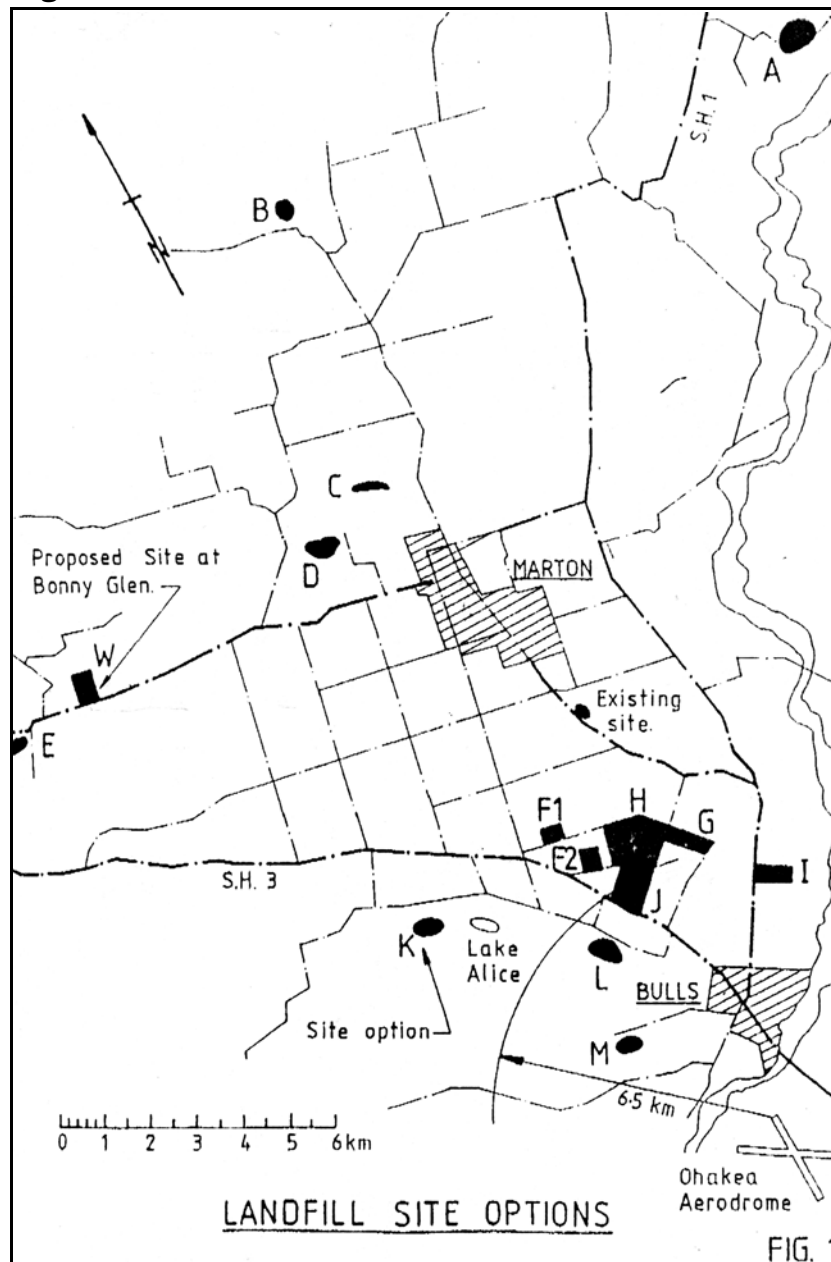
Taylor Baines & Associates has been a private provider of research, consulting and training services since 1989. The firm specialises in social research and the application of social assessment methods to a wide variety of issues in community development.

B: History and description of the facility

Location

The Bonny Glen landfill has replaced a number of old tips which used to serve towns in the southern part of Rangitikei District. It is located just over 8 km west of the township of Marton (see Figure 2).

Figure 2



Opened in 1995, the site is in an area of long established pastoral farming; a 'greenfields' development in a totally rural setting. It is sited approximately 500 m north of Wanganui Road, with the entrance off Wanganui Road just east of the intersection with Bruce Road (see Figure 3a and 3b). Farmland around the landfill disposal site is leased back to a neighbouring farmer who runs a dairy operation.

