

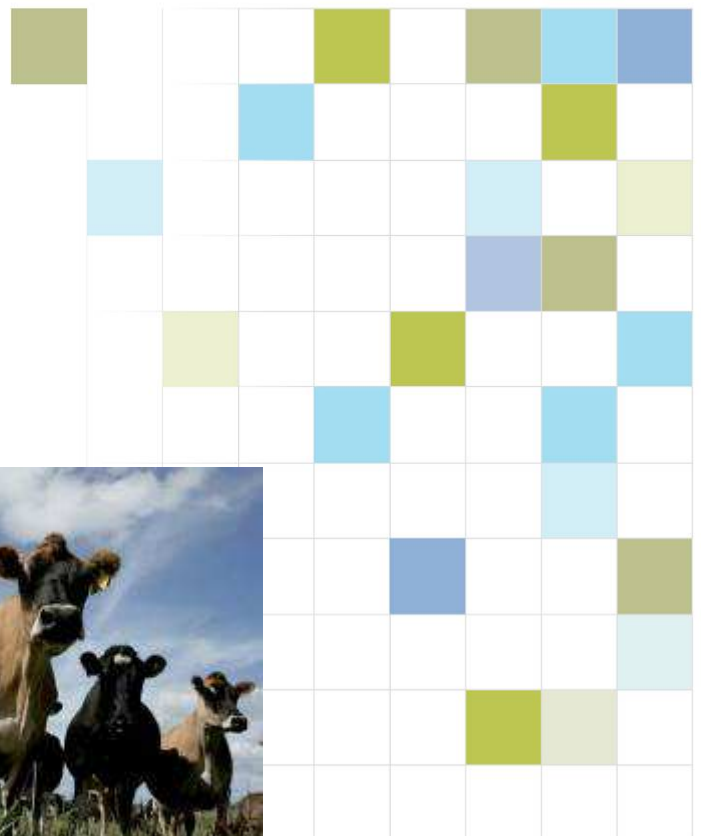
Te Awa O Waitao Social Survey 2007

Part B: Survey Data

February 2008



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Te Awa O Waitao Social Survey 2007: Part B Survey data

NIWA

February 2008

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Executive summary

The 43 respondents generally supported the water and habitat quality improvement goals of both Te Awa O Waitao Restoration project and the Waitao-Kaiate Environment Group. They tended to be long term residents of primarily lifestyle properties within the Waitao Valley section of the catchment.

- Those respondents with waterways on their property (70%) have various levels of planting and fencing of margins. Eight respondents did not undertake any form of management.
- Wetlands and drains are as common as stream margins and should therefore be included in future management plans
- The most commonly stated value of the Waitao Stream and its various tributaries is aesthetic (i.e., natural beauty and ecological value) followed by usage (i.e., recreation, stock and emergency domestic supply)
- Water clarity, condition of stream banks and visibility of aquatic life were the most common assessment criteria for water quality. However, perception of local quality (and change in quality over time) was variable and probably linked to the location of the respondents within the catchment. Those in the upper parts of the catchment were more likely to have perceived no change in water quality over the last few years.
- The most commonly mentioned environmental issue in the Waitao Catchment was stock access to the stream, with the proposed demolition waste landfill in the old pumice quarry at second place. By far the most common perceived solution to local environmental issues was to fence and plant stream margins, to exclude stock, reduce other material entering the waterways and combat bank erosion
- 93% of respondents had observed the weed clearance and planting on Maori land at the bottom of the catchment. The overall assessment was very positive.
- Values associated with Kaiate Falls Reserve are primarily associated with aesthetics and recreation use. However, security issues are a deterrent for local use.

- 40% of respondents were involved with the Waitao-Kaiate Environment Group, mostly through attending meetings or planting/potting days. The vast majority of these respondents found the activities to be worthwhile and had learnt something from their involvement. Participants who were not involved with the group were supportive of the group's goal(s). There are a number of potential future members among the respondents.

Recommendations:

- Maintain momentum through continuing with regular events and planning for on the ground action. If momentum and enthusiasm are lost it is very hard to regain. Social events are just as important as planning or workdays
- Look at incorporating children's events or child minding as part of the future events to encourage families to participate.
- Consider delivering weed control programs to coincide with riparian or wetland planting initiatives.
- Ensure there is a focus on drains and wetlands as important parts of the overall catchment because a large number of respondents have such water ways on their land.
- Maintain and where possible strengthen ties between environmental management oriented groups operating in the area.
- Keep information flowing between all the different groups and the community as people like to be informed. The newsletters appear to be noticed and appreciated.
- Keep recruiting members as there are a number of interested and supportive residents who are not currently involved. Social events may be a way of attracting in new members.
- Effort needs to be placed into making contact with residents outside of Waitao Valley Road, particularly some of the larger farms in the upper catchment because of the impact they have on the overall water quality. If they are not involved, in some capacity, water quality improvements are less likely to be achieved.
- Contacting other local community groups may be a way of extending project buy-in. Local residents have a considerable range of connections with other groups which could be of potential value.

1. Introduction

Te Awa O Waitao Restoration Project was initiated in 2004, as a result of growing concerns by local Hapu around water and habitat quality issues in the Waitao Catchment. Of particular concern, were issues like increasing sedimentation, declining water and habitat quality, erosion, catchment deforestation, spread of pest plants, undervaluation of Maori knowledge, resources and rongoa, and dumping of rubbish. The catchment itself is approximately 3300 ha, beginning in the Otawa Ranges draining into the Tauranga Harbour and with a vegetative cover of approximately 41% native forest, 37% pasture, 10% pine plantation, and 8% scrub. Landuse is mixed, with dry stock farms (beef, sheep and deer), lifestyle blocks and areas of Maori owned land around the bush head waters and the lowland areas. There are two Marae around the lowland sections of the stream and eight hapu have an interest in the area, particularly Nga Potiki, Ngati Pukenga and Ngati He.

The project is managed by a joint steering committee comprised of representatives from Nga Papaka Rangataua, NIWA, and New Zealand Landcare Trust. It aims to achieve several key interlinked goals within the Waitao Stream and the wider catchment. First, to improve water and habitat quality in the stream and the Rangataua Bay branch of the Tauranga Harbour (south-eastern most end of the Tauranga Harbour, Welcome Bay, Tauranga). Second, to facilitate local community learning and action around stream restoration. Finally, work together to find ways to achieve this while merging Maori traditional knowledge with western science in a meaningful way.

Project activities over the last four years have included:

- Biophysical data collection, primarily water habitat and quality data, and species composition
- Restoration work along the margins of the Waitao stream on Maori owned land in the lower catchment.
- Engagement with the local community through informal contacts personal contact, landowner meetings, a field day, newsletters and e-letters.

(Source: Cooper et al. 2007; Rowe et al. 2006; Cooper et al. 2006a; Cooper et al. 2006b)

All of these activities have been undertaken with the view to engaging with the local community to improve water and habitat quality in the Waitao catchment.

In early 2007, an Environmental Group formed within the Waitao Valley section of the catchment. Named the Waitao-Kaiate Environment Group, it is run by a local residents committee assisted by New Zealand Landcare Trust. More importantly, the group aims to work in partnership with Te Awa O Waitao Joint Steering Group (JSG) to further shared goals around environmental improvement, community resources and relationship building with local authorities. To this end, the environment group has formed five sub-committees; Quarry/landfill, Kaiate Falls, Plant/re-vegetation, History collation and Land work/riparian. A representative from the JSG participates in the Waitao-Kaiate Environment Group meetings.

An interesting occurrence for the area has been the sale of the pumice quarry and the new owner's application for a resource consent to establish a landfill for local building demolition waste. Community opposition resulted in the production of a co-ordinated local submission opposing the application. A spin off effect of this process has been a chance to meet neighbours and face a perceived comment threat. The status of the application was unknown at the time this report was written

Two previous reports (Blackett 2004; Blackett 2008) have investigated the social context of Te Awa O Waitao Restoration Project with a small selection of key informants from within the local community. Although this data has been useful in understanding community awareness of environmental issues, informing direction and assessing project progress a larger scale survey of local catchment residents was necessary to see if the key informant's views aligned with that of the wider community. This report will present the views of the wider community and provide a comprehensive data set which will be useful as a benchmark for measuring shifting environmental perceptions and levels of project awareness and involvement within the catchment over time.

2. Method

A door to door survey of Waitao Catchment residents was undertaken in late 2007. The catchment boundaries are defined by Cooper et al (2006a) and illustrated in Figure 1.

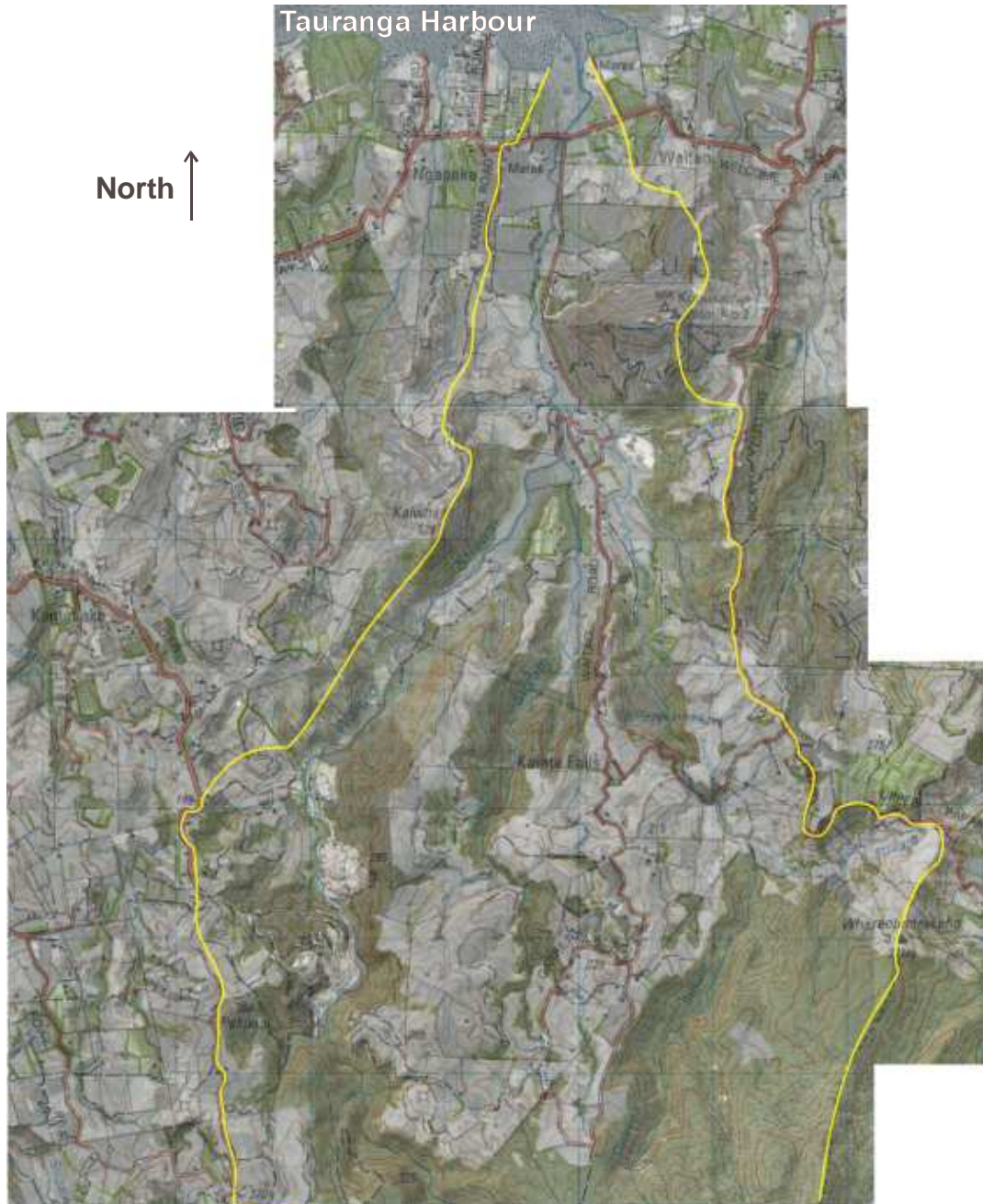


Figure 1: Waitao Catchment boundaries

The survey (Appendix One) was designed to gather useful data from all non-Maori residents in regard to their involvement with the Restoration Project and the Waitao-

Kaiate Environment Group to date, their perceptions of the various activities and their understanding of water quality issues in the Waitao Stream and wider Tauranga Harbour. Input for the survey content was sought from the JSG and Waitao-Kaiate Environment Group in order to ensure all relevant issues were covered. It was carried out face-to-face by volunteers from the Waitao-Kaiate Environment Group who received some training and instruction from the author prior to commencement. Each volunteer did a maximum of 10 surveys and selected an area of the catchment they felt comfortable working in. The aim was to contact as many local residents as possible within the available time frame (24th October, until the 21st December 2007).