Figure 3a

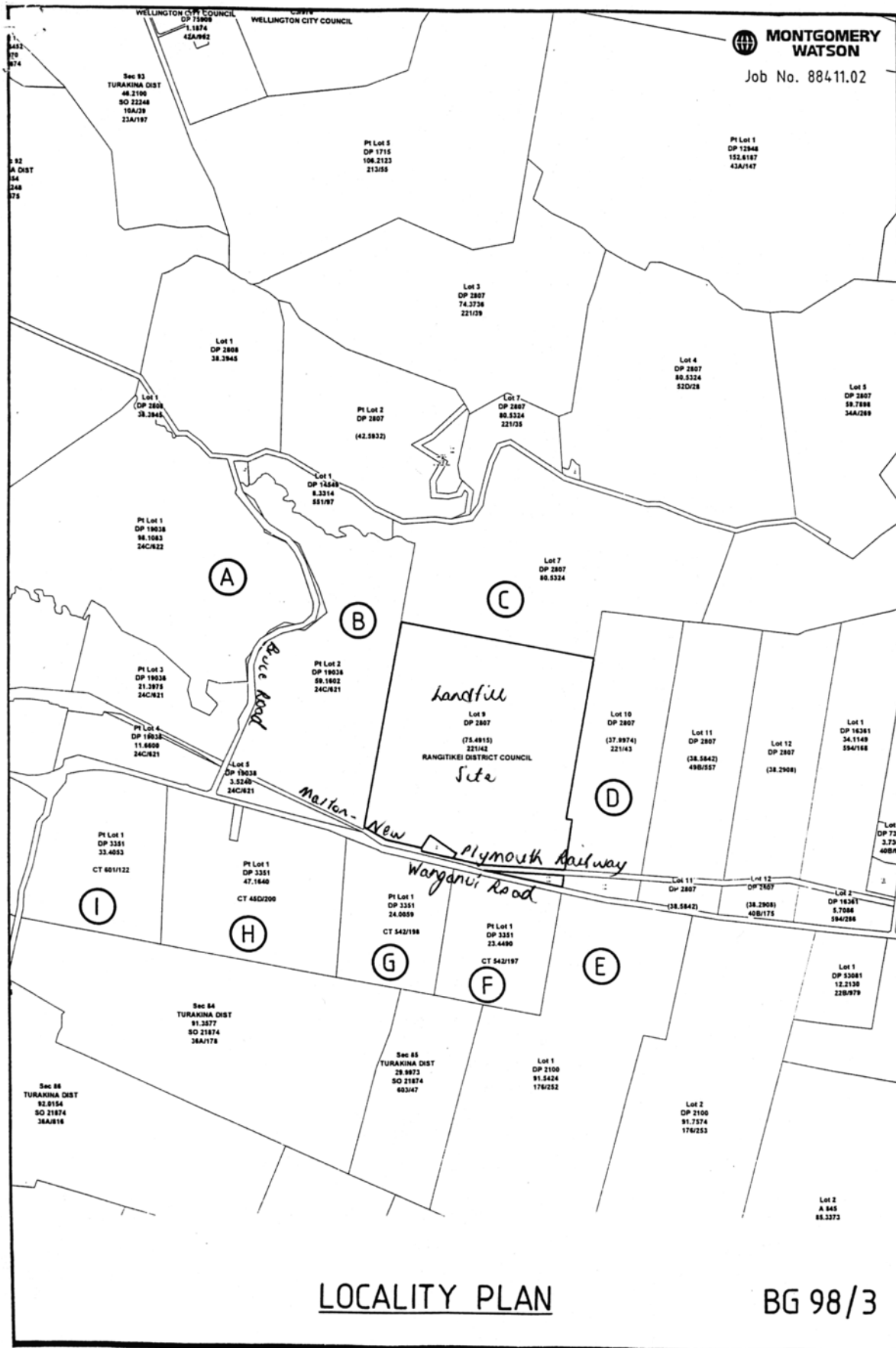
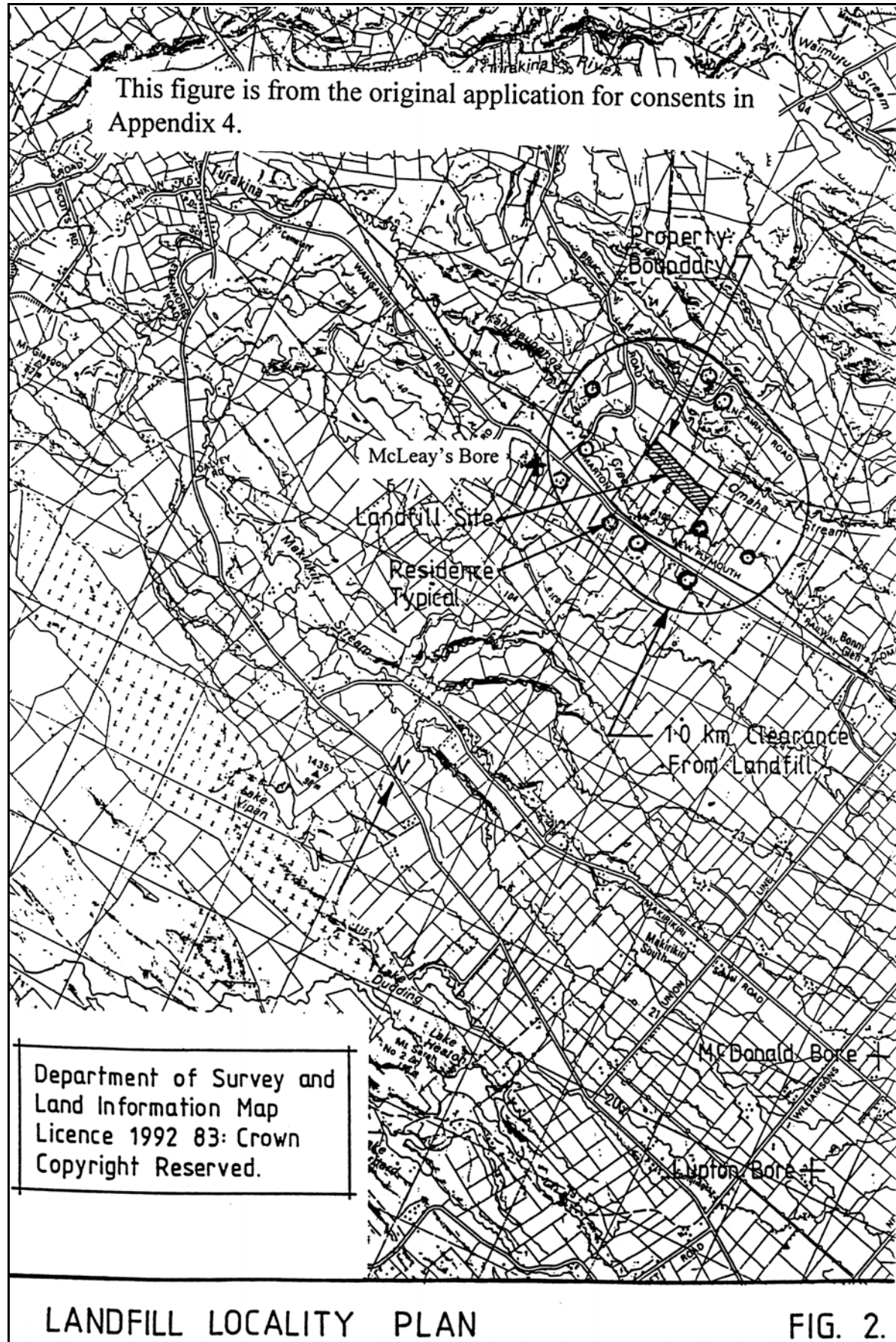


Figure 3b

Planning

Figure 2 also indicates the locations of alternative sites which were investigated.

Planning documents⁶ record the following environmental effects and issues projected during the planning of the Bonny Glen landfill -

- **traffic noise, fumes and increased volumes of traffic** using Wanganui Road and entering the landfill area
- the **visibility of an unsightly landfill**, particularly for residents with views into the site
- the **visibility of traffic entering the landfill site** and using the haul road within the site
- the **visibility of gravel extraction activities** on site (gravel being used for daily cover)
- **air pollution including smoke from fires, odours, dust and landfill gas**
- **litter** on neighbouring land, with the risk that **animals might ingest plastic bags**
- **birdlife attracted to the landfill**, particularly **seagulls causing nuisances of noise, fouling and scavenging crops** on neighbouring properties
- **vermin**
- **cultural and aesthetic effects** from the perception that a landfill is an inappropriate neighbour (largely based on experience of traditional dumps)
- **pollution of groundwater by leachate and contaminated stormwater**
- **surface water contamination** from runoff or leachate
- uncertainty about **landscaping proposals being effective**
- the possibility of **diminishing land values**
- **risks from disposal of chemicals and hazardous wastes**
- effects on **railway line stability and drainage**

During consultation for the landfill the Council identified and contacted neighbours to the site. A Neighbourhood Liaison Group was formed and this group was formalised through provisions in the Landfill Management Plan as part of the resource consents. This group met quarterly in the first four