A secondary aim was to facilitate an increased awareness of the activities of both the Waitao-Kaiate Environment Group and the Te Awa O Waitao Restoration Project within the catchment and to enhance social networks. This primarily occurred through personal contact between the respondent and the surveyor.

After each survey was completed the respondent was left with a short letter thanking them for their participation, and providing contact details should they require further information (Appendix Two).

Key themes were extracted from the data using an excel spread sheet.

3. Results

Surveys took longer than expected as they became something of a social call as well as a data collection exercise. As a result less households were contacted than initially planned with around 43 responses obtained from a potential estimated group of 100 households. The vast majority of the respondents lived in the Waitao Valley section of the catchment, either on Waitao Valley Road (29), Garrett Road (3) or Kaiate Falls Road (1). A few were collected from Rocky Cutting Road (3) the remaining respondents did not provide addresses.

3.1 Local residents and land use.

Participants of the Waitao Valley are not transient, with the average time spent at the current address equalling nine years. Those renting homes in the area spend less time at the various properties (with 50% being at their current address for up to 1 year), but they represent only 12.5% of those surveyed.

Fifty one percent of those surveyed were families and average house hold as 2 adults and 1 child. This means children are a considerable component of the community

Lifestyle blocks are common with 33 of the total 43 respondents (77%) describing their properties as lifestyle blocks. A total of 12% of participants described their properties as a farm and 4% as a house lot. The main activities on the properties (Table 1) were, general lifestyle block use and sheep and beef. Other use include, horticulture (Kiwifruit, avocados) , forestry, horses, and pigs.

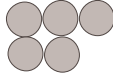


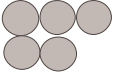
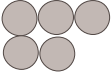








Table 1: Reported Landuse

	n	%
Lifestyle block	19	44.2
Lifestyle/ Horticulture	1	2.3
Horticulture	1	2.3
Hort/Sheep/beef	2	4.7
Sheep/Beef	10	23.3
Sheep/Beef/Pigs	1	2.3
Other	9	20.9
Total	43	100.0

3.2 Local Waterways

A total of 69.8% of the respondent's properties had waterways, either some part of the Waitao stream system (24 respondents), drains (13 respondents), ponds or wetlands (11 respondents). It is clear that some properties had more than one different type of waterway and the distribution of each waterway type and which part of the stream system it is related to, is illustrated in Figure 2.

Figure 2: Respondents with water ways on their property by waterway type (note some respondents had more than one stream on their property)

	Stream	Drain	Wetland/pond
Waitao			
Arateka			
Otawera			
Kaiate			
Unnamed tributary			

Participants with waterways on their property managed them in a variety of ways;

- Six respondents reported fencing streams with either electric fences or permanent fences
- Three respondents have fenced and planted the streams or other waterways including wetlands and drains
- Six respondents have partially fenced and planted their margins, half of these plan to continue with the remaining areas, including drains and wetlands.
- Three respondents have planted their stream margins, but were unclear with regard to the level of fencing.
- One participant undertakes weed control along their stream margins but did not specify any other activities.
- Eight respondents did not manage the waterways in any way. For one participant this was because their stream boundary was described as very small, and for another, the stream was ephemeral and not perceived as requiring any management.

3.2.1 Water way use

The use of waterways in the Waitao Catchment were reported as;

- Recreation; swimming, walking, general enjoyment (16)
- Stock water; open stock access to the water or reticulated stock water (9)
- Domestic water supply; both full time and emergency supply (6)
- Aesthetic; view and appreciation of aquatic life (5)
- Drainage; waterways receive farm run off (1)
- Food gathering, particularly watercress (4 respondents)
- Irrigation for general farm purposes and gardens (1)

Participants may have reported more than one use, however, five participants reported no use of the waterways in the catchment.

3.2.2 Stream Value

Most of those participating in the survey valued streams in the Waitao Catchment for several reasons. The most commonly stated value of the Waitao Stream and its various tributaries is aesthetic. Twenty one respondents appreciated the beauty of the waterways, enjoying aspects like the view of natural water, tranquillity, and feelings that the streams created for them. Recreation was the second most frequently mentioned value (10), followed by ecological value (8) which centred around the importance of the streams in supporting terrestrial and aquatic biodiversity. Four respondents valued the peace and quiet living near a stream afforded them, while three participants valued clean, clear water. Value as stock water was important to 3 respondents and backup domestic water supply to a further 3 participants. Other values were based around increased property values the presence of a stream was perceived to provide, cultural value (Whakapapa), education opportunities, irrigation potential and value as a conduit to transfer water quickly to the ocean.

3.2.3 Water quality

Perception of water quality was quite variable through the catchment. Those with no waterways on their property perceived water quality in the catchment to be okay to very good. Those with a waterway on their property commented on its quality; the Waitao stream was generally perceived as okay to poor, while all the other waterways received mixed evaluations by adjacent property owners.

Figure 3: Perception of water quality by stream



Participants typically based their perceptions of water quality around visual assessments. In particular, the appearance of the water (clarity), the conditions of the stream banks (eroded, or planted and fenced), species present along the margins and in the stream. Word of mouth (i.e., I heard that ..) and taste and odour were also suggested as criteria for assessing water quality (Table 2). Respondents were able to make more than one comment.