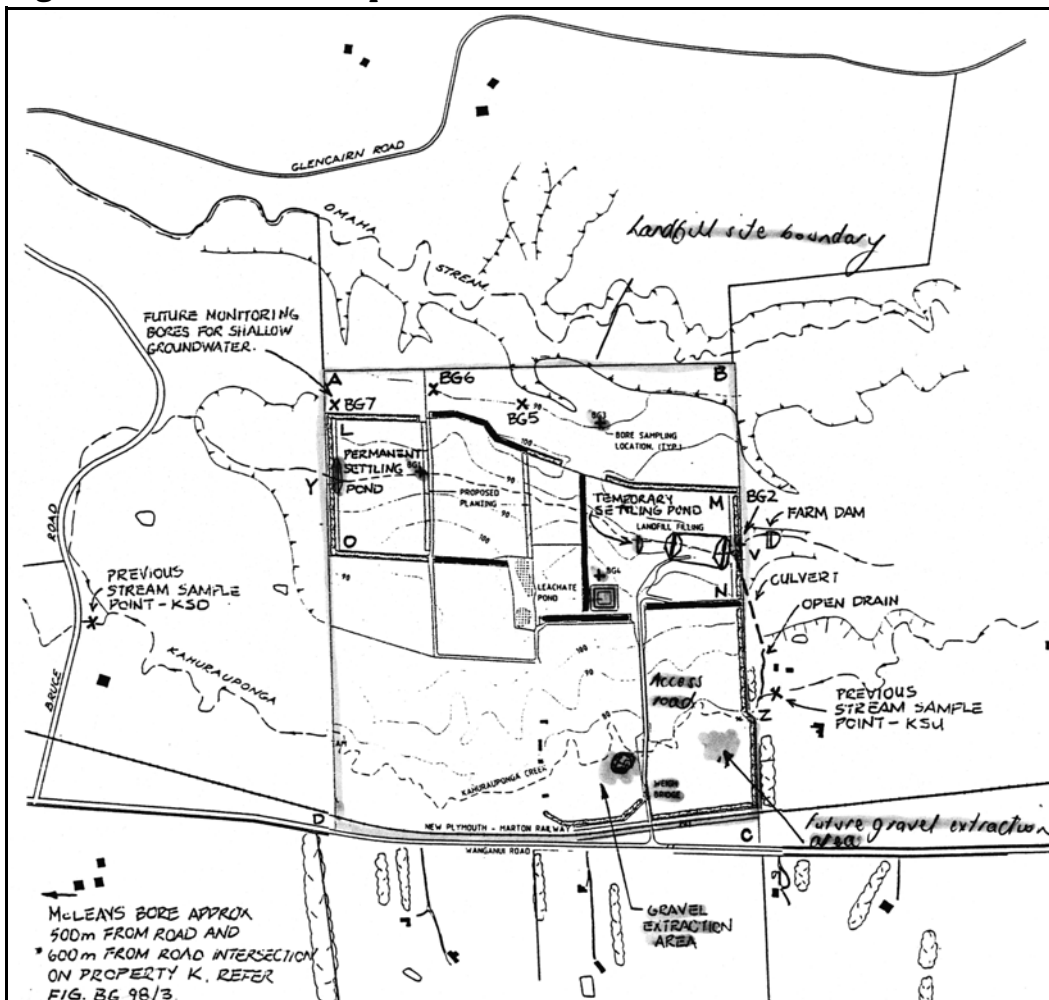
⁶ These include a report from the Rangitikei District Council's Engineering Consultant, the AEE document, statements of evidence at the resource consent hearing, and public submissions made both in the planning stages (consultation) and at the hearings.

years of operations. At the time of the variation of the consents to enable Bonny Glen to receive and dispose of out-of-district waste (1999), this group was renamed the 'Community Liaison Group' and its membership altered to include Ngati Apa and representatives of the two consent authorities. The group continues to meet quarterly.

Site development and access

The landfill site comprises a property of approximately 75 hectares in area, but less than 50% of this area will be used for landfilling purposes. The landfill itself is located within a gully which crosses the property from east to west, its top width increasing from 100 m to 200 m and the depth from 13 to 18 metres over the length of the gully (see Figure 4). The landfill gully is screened from the main road by the topography of the area - gently undulating hills.

Figure 4: Landfill site operations



The landfill is to be developed in stages. Site development works carried out before any landfilling took place included the construction of a stormwater pond at the western end of the gully, laying of a leachate leak detection pipe in the floor of the gully, access road and haul road construction from Wanganui Road, construction of an embankment at the east end of the gully, a clay liner, leachate drains above the liner and the construction of a leachate collection pond. The landfilling operation uses a gravel cover material sourced from the site when clay material is not able to be worked.

The landfilling operation includes the trickle irrigation of leachate from the leachate pond onto the pine plantation areas planted around the landfilling site. This occurs in the months of November to March for approximately 15 days per month. The overall character of the area is rural with most farm units in the vicinity being greater than 50 hectares in area. There are ten houses within 1 km of the landfill site. Screen planting of the landfill site has been carried out.

It was first established as a new sanitary landfill to serve the whole Rangitikei District. More recently, applications have been granted to vary the consents to enable the Bonny Glen landfill to receive waste from other districts as well.

Bonny Glen is not open to members of the public. Only authorised vehicles may take solid waste to the landfill. A weighbridge is located at the entrance to the landfill. The entrance road, railway crossing and all internal access roads for permanent use are sealed.

Truck routes vary according to the source of the waste. Typical patterns are as follows -

- From Marton: leaves the Marton transfer station and travels past the Carter sawmill into High Street to the truck bypass, thence onto Wanganui Road
- From Taihape: arrives from the north past Nga Tawa College, onto the truck bypass, thence onto Wanganui Road
- From Bulls: (Two routes) most use SH1 to Crofton, past the old Marton dump and onto the truck bypass, thence onto Wanganui Road; alternatively down Pukepapa Road north of Bulls and onto Wanganui Road (not used much)
- From Ratana: out to SH3 with a left turn at the intersection straight on to Wanganui Road

The contractor for the operation of the Bonny Glen landfill is not aware of any breaches of the conditions of consent or the contract. The contract, which includes the Marton transfer station operation and waste haulage as well as managing the Bonny Glen landfill facility, operates on a demerit system whereby if the operator does anything wrong he earns demerit points; a certain number of demerit points could lead to cancellation of the contract. No demerit points have been received so far.

The present situation (1999)

The landfill is available to operate 7 days per week during daylight hours. However, trucks do not enter the site every day. The contractor estimates vehicle movements from Marton, Bulls, Ratana, Mangaweka and Taihape number about 100 arrivals each month. Vehicles do not arrive at regular times. For example, one day may see 7-8 vehicles delivering rubbish, with none arriving the next day at all. Arrivals depend on the scheduling of rubbish collection days in various parts of southern Rangitikei District.

The operation of the landfill facility is contracted out to private enterprise. The contract has so far been in place for five years, with two more years to run.

The landfill is staffed at all times when receiving rubbish. Rubbish is not received into the facility unless someone is there to receive it and supervise.

At the time of the original consents leachate from the landfill was collected and pumped into a lined leachate collection pond and then removed from the pond by tanker for disposal to the Bulls sewerage system. An alteration to that system was approved in 1997 and now leachate in the pond is disposed of via an irrigation system to a tree plantation on the landfill site, between the months of November and March.

In July 1997 a consent application was lodged to vary the existing consents to enable the Bonny Glen landfill to accept waste from other districts. The hearing was adjourned in early September 1997 to allow the parties to the application time to work on appropriate conditions to attach to the consent. Consent was granted to the Variation and subsequently appealed by Te Runanga O Ngati Apa Incorporated. In 1999 further and ongoing participation and negotiation led to a signed consent order between the parties, resulting in Bonny Glen now being able to accept solid waste for disposal from areas outside the District.

Liaison between the facility and the host community

A Neighbourhood Liaison Group was set up during the planning process. It was subsequently formalised by provisions in the Landfill Management Plan when the required consents were granted. The Group meets three to four times a year and includes all neighbours to the facility, the landfill contractor and representatives of the Rangitikei District Council.

When the consents were varied in 1999 Ngati Apa became a part of the Liaison Group. The conditions of consent required the formation of a 'Community Liaison Group' and membership was altered to include the Regional Council and Ngati Apa. The role of the group was discussed at its first meeting on 29 October 1999. This group is essentially the same as the Neighbourhood Liaison Group and will continue to meet at regular intervals.