Table 2: Perceived water quality indicators for the Waitao Catchment

Perceived indicators of good water quality	Perceived Indicators of poor water quality
<p><u>Visual Assessments</u> Clear water (34) Stable stream banks (7) Fenced stream (5) Free flowing water (no debris) (3) Absence of large silt deposits (3)</p> <p><i>Flora and Fauna</i> Stream bank planted (generally native species) (3) Presence of; <ul style="list-style-type: none"> • Fish (especially native species) (7) • Eels (4) • Frogs (1) • Insects – including glow worms (2) Good growth of watercress (1)</p> <p><u>Word of mouth</u> Low micro-organism count (1) Results of water quality monitoring (3) Knowing a particular native fish species was present (2)</p> <p><u>Other senses</u> No noticeable taste (2) No noticeable taste (2)</p>	<p>Stock in waterways (or evidence of) (1) Waterway choked with debris Silt deposits (1)</p> <p>Stream bank covered in weedy or pest plant species (1) Extensive algal growth (1) Stream channel choked with aquatic plants (1)</p>

Water clarity was the most commonly mentioned tool for water quality assessment (34 respondents). The amount of silt or debris (wood, rubbish, and dead animals) has a bearing on the perception of water clarity. Clear water is perceived to be of a higher quality than cloudy water.

The condition of the stream banks is another factor by which respondents assessed water quality (7 respondents), particularly if they were fenced or planted, showed evidence of stock trampling, or erosion. Planted and fenced streams with intact banks were perceived to hold water of a higher quality than those without.

Flora and fauna of the waterway were considered to be an indicator of water quality. This measure was assessed either by seeing particular plant or animal species or simply knowing that they were there. For example, algae and weedy plant species

were considered to indicate poor quality, while fish, insects (including glow worms) eels and frogs indicated good water quality. One participant knew from the NIWA surveys that their section of stream held native fish species and cited this as an indicator of good water quality.

Three respondents used the Te Awa O Waitao Restoration Project water monitoring data as evidence for water quality within the catchment. However, indicators of water quality appear largely constructed through personal experience and observation rather than quantitative data. Observations are probably collated through contact with the water ways on individual property and daily commuting down Waitao Road.

Participants had mixed views on whether water quality in the Waitao catchment had changed (Table 3), which will be location specific.

Table 3: Perceptions of change in water quality

Improved (10)	No Change (13)	Deteriorated (16)
Water is clearer (1) Less silt (1) Area by bridge due to work there in last few years (1) Weed clearance making a difference (1) Less dead stock in the stream (1) Areas where stock are excluded have improved (4) Since the pig farm closed (1)	Much the same (13)	More algal growth (1) Greater siltation (4) Flooding is more of a problem (6) Back erosion has increased (1) More debris in the channel (1) Weeds are a greater problem (3)

In general, respondents with properties on Garrett Road, Kaiati Falls Road the upper sections of the Waitao and Rocky Cutting Road mostly perceived water quality to have remained unchanged. Those participants with properties in the lower parts of the both the Waitao and the lower sections of the Kaiati and Arateke tended to consider water quality to have decreased in the last few years.

3.2.4 Environmental issues associated with waterways in the Waitao Catchment.

Eight participants did not think there were any particular environmental issues associated with the streams in the area and one further person was unsure because they were new to the area. The remaining perceptions of current local environmental issues and ideas over what should be done to address these are presented in Table 4.

Table 4: Perceptions of current local environmental issues and prospective solutions

Environmental Impact	What needs to be done
Stock access to the stream (13)	Fence and plant streams (21)
Proposal landfill (10)	Refuse landfill consent (6)
Dairy shed effluent (4)	Control use of poisons (3)
Chemicals in or near the water (sprays, rat bait) (4)	Control stock and provide alternative water supplies (2)
Quarry (4)	Public education (2)
Flooding (4)	Control quarry activities (2)
Rubbish dumping (3)	Control dairy shed effluent discharges (1)
Silt build up (3)	Landowners take responsibility for impacts (1)
Road run-off (3)	
Water pollution (3)	
Erosion (3)	
Septic tanks leachate (1)	
Unstable banks (1)	
Farm run-off (1)	
Fertiliser (1)	
Heavy whitebaiting (1)	

The most commonly mentioned environmental issue in the Waitao catchment was stock access to the stream, with the proposed demolition waste landfill in the old pumice quarry at second place. A high ranking of the proposed landfill is not surprising given its topical nature and high profile within the Waitao Valley community.

By far the most common perceived solution to local environmental issues was to fence and plant stream margins, to exclude stock, reduce other material entering the waterways and combat bank erosion.

3.2.5 Observations of weed clearance in lower catchment

As the majority of the participants travel regularly along Waitao Road many have observed the changes in the lower catchment (93%), due to weed control and riparian plantings on Maori Land. The overwhelming view was positive with only two negative comments and two respondents who didn't provide an opinion. However, some

concerns around weed control and ongoing management of the plantings are worth noting because they are relevant to all riparian plantings in the area.

3.2.6 Kaiate Falls reserve

The Kaiate Falls Reserve was used by 53% of the respondents for a variety of purposes including walking (17), swimming (9), general recreation (3), seed collection (1), education about local flora and fauna (1). It is valued for a wide range of reasons;

- Recreation site for swimming or walking (18),
- Aesthetic value and natural beauty(13)
- Unique local community asset (13)
- Flora and fauna, particularly bird life and native vegetation (5),
- Catchment water quality protection (2)

Use and value of the park was clearly affected by vandalism, theft of property, and not feeling safe in the reserve (6). Respondents overwhelming (27) suggested improving security as something they would like to see happen in the future. Other issues were around ongoing maintenance of the tracks and bridge (13), weed control (4), retaining ‘naturalness’ (3), limiting use by the general public to minimise human impact (1) and creating disabled access (1). Three respondents wanted the reserve to remain as it is, a further three either didn’t use the reserve or had no opinion and one respondent felt no more money should be spent on it.

3.3 Tauranga Harbour

This data has not been analysed due to time constraints.

3.4 Involvement in community initiatives within the Waitao Catchment

Respondents were asked if they were involved in environmental management oriented activities within the local community (Table 5). It is important to note that people are involved with more than one group.

Table 5: Involvement in local stream management initiatives

Project	number		%	
	Yes	No	Yes	No
Te Awa O Waitao Restoration Project	5	38	11.6	88.4
Waitao-Kaiate Environment Group	17	26	39.5	60.5
EBOP Environment Programme	5	38	11.6	88.4
Other Groups	4	39		
Total involved (families)	23	20	53.5	46.5

Other groups involve Baha'I youth groups and Kauaka groups, Crimson Corridor (Mt Maunganui Collage), Nga Whenua Rahui, Forest and Bird Society and Department of Conservation.

It is clear that the greatest number of respondents were involved with the Waitao-Kaiate Environment Group, although, this is less than 40% of the respondents. However, this number may be biased because the respondents surveyed were primarily from the Waitao Valley area, who as a whole, are potentially more likely to be members of the local Environment Group.

Involvement with the various environmental management oriented groups (listed in Table 5) included:

- Attended environment group meetings or on the committee (14)
- Plant propagation and nursery (9)
- Past associations with Environment Bay of Plenty (1) and Department of Conservation (1)
- Involved with proposed landfill lobby (against) (1)
- Work days (1)

Of the respondents involved with the various groups, 21 found it to be worthwhile, one respondent thought it was “possibly worthwhile” and a further participant described themselves as “a bit cynical” with respect to the value of the interactions. Comments revolved around the groups bringing the community closer together (3), and increasing local awareness of, and enthusiasm for, working on environmental issues (1) through education (4).

Many of the respondents felt they had gained knowledge on reducing environmental impacts on the stream and harbour, and/or learning about land management practices in general through their involvement with the various groups (Table 6)

Table 6: Learning as a result of group involvement

Learnt something about;	Yes (%)	No (%)	Not stated (%)
Reducing environmental impacts on the stream	78.3	4.3	17.4
Reducing environmental impacts on the Harbour	60.9	17.4	21.7
Local land management practices	65.2	13.0	21.7

For some of the respondents their new knowledge has lead to changes in action or behaviour:

- More cautious drinking the water (1)
- Had our river side assessed and a plan for future plantings (1)
- Increased “passion’ for the area and environment (1)
- Identified sources of advice and used it (1)
- More aware of local issues (1)
- Initiated planning processes to plant their property or care for the stream (7)

Some suggested improvements for future to group activities;

- Children to cater to so adults can participant fully (2)
- Increased resourcing to fund further (and more) activities (3)
- improve inter-group communication (2)
- More social occasions (1)

One interesting comment was that the *“time and effort to progress is hard and was found to be frustrating”*

Of those who were not involved in any of the groups, 75% of respondents had heard about the activities, 70% thought they may attend future events. Most importantly 95% thought the groups were worth while even though they were not personally involved. Comments around the value of the groups activities from those not involved revolved around;

- Benefits the environment (8)
- Improves local social cohesion – “the community pulls together” (4)
- Obtains the attention of the Council and “gets them doing something” (1)
- Offsets the development in the city (1)
- Needs doing (1)
- Has a flow on effect. Many people are tiding up their weeds (1)
- Benefit farms (1)
- Young people are involved and protects the environment for the next generation (1)

Those respondents who did not think they would get involved with the Environment Group in the future cited ‘busy’ as the main reason.

3.5 Success in reaching out to the local community

Of those surveyed 46.3% considered themselves a current member of the Waitao-Kaiate Environment Group and 60% saw themselves as members in the future. Around 19% did not see themselves as future members and 21% did not answer this question. A large proportion of respondents (84%) had seen newsletter produced by either, the Environment Group, Te Awa O Waitao Restoration Project or Environment Bay of Plenty.

There are several key people and organisations involved with catchment management in the Waitao catchment and many of the respondents had met these people at some stage (Table 7)

Table 7: Contact between local residents and either Tom Cooper, Mike Meijer, Robyn Skelton from NZ Landcare Trust or anyone from NIWA or EBOP

Person	Number		Percentage	
	Yes	No	Yes	No
Mike	29	14	67.4	32.6
NIWA	20	23	46.5	53.5
Robyn	17	26	39.5	60.5
Tom	25	18	58.1	41.9
EBOP	22	21	51.2	48.8

Mike appears to have established the most contact with respondents these meetings have been associated largely with Environment Group meetings and events (23), as a neighbour (5) or through the proposed landfill consent submission process (2).

Tom's contact with respondents is related mainly to his involvement with both the Environment Group and capacity as Te Awa O Waitao Restoration project Kaitiaki and interactions with locals while water quality sampling and discussion of results (21). Two respondents know the family.

Respondents have had contact with staff from Environment Bay of Plenty mostly through Te Awa O Waitao restoration project and Environment Group meetings (19), proposed landfill related issues (2)

Contact with NIWA has been solely through Te Awa O Waitao Restoration Project and Environment Group meetings and field days. Likewise, Robyn is known mostly through her work with these groups. However, one respondent knew her personally.

As a result of the above interactions respondents have gained knowledge and ideas on how to manage both specific and general environmental problems. Interactions with Environment Bay of Plenty around the proposed landfill were not so positive.

3.5.1 Involvement in other community groups

Respondents were involved with quite a number of other community groups;

Art gallery committee

Athletic and tennis clubs.

Bowls - indoor.

Church. (Including but not only Welcome Bay Baptist Church)

Coastguard - as boating safety.

Deerstalkers

Garden club

Home schoolers group

Lions, garden club.

Organic Avocado Group

Rudolf Steiner School wetlands restoration project.

Via our daughter's school. Church. Forest & Bird and KCC.

WBOP Baha'i Community Scouts

Welcome Bay Bowls

Welcome Bay planting group.

Yacht club.

Young mothers group.

There were some comments around the choice of days for community events as they clash with other activities. For example, some people have children's sport on Saturday and others go to Church on Sunday.

3.6 Future of the catchment

Respondents were asked to comment on what they saw as a desirable future for the stream margins in the Waitao Catchment. Their comments are very diverse and have been included in Appendix 3. A popular future vision for the streams within the catchment see them with clean water (12) which makes it suitable for various uses (i.e., recreation, education, stock and domestic water supply), planted stream banks

(13) for aesthetics, biodiversity and erosion control. Respondents would like to see weed and pest species controlled and no effluent or rubbish in the water. There are a couple other comments worth noting around the impracticality of completely fencing out stock out of waterways and the construction of stock banks and stream bank stabilisation to manage floods. However, these are in the minority.