Farmers' comments about the Neighbourhood Liaison Group are generally positive -

"it has assisted; been effective because it has allowed us to have quite an input to how the landfill was developed and managed"

"I like taking part in the Group"

"A sure sign that farmers are generally happy is that they do not all turn up to the meetings"

The farmers endorse the notion that neighbours can make a useful contribution -

"Early problems were encountered because the Council didn't respect local knowledge"

"Heavy clay soils and winter conditions meant developing the site was initially difficult - neighbours advice should have been acknowledged"

"Engineers on future landfills could act on much more information from local people - this would reduce problems. In this case locals advised the access road to the landfill would have to be kerbed to assist drainage, but the engineers were adamant it wasn't"

necessary. Within two years of opening it had to be kerbed to rectify slumps and slips.”

Regarding the complaint monitoring system: when there have been complaints, people usually go direct to the Rangitikei District Council (RDC). The complaint is then forwarded to RDC representatives responsible for the landfill or the transfer station who maintain contact with the landfill operator. Immediate neighbours will go direct to the landfill operator on site if they have queries. The landfill contractor indicated that his firm wished to adopt “*a pro-active approach with landowners and neighbours*”.

An Annual Report is prepared and forwarded to the consent authorities. This report addresses the operations on the site, difficulties experienced and measures taken to address these and activities proposed for the following year.

Monitoring of the groundwater is carried out in four bores installed in the landfill site as shown on Figure 4. Further bores are proposed as landfilling continues westward across the site. One groundwater bore is located to detect any leakage from the leachate pond. The location of future monitoring bores is identified in the Annual Report. Surface water monitoring of the Kahurauponga stream is carried out and reported at intervals agreed between the consent authority and the consent holder.

Weekly inspections of the leachate irrigation system are made including pumps, pipes, irrigators and tree plantations and an irrigation log kept. This log records the dates and times of leachate irrigation, the volume of leachate irrigated and the weather and ground conditions during the irrigation times, observations made during weekly inspections and repairs and maintenance carried out on the irrigation system. The report of the results is required to be sent to the regional council before June in any year.

C: The host community

Overview

The locality of the Bonny Glen landfill is a traditional pastoral farming area, with a mix of sheep and beef and dairy farms. It is 14 kilometres from the west coast of the North Island. The site fronts Wanganui Road, which serves as a short cut between SH1 (central North Island) and SH3 (Bulls to Wanganui), avoiding the township of Bulls. A traffic count on Wanganui Road in 1991 recorded 1,360 vehicles per day in each direction. The westbound traffic included 29% of heavy vehicles and the eastbound traffic consisted of 16% heavy vehicles. Thus most of the landfill traffic passes by the western exit/entrance of the township of Marton.

The Marton-New Plymouth Railway line passes through the landfill property adjacent to Wanganui Road. The landfill access road crosses the railway at a level crossing. There are very few train movements.

Eleven kilometres directly south of Marton township (17 km SW of the Bonny Glen landfill site) is Ohakea Aerodrome, a significant and long-established RNZAF facility. The Bonny Glen locality is flown over by RNZAF aircraft on some training flights. However, this landfill location is further from Ohakea than other sites considered during the site selection process and from existing sites at the time of the selection.

There are no other commercial facilities, local community amenities or special interest users in the locality. At the present time, one farm residence has a long-distance (800 m) view up the valley towards the site, where a portion of the working face is visible.

Population change 1991-96

The host community for the Bonny Glen landfill includes the rural meshblocks in the immediate vicinity of the landfill and either side of the stretch of Wanganui Road leading from Marton to the landfill site. The source community is the usually resident population of the whole of Rangitikei District. Changes in the usually resident population and the number of private dwellings are tabulated in Table 1 below.

Table 1: Growth in Usually resident Population and Private Dwellings

	UR population 1991	UR population 1996	Population growth 1991-96
Bonny Glen - host	237	246	3.8%
Rangitikei District - source	16,578	16,356	-1.3%
	Private dwellings 1991	Private Dwellings 1996	Growth in dwellings 1991-1996
Bonny Glen - host	66	87	31.8%
Rangitikei District - source	5,670	5,841	3.0%

Changes in land use - 1991-96

There have been no significant changes in land use since the landfill opened. Four neighbouring farmers report a slight increase in dairy cows, and the Council-owned land immediately surrounding the landfill disposal site which is leased to a neighbour has been converted into dairying.

One farming property which neighbours the landfill site (on the opposite side of Wanganui Road) was sold in 1998.

D: Coverage of Consultation and Interviews

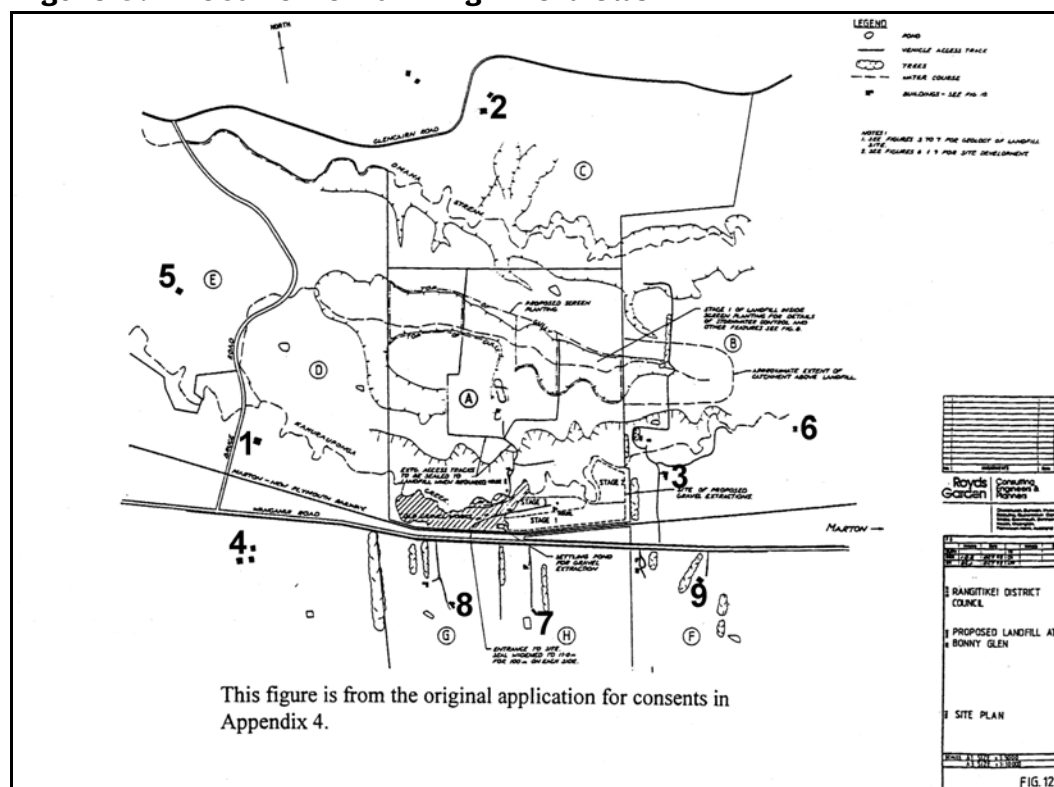
Areas of interviewing

The Bonny Glen landfill is located in a totally rural setting. Access routes for trucks bringing solid waste from other towns in the District converge on the Marton to Wanganui Road. Interviewing of residents was focused on the immediate neighbours of the rural landfill and township residents living adjacent to Wanganui Road.