3.7 Other issues respondents wished to raise.

At the end of the survey respondents were asked if they had any further comments they wished to have noted and had not previously expressed. These included;

- Two participants would like to see the proposed landfill site returned to pasture or made into a community park
- Two participants suggested restarting the local “Road Picnics days”
- Upgrade local roads
- One participant felt that they should receive recognition for their work on riparian management which occurred prior to either Te Awa O Waitao Restoration Project or the Waitao-Kaiate Environment Group initiatives
- Two participants wished to congratulate others on the good work done so far

4. Discussion.

This survey mainly canvassed views from residents of the Waitao Valley portion of the catchment. As a whole the group is not particularly transient, with residents occupying their properties for an average of nine years. This means that projects with long term goals (i.e., catchment management goals of both Te Awa O Waitao Restoration Project and the Waitao-Kaiate Environment Group) should not be incompatible with the time frames of local residents. However, having said this, short term wins are important in the success of community projects because they tend to retain group enthusiasm, cohesion and momentum. It is best to tackle the easy and highly visual projects first. As participants are probably on their land for longer periods of time, encouraging long term investment in stream restoration should be simpler. There are some rental properties in the area which may prove more challenging and require continual re-engagement as tenants change. Another alternative is to include the property owner in the projects where possible.

The majority of the respondents (77%) described their property as lifestyle blocks (average area 5.8ha). Smaller properties should reduce the average overall cost of fencing and planting waterways.

A number of the respondents had children which can affect the ability of parents to attend meetings and field days. It is worthwhile considering how children can be catered for particularly if they have the potential to be disruptive. Other community projects have attempted either a parallel session for children, provided an experienced child minder such as a teacher, willing parent, or entertainer, or held 'family days'.

A high proportion (69.8%) of the respondents had waterways of some variety on their land, with 24 respondents who classified these as wetlands and drains. As a result both the Environment Group and Te Awa O Waitao Restoration Project should (or continue to) promote the importance of drain and wetland as integral components of the overall catchment. Other studies have shown that many people do not consider wetlands and drains to be part of waterways and tend to manage them differently to stream channels. In the long term, drain and wetland management plans in addition to stream management would be useful.

Aesthetics (beauty and natural value) and use values (recreation or stock and emergency domestic water) dominate the values associated with local streams. All of these lend themselves well to programs which aim to protect water and habitat quality. Overall, the perception of water quality is quite variable and appears linked to the respondent's location within the catchment. This is not surprising given the variability of water quality in the catchment, particularly between some of the small tributaries and the main channel. However, the predominant view appears to be no change or deterioration in water quality over the last few years.

Water quality assessment is largely associated with visual cues, for example, water clarity, bank condition or presence of aquatic life. This aligns with the information collected from the first round of face to face surveys in 2004 (Blackett, 2004). It makes a lot of sense for non-experts to assess water quality in this manner, however, it may not necessarily be accurate given the 'invisibility' of many pollutants.

The list of local environmental issues offers no particular surprises, but does suggest that the message around the importance of fencing and planting waterways and stock exclusion is getting through to the community. Prominence of the proposed landfill as an environmental issues was expected given that the consent application was recent and the outcome currently unknown.

Community involvement with various group activities (i.e., Environment Group, Te Awa O Waitao or Environment Bay of Plenty) around water quality and stream management issues is quite high for residents within Waitao Valley (53.5%). It is clear that some respondents had been involved with more than one group, however they were the most involved with the Waitao-Kaiate Environment Group (40%). New knowledge and increased social contact with neighbours were the primary benefits gained from group involvement. This combination is ideal for a community group and a key success factor will be maintaining a balance between social activities, learning, and on the ground action.

The Waitao-Kaiate Environment Group has wide support amongst those who are not directly involved because they are seen as benefiting the environment and contributing towards social cohesion. Group membership is likely to grow over time provided momentum can be maintained through demonstrated successes in on the ground action and community activities. Local people (Mike, Tom and representatives from Environment Bay of Plenty) are probably key links for residents into group activities and new knowledge around mitigating environmental impacts of land use. These people will be key to expanding the goals of both Te Awa O Waitao Restoration Project and the Waitao-Kaiate Environment Group in the future.

It is unfortunate that more respondents from outside the Valley area were not surveyed, as this would provide a more complete picture of awareness and involvement. However, it is very likely that the levels of awareness and group involvement would have been much lower. This is primarily because the face to face interview data shows that participants outside of the Waitao Valley tend not to be involved with the Environment Group, because it is not perceived as relevant or they do not feel included (Blackett, 2008).

Kaiate Falls Reserve is a valued community assets for similar reasons to those associated with the Waitao Stream and its tributaries; aesthetic, intrinsic ecological

(i.e., naturalness) and use (i.e., recreation) values. However, the main barrier to its use is security and safety issues. Identical issues were raised as part of the face to face interviews in 2004 and 2007. It is clearly an unresolved local issue.

Choice of day for events is always difficult because of the wide range of activities people are involved in which may clash with community day's or meetings. This cannot be helped as there is always someone who can not make it due to other commitments. The key factor will be communicating outcomes and points of interest from the events. Continuation of communication via newsletters and e-mail and personal contact will help inform those who cannot attend.

The goals of both Te Awa O Waitao Restoration Project and the Waitao-Kaiate Environment Group did not seem out of step with the way respondents would like to see the future of the catchment. However, it worth mentioning (once more) the limited geographic location of respondents with respect to the overall size of the catchment.

5. Recommendations

Overall, the goals of Te Awa O Waitao and the Waitao-Kaiate Environment Group appear to be largely supported by survey respondents. However there are a few recommendations which come out of this survey work:

- Maintain momentum, through continuing with regular events and planning for on the ground action. If momentum and enthusiasm are lost it is very hard to regain. Social events are just as important as planning or workdays
- Look at incorporating children's events or child minding as part of the future events to encourage families to participate
- Consider delivering weed control programs in conjunction with riparian or wetland planting initiatives
- Ensure there is a focus on drains and wetlands as important parts of the overall catchment because a large number of respondents have such water ways on their land
- Maintain, and where possible, strengthen ties between environmental management oriented groups operating in the area

- Keep information flowing between all the different groups and the community as people like to be informed. The newsletters appear to be noticed and appreciated
- Keep recruiting members as there are a number of interested and supportive residents who are not currently involved. Social events may be a way of attracting in new members
- Effort needs to be placed into making contact with residents outside of Waitao Valley Road particularly some of the larger farms in the upper catchment because of the impact they have on the overall water quality. If they are not involved, in some capacity, water quality improvements are less likely to be achieved
- Other local community groups may be ways of extending project buy-in. Local residents have a considerable range of connections with other groups which could be of potential value

6. Conclusions

The combination of events within the Waitao Catchment over the last few years (beginning of Te Awa O Waitao Restoration Project, establishment of the Waitao-Kaiate Environment Group and the proposed landfill consent application), has raised local interest and awareness of environmental issues.

This survey had 43 respondents, predominantly residents of the Waitao Valley section of the Waitao Catchment. Participants tended to be long term residents with lifestyle block properties who valued local waters ways, biodiversity and aesthetics and who generally supported water and habitat quality improvement goals. At present, there seems to be a lot of interest and enthusiasm for managing stream margins. More importantly, for the majority of respondents, visions for the future don't appear to be incompatible at a superficial level.

It remains very important for overall success, that people living beyond the Waitao Valley are included as much as possible in the overall restoration project. This is the next big challenge.

7. Acknowledgements

The survey which forms the basis of this report could not have been so successful without the volunteer surveyors from the Waitao-Kaiate Environment Group. The authors would like to thank, Bronwen and Mike Meijer, Dave Hooker, Ann Holloway, Lyndel Crisp, Shirley Nelson, Sara Brill, Sara Gregg, Sally Jones, Saskia Ellerington and Sandra Wood.

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8. References

Blackett, P.E., (2004) Te Awa o Waitao restoration project baseline social survey. NIWA Client Report HAM2004-026.

Blackett, P.E (2008) Te Awa O Waitao Restoration Project Social Survey: Part A Interview data. AgResearch Client report.

Cooper, H.; Quinn, J. Skelton, R. (2006a) Waitao Restoration project: Kaitiakitanga, the importance of our inheritance. Leading the Challenge: Winning Models of Rural Community Involvement. New Zealand Landcare Trust Tenth Anniversary Conference, Wellington Stadium, 17-18 October 2006

Cooper, H.; Skelton, R; Cooper, T; Quinn, J. (2006b) Te Awa O Waitao Restoration Project Annual Report 1st July 2005 to 30th June 2006. New Zealand Landcare Trust, Christchurch.

Cooper, H.; Skelton, R; Cooper, T; Quinn, J. (2007) Te Awa O Waitao Restoration Project Annual Report 1st July 2006 to 30th June 2007. New Zealand Landcare Trust, Christchurch

Rowe, D.K.; Smith, J.P.; Cooper, T.; Quinn, J.M.; Reeves, P. (2005) Status of freshwater fish in the Waitao Stream, Tauranga – use of new tools to determine differences in the diversity of fish in New Zealand river catchments. NIWA HAM2005-071. NIWA, Hamilton, 30 p.

Appendix 1: Door to Door Survey

Interviewer _____

Date _____

Waitao Catchment Survey 2007

General demographics

Address : (This will be confidential)

No. people living in the household? _____

How many are children ? _____

Question 1: How long have you lived at your current address?

Do you own or rent?

Question 2: How big is your property in hectares/acres?

_____ hectares OR _____ acres

Question 3: How would you describe your property – lifestyle block farm etc. (*circle*)

Lifestyle block

Farm

House lot

Other: (i.e., business?)

Question 4: What is the main activity on the property? (*circle*)

Lifestyle block

Horticulture

Dry stock: sheep/ beef

deer

Other (i.e., residential, other business, other livestock mix)

Stream

Question 5:

Part A: Do you have waterways on or bordering onto your property – streams or drains, ponds/wetlands -see map (*circle*)

Streams *Drains Ponds/Wetlands* *None*

Waitao

Arateka

Otawera

Kaiate

Unnamed tributary

Part B: How do you manage the stream margins?
(*i.e., are they fenced and/or planted with shrubs/trees etc?*)

Question 6:

Part A: Do you (or your family) use the stream or drains? What for?
(*i.e., open-access stock water, reticulated stock water, domestic drinking water, non-drinking domestic water (e.g., for washing /toilets), farm or garden irrigation, land drainage, flood protection, recreation, swimming, fishing /kai .. mainly aesthetics*)

Part B: Do you value the stream? What do you value about it?

Question 7: What sort of condition do you think it is in? *(circle)*

Very good

Good

Ok

Poor

Very Poor

Question 8: Do you think the condition of the stream has changed in the last few years? How?

Question 9: On what criteria do you base your assessment of water quality and general stream environmental health?

Question 10: Are there environmental issues or impacts associated with the stream in this area?
(if say landfill consent application note down but ask for another)

Question 11: What do you think needs to be done to address these?
(if around landfill consent application note down ask for other comments)

Question 12:

Part A Have you seen the stream side weed removal, fencing and native revegetation planting undertaken in the lower part of the Waitao stream? (*circle*)

Yes

No

Part B (If yes) What do you think of it?

Question 13:

Part A Do you use the Kaiate falls park?

Yes

No

If yes...For what?

Part B Do you value the park? What about it do you value?

Part C What would you like to see happen at the falls reserve in the future?

Harbour

Question 14:

Part A: Do you use the Tauranga Harbour/Rangataua Harbour/Welcome Bay?

Yes

No

If yes....For what?

Part B: What is it about the harbour that you most value?

Question 15: What do you think are the environmental issues associated with the harbour?

Question 16: What do you think causes these?

Question 17: How could these problems be addressed?