Numbers and categories of interviewee

Representatives of the nine farming households on properties which neighbour the landfill property⁷ were interviewed. Their dwellings are located at a range of 300 m to 800 m from the landfill site, most lying in a 180-degree arc from north-west around to south-east of the landfill (see Figure 5).

Figure 5: Location of farming interviews



Four of the farming properties run dairy cattle, while seven run sheep and/or beef operations. Two produce grain. Properties range in size from 24 ha to 420 ha, with an average of 185 ha. With one exception, all those interviewed had farmed their properties since well before the landfill was established. The average length of residence of these landowners was 26 years, ranging from seven to fifty years.

⁷

The operational site of the Bonny Glen landfill is contained entirely within one original farming property. The selection of interviewees includes all those with farming properties which neighbour the central farming property.

Four residents who live on Wanganui Road on the northwest boundary of Marton township were also interviewed. All owned their properties and had lived there on average for 19 years (ranging from 8 to 30).

List of other key informants

- Engineering consultant to the Rangitikei District Council
- Principal contractor for the landfill operation
- Investigating Officer for Horizons.mw (previously the Manawatu-Wanganui Regional Council)
- Representative from Federated Farmers
- Representative from Te Runanga O Ngati Apa
- Representative from the Regulatory Division of the Rangitikei District Council

Feedback meeting

A feedback meeting was held with the Rangitikei District Council Manager responsible for solid waste services, who also facilitates meetings of the Community Liaison Group. The purpose of the meeting was to discuss the preliminary findings of the case study research. Discussion focussed on the importance of recognising that the landfill operation area has extensive buffer zones within the designated landfill site on three of its four sides. This has a bearing on interpreting the concept of 'off-site' effects, since some effects from the operational area may not extend beyond the whole site, at least in three directions.

E: Operational effects of the landfill on neighbouring farmers and residents along Wanganui Road

The following four effects are the basis for the most noticeable concerns by neighbouring farmers:

- windblown litter,
- odour from the leachate holding pond,
- increases in numbers of rats and wild cats, and
- surface water contamination due to earthworks during wet winter periods

Many of the projected effects identified during planning were not mentioned by interviewees as being actual effects or causing impacts.

The landfill contractor is considered to be responsive to neighbours concerns. While there was definitely scope for improvements after the landfill first came into operation, and even now with respect to the main concerns noted above, the majority of neighbouring farmers make very positive remarks about the landfill operation.

For Marton residents - the effects most noticed are traffic-related - masked to some extent by the effects of other heavy vehicle traffic which uses Wanganui Road as a short-cut between SH3 and SH1.

This case study suggests that such off-site effects (excluding traffic-related effects) as are experienced from a small rural landfill are generally likely to be confined within approximately 1 km of the disposal area. In this regard it is important to remember that prior to landfill establishment, a much larger block of land was purchased than was required for landfilling operations, in order to provide a buffer for neighbours against off-site (or in this instance, off-property) effects.

The farming neighbours reported on eight effects from the landfill unprompted

- litter
- odour
- vermin and cats
- surface water contamination
- machinery noise
- property values
- seagulls
- stigma

When unprompted, three farming neighbours recalled experiencing no effects from the operation of the landfill.

When prompted, more farming neighbours commented on -

- seagulls
- property values
- vermin
- machinery noise

as well as traffic noise.

It should be remembered that the nine farming properties encircle the landfill mainly on the western and southern sides. No single effect was reported by more than four observers unprompted.

Of the effects projected during planning, the following elicited no comments at all in this assessment -

- three visibility effects (the landfill itself, the traffic entering the landfill, and the gravel extraction activities),
- air pollution associated with smoke from fires,
- landfill gas,
- dust,
- pollution of groundwater,
- particular risks from the disposal of chemicals and hazardous wastes,
- effects on the railway line stability and drainage⁸
- cultural and aesthetic effects.

The engineering consultant for the Rangitikei District Council noted that during the consent hearings the single most significant concern for off-site effects was the potential risk to groundwater resources. This matter required additional information from the applicants as an addendum to the AEE. The conclusion from geological investigations and the results of surveys from local groundwater users concluded that “it is not possible for leachate from the landfill to directly affect any current groundwater user in the area. This applies with or without the proposed lining for the landfill and reflects the self contained nature of the groundwater system under the site.”

The evidence presented by Ngati Apa, exercising their kaitiakitanga, confirmed that there are no waahi tapu, midden or other sites of significance to Ngati Apa on the landfill site of which they are

⁸ It should be noted that gravel extraction for other purposes had been taking place adjacent to the railway line for some years prior to the landfill opening.

aware. It was also accepted by Ngati Apa that the leachate concerns would be met by re-circulating leachate through the landfill or only irrigating leachate that has already been re-circulated.

With some very specific exceptions (particular effects), neighbouring farmers are complimentary about the operation of the new Bonny Glen landfill -

“Thought doom and gloom at the start, but it hasn’t happened”

“Biggest problem is that the community is not big enough; we need more waste; would be good to get Wanganui’s”

“Has been so good I can’t complain. As long as they stick to what they said at the beginning then I don’t have a problem”

“The whole thing is being run very well”

“Was extremely opposed in the beginning, but I acknowledge now it doesn’t really affect us”

“The landfill is just not an issue”

“The landfill is in a gully and we don’t really notice it - we just know it’s there”

Of the four Wanganui Road residents of Marton interviewed, three commented unprompted on traffic-related effects. No other effects were mentioned, either unprompted or prompted.

Litter

What effect do they notice?

Source of effect?

Spatial distribution?

The occupants of three farming properties (N, SE, SW) report windblown litter from the landfill. In two cases, they see litter caught in the fence-line which surrounds the disposal area itself; in the third case it is described as coming ‘*through the boundary adjoining the landfill and the creek*’. The most visible litter is plastic, creating a ‘*sail effect on the fence at the boundary*’. There is ‘*some paper also, but this is not a worry because it breaks down*’.

The fourth observation comes from a property adjacent to Wanganui Road, where the farmer notices ‘*additional rubbish, mainly plastic, in the drains on the side of the road - not a massive quantity*’. This is not attributed to the transfer station vehicles which are enclosed, but rather to other open trucks and to the general public.

Timing; frequency; trends?

Rubbish that is caught in the fence surrounding the disposal site is seen very frequently - several times a week. Litter that escapes the retaining fence and is carried by wind onto surrounding paddocks is seen much less frequently - 5-6 times a year. The sight of roadside litter is a regular occurrence - once a week.

All interviewees agree that particularly windy conditions aggravate the risk, and they note that winds can be sustained at severe levels in this part of the country. Because of seasonal differences in predominant wind direction, neighbours tend to experience the occasional incursion of windblown litter at different times of the year. The Regional Council Investigating Officer reported one complaint about litter blowing off site in the past three years. The neighbours meeting on 29 July 1999 recorded several observations regarding litter - the neighbour on the northern boundary commented

that “there seems to be a little more litter in the valley to the north of the landfill. There has always been some windblown litter, which has been picked up, but recently the quantity of wind blown litter seems to have increased. This may be as a result of recent winds from the south and the fact that the landfill is getting higher and more exposed.” Another neighbour commented that “the seagulls are removing some refuse from the site as they fly off with litter they have scavenged from the landfill.”

No trends are reported for the windblown litter coming from the disposal site - the frequency of litter events is generally not increasing or decreasing - *“the operator had learnt after one experience when some paper and plastic was dumped on a windy day and immediately picked up and blown across the fence”*.

However, roadside litter is reported as *“increasing over time”*.

Mitigation attempts?

All farmers who commented on litter observed that the contractor retrieves litter. However there are varying views on the effectiveness of this effort - *“clears the boundary when necessary and does regular inspections”*, *“picks up litter every ten days or so on the farm property and at the landfill boundary”*, *“questions whether it is done, and how often”*. When the complaint about off-site litter was reported to the Regional Council, the landfill operator was advised immediately and took steps to clear the litter.

One farmer noted that the consent conditions describe a limitation on dumping in windy conditions *“but it appears that this is ignored”*, indeed, the Regional Council Investigating Officer expressed doubts about the practicality of such a measure. Waste is compacted at the time of disposal to try to reduce the risk of windblown litter. One farmer expressed the view that *“more could be done to manage this such as additional storage for waste until the wind drops, or depositing it at the landfill only when the wind is not blowing”*⁹.

Impacts?

The most obvious actual effect is the visual impact of unsightly litter - on fence-lines, in stock-water dams or on the paddocks. Although these are relatively infrequent events, they nevertheless cause offense - *“it looks awful”*, *“pollution of the environment”*. There is also concern over the risk, expressed more by dairy farmers, that stock will eat the plastic litter. However, no farmer reported this as having actually occurred during the first three years of landfill operation. The comments from neighbours meeting on 29 July 1999 (noted above) about the role of seagulls and in carrying away litter, was accompanied by the comment “Currently, the gulls are not causing problems to the neighbours.”

Summary evaluation

While fewer than half the neighbouring farmers actually experience any litter effects from the landfill, it is clear that the potential risk to livestock remains a concern. There is an expectation amongst some farmers, particularly those with dairying operations, that more could reasonably be done to minimise this risk. Additional mitigation initiatives will have to address the responsibilities of both the landfill operator and the contractors who truck rubbish to the site.

⁹

This could involve activity in the early hours of the morning - 4 am-8 am - which is something that other farming neighbours have expressed a reluctance to see happen, in the context of expanding the landfill activities to accept waste from other districts.

Odour

What effect do they notice?

Source of effect?

Spatial distribution?

The occupants of three farming properties (again N, SW, SE) report odour, from two sources - the disposal face and the leachate pond. The latter is described as “a pungent aroma”; “it stinks at times”. By contrast, the landfill odour is a much less pungent smell - “just in the air”.

None of the farmers report smelling the odours at their houses. They notice them when outside on the farming property - “by the boundary - almost the bottom paddock”; “in the workshop on the boundary”; “on tracks on the property”.

Timing; frequency; trends?

The frequency with which different farmers experience the odour effects varies markedly. The general landfill odour is reported to be noticeable about “once a month”. The pungent odour from the leachate pond is reported by one farmer as having been noticed only once “about three years ago”, while the other, whose property surrounds the landfill disposal area and leachate pond, refers to the “odour experience all the time”. In the latter case, some improvement has occurred with the irrigation of leachate¹⁰ - “has eliminated some odour”. For the others, no change over time has been observed. However, they all point to seasonal patterns, linked to prevailing wind direction and strength¹¹. As a result, the seasonal pattern of odour observation varies from property to property, depending on direction from the landfill facility.

Mitigation attempts?

Irrigation during the summer with leachate is one option that has been adopted. Another option is to re-circulate the leachate through the landfill. This is not undertaken at Bonny Glen. While covering of refuse is practised at Bonny Glen, one farmer questioned whether this was done as effectively as it could be - “can still be detected at times”. Another relevant mitigation measure at Bonny Glen is the buffer surrounding the landfilling area provided by the landfill property itself.

Impacts?

The farmer who experienced the one-off odour event from the leachate pond reported that it “put me off going into the paddock for a few weeks”. In the absence of a repeat experience, the same farmer rated the effect as ‘generally acceptable. On the property where the leachate pond odour is noticed all the time, it is described as “impacting on a happy work environment and the staff”. However, it should be remembered that this property is actually part of the designated landfill site and has been leased to the farmer for grazing.

Experience of general landfill (tip-face) odour was described as not having any real impact at all on any neighbours.

¹⁰ Consent has been granted to irrigate leachate between November and March each year.

¹¹ General experience suggests that winds at the lighter end of the windspeed range are most effective in transmitting odours. Very strong winds tend to dilute and disperse the odour effect.

The Regional Council reports having received no complaints about odour related to the landfill operation, and the records of three neighbours meetings in March, July and October 1999 make no mention of odour concerns at all.

Summary evaluation

While offensive odours are undoubtedly generated by the leachate pond, the geographical extent of the impacts is very limited, generally extending no more than about 500 m from the facility. There remains dissatisfaction for the closest farming neighbour who is most exposed to the leachate odour problem, as a result of leasing landfill property for grazing.

Vermin

What effect do they notice?

Source of effect?

Spatial distribution?

Occupants of three of the nine farming properties reported vermin effects unprompted, and a further two when prompted. Most notice a distinct increase in the numbers of rats present and attribute this to rats that have been introduced in rubbish brought in from elsewhere - initially from Bulls, when its dump closed, but also reported when other transfer stations¹² began sending rubbish to Bonny Glen. The landfill operator commented that introduced vermin, coming in when other landfills in the District were closed, caused the biggest issue from an operational viewpoint *"Closure meant rats - and some cats - entered bins and these were transported to Bonny Glen."* In some cases, the change has been very marked - *"didn't have rats before the landfill - have to poison on a regular basis"; "Rats everywhere - even noticed slumping in the sides of the landfill from rats burrows"*. Two interviewees noticed a corresponding increase in the wild cat population.

Four out of five farmers link their observations of rats to places where food is most likely to be found - apart from the landfill itself - such as dog kennels near the house, grain storage sheds and other farm out-buildings. Indeed, the observation that rats arrive at the landfill but disperse shortly afterwards in search of food is common to several reports - *"they then head to the farm and the trees"*.

Timing; frequency; trends?

The increase in the presence of rats is generally viewed as a constant - *"any time"*; *"not noticeable that it is a particular time"*. One farmer reported a seasonal increase *"prior to autumn - about March"*.

The two who commented about rats only when prompted experience them only very occasionally - *"perhaps three to four times a year"*; *"hardly ever now"* - referring to the killing effort that is put in at the landfill by the operator - *"the rats happened for the first year or two and not really a big problem"*. Others, who reported the effect unprompted, tend to have different experiences. All these farmers view the effect as increasing steadily since the landfill was first established; they now observe the increased presence of rats regularly.

¹²

The argument is expressed that if the rubbish containers at rural transfer stations are not closed overnight, ready access is allowed for rats and wild cats, which then are transported in the rubbish to the landfill.

Mitigation attempts?

Four of the farmers acknowledge the efforts that have been made. The landfill contractor has carried out what one farmer called “a massive campaign” to combat rat numbers, setting traps and bait stations in an attempt to kill as many rats as possible while they are still in the landfill. One suggested that the effort needs to be stepped up again, while another suggests that similar efforts are required to trap wild cats at the landfill.