Involvement with stream restoration/management

Question 18: Are you or your family involved in any of the activities of the Te Awa O Waitao Restoration Project, Waitao-Kaiate Environmental Group, Environment Bay of Plenty Environmental Programme, or other land/environment management groups?

Te Awa O Waitao Restoration Project	Yes	No
Project Waitao-Kaiate Environmental Group	Yes	No
EBOP Environmental Programme	Yes	No
Other Groups (name)	Yes	No

IF YES

What was your involvement?

Was it worthwhile?

If improvements could be made to the activities these groups run, what would they be?

Was getting involved useful to learn more about reducing the environmental impacts on:

the stream Yes

No

the harbour Yes

No

Or learning about local land management practices? Yes No

Have you made any changes as a result of what you learnt?

IF NO

Have you heard about any of the activities? (*seen the newsletters?*)

Yes

No

Do you think you may attend in the future?

Yes

No

Do you think the group's activities are worthwhile?

Yes

No

Any particular reason for this?

Question 19: Have you met either Tom Cooper, Mike Meijer, Robyn Skelton from NZ Landcare Trust or anyone from NIWA or EBOP?

Mike

Yes

No

NIWA

Yes

No

Robyn

Yes

No

Tom

Yes

No

EBOP

Yes

No

If Yes

What it was to do with?

Have you got anything out of these meetings (*if so what might they be*)

Question 20: Have you seen any of the newsletters that either group has produced?

Yes

No

Question 21: Do you think of yourself as a member of the Waitao-Kaiate Environmental Group now, or in the future?

Now

Yes

No

In the future

Yes

No

If No

Is there any particular reason for this?

Question 23: Are you involved with any other local community groups

(list)

or attend other community events?

In summary

Question 24: Do you have any thoughts on what the stream and its margins should be like in the future? *(or the area in general)*

Any further comments?

If you like we can take your details and put you on the contact list for the Waitao-Kaiate Environmental Group?

Name _____

Address _____

Phone no. _____

e-mail _____

Appendix Two: Letter left behind after the face to face surveys were completed.

Waitao Catchment Wide Survey 2007

Thank you for participating in our catchment-wide survey on water and stream management issues for the Waitao catchment. We appreciate your input.

If you have any questions about the survey please feel free to contact
Paula Blackett on (07) 8385585
Or paula.blackett@agresearch.co.nz

If you have any questions about the Waitao-Kaiate Environment Group please feel free to contact Mike Meijer on 5443820

If you have any questions the Te Awa O Waitao Stream Restoration Project please feel free to contact Tom Cooper on (07) 5422 492 or 0274198482

Appendix 3: Respondents comments around a “desirable future” for the Waitao stream

Free of weeds, natives planted to keep out runoff. Lots of stream life, especially for children to experience.

Small stream volume of water increases only in flooding. Water changes stream shape.

Beautification and keeping stream clean for future generations.

Love to see all the streams cleared of weeds, no stock entering the streams and the streams brought up to an ideal standard.

Preserved in good condition.

As it is now or better.

Allowed to return to its natural good health.

Bank erosion protection. Vegetation cover over the bank.

Tidier environment - less rubbish. Clean pristine environment.

Vision is more native trees teeming with birdlife. Shady, clean stream.

New improvements at falls were great (compared to UK it looks nice).

Attract more people for added security, more picnic tables. Notice board about area, maybe photo of waterfalls, little bit of history.

The whole river fenced and planted and whitebait in abundance.

A bush corridor and no landfill, and quarry site planted in natives to become a community asset.

Lots of native trees.

An area of outstanding natural beauty that everyone in the valley feels a part of and is proud of. An example to others thinking about forming environmental groups. A social shared stream for all residents to enjoy.

Would like to see it preserved and kept clean.

With community cooperation it could be kept in pretty good order.

With our knowledge nowadays we should be able to get it clean again. It belongs to everyone. It should be supported by everyone in Tauranga as it affects everyone - the quality of water.

Odd social event.

As much planting as possible - trees/shrubs and fenced from stock and no drains from milking sheds/pigs going in stream.

Clean tidy - no weeds, ready access.

Clean, nice to swim in, drinkable.

Clear. Disease-free as possible. No stock in streams.

Willow free, weed free border. Put back to natural state. Waste soil from previous clearing dealt with, raking out.

Beautiful area with lush native plantings.

Stream beds stabilised - if that is the state they should be in. Environment is dynamic, change is part of it. Stabilise dune, put up stop banks, channel water. Human effect on environment is tenuous. One event can overturn years of work, e.g. New Orleans.

Just being able to control sediment going into stream. Personally, thinking about how to harvest pines when ready so don't damage stream.

We all know it should be fenced off and stock kept out but in reality it's too impracticable.

All should be fenced with no stock. Kids should be able to swim from top to bottom.

Personally I would have left it in its natural state with the exception of fallen trees.

Clean flowing appearance and natural stream vegetation, trees etc around fencing.

Tree bordered.

Choice for each landowner. Stream shifting through changing landscape, bush and open areas by stream.

Clean stream. Weed problem. Replanting to protect boundaries. More done to get rid of woolley nightshade. Goats an issue. Few possums. Like deer.

We have now been here for 18 years and have not seen any evidence of the silt and

rubbish being cleaned out of the Waitao Stream or the Kaiate Stream. We believe that if this was done the flooding in this area would not be half as bad as it is when we receive 100ml of rain in a downpour.

Fully clad in bush or appropriate restoration sourced from the local area, from estuary to the bushclad hills with picnic/recreation areas. Wetlands restored and similarly planted. Marginal hillsides replanted in bush - weeds eradicated. Unpolluted, pristine waterways including harbour, able to sustain recreation, fishing, kaimoana gathering etc. Having areas put aside as wilderness areas that are not traversed by humans except for pest control etc. Having a complete compliment of the biodiversity which once would have been here - flora and fauna. In conjunction and agreement with local iwi turning Kopu-Kairua into a mainland island with an exclosure fence round it. Planting and returning kiwi etc to the area. Using this resource like Karori where education of the community can take place. Having experiences that encourage more conservation/sustainability of this enviroment and others. More vegetation along the stream to beautify the area.

Clean good enough for our children for recreation, fishing. See the bush back the way it should be. Flooding addressed.