Impacts?

Some individuals are upset by the presence of rats. However, in the rural community, more concern was expressed about the consequent risks associated with larger cat populations - their predatory pressure on ducks and birds and the perceived risk of transferring TB to livestock.

Summary evaluation

While rats are endemic in most rural areas, there seems little doubt that the introduction of the landfill at Bonny Glen has resulted in a significant increase in rat numbers. The low level of acceptability of this effect probably stems from a variety of factors. Firstly, they are generally viewed as a pest because of their ecological impact, and a pest that many individuals find offensive. Secondly, their presence leads to increases in the wild cat population, with its attendant risks. Thirdly, the cause and effect were clearly signalled at the planning stages, and it may seem that insufficient attention has been paid to preventative measures¹³.

Surface water contamination

*What effect do they notice?**Source of effect?**Spatial distribution?*

One farmer reported “two escapes of leachate through the bund” of the landfill. The leachate escapes did not reach the streams but had the potential to do so, if the cause was not remedied. Records of the neighbours meeting on 23 March 1999 note that “water blasting and camera inspection of the leachate pipe ... has found an obstruction of the leachate pipe near the eastern end. This means the present leachate drain can not be used to drain leachate, which is seeping from the eastern bund.” The same farmer expressed concerns about similar risks to surface water quality resulting from irrigating the contents of the leachate pond into an area of trees on the landfill property, which he is farming.

Two others reported noticing some discolouration of water in the Kahurauponga Stream - “the creek changing colour to brown” which they attributed to runoff from earth works around the landfill area and associated with excavating cover material located immediately south west of the access road culvert over the stream. These observations were corroborated by records of the neighbours meeting on 29 July 1999.

Timing; frequency; trends?

The leachate escape is described as “constant seepage”. The leachate irrigation occurs during the summer months. Discolouration of the Kahurauponga Stream has occurred regularly during the wet winter months since the landfill earthworks began.

13

Such as more effective control and eradication at source, to avoid their transportation to Bonny Glen.

The Regional Council Investigating Officer reports one complaint in the past three years regarding leachate seepage into the stormwater settling pond - the leachate had escaped through the bund wall and seeped across land.

Both effects¹⁴ are most acute during periods of heavy rain, usually in the winter.

Mitigation attempts?

One of the leachate seeps is captured and piped to the leachate system. The other is monitored.

Impacts?

The leachate escapes are not having an impact on the farm at present, but there is concern over the possibility of long-term risks to surface water quality if the escapes remain unchecked.

The Regional Council Investigating Officer indicated that stream monitoring is on-going, and shows water quality to be poor, although this is not attributed to the landfill leachate discharges. The most recent monitoring report prepared for the Regional Council states under the heading Kahurauponga Stream -

“The stream has poor water quality which is related to stock in the vicinity of the stream. This is reflected in high levels of phosphorus and faecal coliforms at the upstream site. No impact from the landfill is evident in the results”

Two impacts are described resulting from the increased sediment levels in the Kahurauponga Stream. Firstly, it is reported that “*stock won’t drink from the creek*”. Secondly, both farmers refer to the “*reduced visual appeal*” of the stream when it is flowing dirty.

These effects remain a concern to the farmers most immediately at risk, i.e. those who farm properties ‘downstream’ of the landfill operation.

Summary evaluation

The risk of this effect was clearly signalled in the planning process. It appears to be an aspect of landfill management that has not been addressed entirely satisfactorily to date, and requires further attention.

Machinery noise

What effect do they notice?

Source of effect?

Spatial distribution?

Occupants of three of the nine farming properties reported machinery noise unprompted, and a further two when prompted. As a group, these properties virtually encircle the landfill site in all directions (NE, NW, SE, SW). All five report hearing the distant drone from landfill machinery - “*the rumble from a diesel engine*”; “*sounds like a buzz - it is the compactor*” - and all indicate that wind direction makes a difference. They are certain that the noise comes from the heavy machinery used at the site, either to excavate cover material, or to compact the deposited rubbish and cover it. One

¹⁴

Indicating that the leachate is derived from contaminated runoff within the landfill.

farmer commented on the “reverse alarm”, which is a higher pitched sound source on the landfill vehicle, and possibly also on some trucks.

Timing; frequency; trends?

Given that the source of this noise is on-site machinery, it is noticed by some as frequently as rubbish is delivered to the landfill - if not every day of the week, then certainly on most days. Two farmers interviewed describe a frequency of 5-6 days per week; two more at a frequency of 2-3 days per week, while the fifth noticed the machinery noise very infrequently, perhaps half a dozen times a year. No one reported any change in the frequency of the effect over time.

Mitigation attempts?

Noise levels for excavation activity are controlled in the consent conditions. Nothing extraordinary is done to reduce machinery motor noise. However, the contractor has apparently disconnected the reverse alarm, a measure that is considered safe, given that there is no public access to the site.

Impacts?

With one exception, the farmers report that this level of noise - essentially background noise - has no impact on them at all. The fifth says “*It’s frustrating, but you become used to it*”. Several farmers point out that the landfill machinery noise is no different from the noise of ordinary farm machinery. They also report that farming properties in this area are under the Ohakea Air Force base training area, so “*the planes are more of a nuisance*”; “*much more noticeable*”.

Summary evaluation

Machinery noise was not anticipated as an effect during planning for the Bonny Glen landfill. Experience so far has shown that it is indeed not a significant effect for neighbours of the facility.

Property values

What effect do they notice?

Source of effect?

Spatial distribution?

Responses regarding the effect on property values are mixed¹⁵, with three unprompted and three prompted responses. Those who believe that there has been a downward impact link this to a perceived stigma (see more comments below) associated with proximity to the landfill, and suggest that “*a certain group of prospective purchasers will be put off*”. They acknowledge that the property market has not been tested properly yet - at least for their own properties - with only one sale of the property immediately opposite the entrance to the landfill. Those who hold the contrary¹⁶ view point to the sale that has taken place, reporting that the sellers achieved their asking price.

Timing; frequency; trends?

According to several farmers interviewed, whether or not this effect occurs will only ever been known “*at the time of sale*”. They also express the view that any effect is likely to stabilise over time; also

¹⁵ Three believe there has or may still be a downward effect on property values of neighbouring farms, while three take the opposite view.

¹⁶ Including the purchaser of the only property to change hands so far since the landfill began operation.

that the capital value of the farming properties - reflecting their usefulness for farming - has not reduced.

There are mixed views as to whether accepting out-of-district rubbish in future will have an effect. Increased volumes mean more traffic movements, but also a shorter operating lifetime for the landfill.

Impacts?

There is no consensus on the nature or scale of impacts.

Summary evaluation

While farmer perceptions are varied, the reality of this effect will only be known in the longer term, and with the benefit of trend data in property valuations and sales.

Stigma

What effect do they notice?

Source of effect?

Two farmers reported experiencing a sense of stigma *“that having a farm adjacent to the landfill will have long term adverse effects”*. *“People comment about where they live and always say ‘Oh - next to the dump’”*.

Impacts?

No comments were made or recorded

Summary evaluation

A sense of stigma is undoubtedly a real effect associated with proximity to facilities such as landfills. In this situation, the frequency of response on this effect (2 out of 9), combined with the mixed perceptions on property value effect (see above) suggests that a sense of stigma affects a small minority of farming neighbours.

Seagulls

What effect do they notice?

Source of effect?

Spatial distribution?

One farmer commented unprompted on the presence of seagulls, while four others responded when prompted. All describe *“greater numbers of birds”*; *“flocks flying over”* which they attribute to the earthworks occurring at the landfill and the fact that landfill cover was not very effective in the early days of operation - *“always seagulls around now”*. One farmer acknowledges other typical factors which produce the same effect in coastal, rural areas - *“ploughing paddocks and storms bring them in”*, while another noted that he had *“never seen birds taking land-filled material”*.

Timing; frequency; trends?

Seagulls are a constant presence now - *“the trucks arrive and seagulls scatter”*. Several farmers emphasise spring and autumn - ploughing times and lambing time. All those who comment on the birds report a noticeable increase in seagull numbers when the landfill first opened, but little change

since then. There is no consensus about particular circumstances when seagulls are most likely to be observed.

Mitigation attempts?

Farmers are unaware that anything is done by the landfill contractor to control seagull numbers, apart from covering newly-deposited rubbish in order to minimise the potential for scavenging. One farmer noted that the new landfill *“is an improvement on old dump sites”*, while another reported his own efforts to scare away seagulls by shooting in the vicinity of the disposal site and on his farming property.

Impacts?

Two farmers express their concern that seagulls *“disturb ewes during lambing, and can attack young lambs”*; *“it is not desirable to have a large population of seagulls nearby because they scavenge and attack lambs”*. Another farmer commented on the *“fouling of the paddocks and the water”*, while two others report no impacts at all.

Summary evaluation

Although the potential risks to stock are noted, the nature of interview responses suggests that farmers generally are not too concerned by the presence of additional seagulls in the vicinity of the landfill. They are part of the pre-existing farming environment. While the landfill undoubtedly provides seagulls with a focal point, it probably does not make the risks for farming significantly greater.

Traffic effects

What effect do they notice?

Source of effect?

Spatial distribution?

Only one farmer commented on traffic-related effects¹⁷ (apart from traffic-related litter discussed above) describing the noise of trucks delivering rubbish to the landfill accelerating and decelerating near the entrance. This is noticed *“outside, at the frontage of the property”*.

Two out of four Marton residents living on Wanganui Road mentioned traffic noise, while two commented on traffic speed and one commented on the dirt that is sometimes left on the road by passing trucks. One resident distinguished between the local transfer station truck and all the others - *“it never speeds, it is all the other trucks which create problems - dropping dirt, speeding and some very noisy”*.

Traffic count data from the weighbridge and entry control at the entrance to the landfill indicates that the traffic entering the site varies, ranging from no vehicles to a 8 in a day, and averaging at 5 trucks per day. Approximately 1,300 trucks access the landfill in a year. Traffic counts (1991) on Wanganui Road showed a daily count of 1,360 vehicles per day in each direction with westbound traffic (towards Wanganui) including 29% heavy vehicles and eastbound traffic (towards Marton) comprising 16% heavy traffic.

¹⁷

Such as road safety, traffic noise and fumes. Note there are in fact five farm dwellings near the entrance to the landfill on Wanganui Road that might be expected to experience such effects.

Timing; frequency; trends?

The traffic noise was observed by the farmer approximately four times a day, mainly between the hours of noon and 3 pm. The frequency has not changed over time.

The frequency with which residents of Marton observe traffic-related effects depends on when they are at home. Thus the frequencies reported range from “*three times per day*” to “*all the time*”. All comment on how the frequency of heavy vehicle traffic increased when the landfill opened, but several also note that not all this traffic is related to the landfill.

Impacts?

The farmer commented that this traffic noise “*doesn’t really affect us adversely at all*”, noting also that the amount of traffic using the Wanganui Road generally has increased over time, not just related to landfill access.

Some stretches of Wanganui Road have been re-aligned and re-levelled in recent years and these changes have made traffic noise more evident to some nearby dwellings¹⁸. In most cases, roadside residents accept that such effects are part and parcel of living near a main road, but there are clearly some cases where such residents are more affected than others by either noise or road safety concerns¹⁹.

Summary evaluation

Traffic noise and other traffic-related effects are not viewed by local farmers as negative effects from the siting of the Bonny Glen landfill in this rural neighbourhood. These are the effects most likely to be noticed by others who live along Wanganui Road, between Marton and the landfill entrance. In the case of Bonny Glen, the effects from traffic related to the landfill are masked to some extent by the effects from other heavy vehicles using Wanganui Road as a short-cut route between Wanganui and the central North Island.

¹⁸ i.e to dwellings close to the road, particularly where the road level has been raised.

¹⁹ Such as road safety when negotiating into or out of drive ways.

F: Longer-term effects on the landfill on settlement patterns and development in the locality

The Bonny Glen landfill is not considered by farming neighbours nor Marton residents to have had any influence on land development and settlement pattern in the few years since it began operation. It is probably too soon to draw definitive conclusions on this matter.

There has been little change of note in the farming locality - one property sale, and possibly the first indications of rural-residential sub-division on one nearby farming property.

However, several farmers drew attention to the proposal to extend the Bonny Glen landfill to receive out-of-district waste, predicting that the nature and scale of effects might change as a result.

Changes in land use

As noted in Section B, there have been no significant changes in the type of farming land use since the landfill opened. Four neighbouring farmers report a slight increase in dairy cows, and the Council-owned land immediately surrounding the landfill disposal site which is leased to a neighbour has been converted into dairying. One farmer noted indications that some land in the locality (adjacent to Wanganui Road) “*seems to be going into rural-residential lifestyle blocks*” (see change in private dwelling numbers in Table 1, Section C).

There was complete consensus amongst farming neighbours that the presence of the landfill has not been an influence on development in the locality. One noted that perhaps there is “*limited development potential*” while another commented “*perhaps not enough time yet to tell*”.

The small sample of Marton residents interviewed came to similar conclusions - no readily apparent change in land use in their neighbourhood, and no influence from the landfill location either.

Extending Bonny Glen to receive out-of-district waste

This proposal (currently in the final planning/consent stages) drew mixed comment from five of the farming neighbours.

Three farmers commented that the nature or scale of effects may well change if this proposal proceeds. They pointed variously to additional pressure on property values²⁰, the likelihood of more noise and different noise associated with rail transport (if this should be used), and the possibility that use of rail might necessitate an alternative road access route into the site across another farm

²⁰

It should be noted that no conclusive analysis has been carried out on this effect even now.

property. The other two farmers' comments were either neutral or in favour of the proposal to open Bonny Glen to out-of-district waste.

The residents of Marton who were interviewed made no comment about this proposal.

Following the finalisation of the appeal related to the application to receive out-of-district waste for disposal the Community Liaison Group met and discussed the effects of this on traffic and the potential for the use of rail. At the time (late 1999) it was anticipated that additional waste would arrive by truck and trailer and this has been borne out since Wanganui's waste has now been diverted to Bonny Glen for disposal. The potential for the use of rail in the future has not been discounted, but presently this is not cost effective considering the need for additional rail facilities, such as a new rail siding, which would be required at Bonny Glen in order to receive waste.