Managing our coast: The tabulated results of two community surveys undertaken at Tairua and Waihi Beach

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ABSTRACT

In setting goals for long term coastal planning it is beneficial to understand the perspectives of the community, including what people value about the coast; whether they really understand coastal processes; and what their preferred community management options or outcomes might be. This research report addresses the issue of community perspectives about the coast and presents the tabulated results of two questionnaires undertaken at Tairua and Waihi Beach in the Coromandel in 2007. The questionnaires asked community members about issues related to current and future coastal management for the local area.

Many similarities were seen between the Tairua and Waihi questionnaire samples, both in terms of values and preferences for future management of the coastline. The values held in the highest regard by participants included appearance of the beach and dunes; easy access on to the beach; retaining some undeveloped natural beaches around the coast; retaining some undeveloped, natural headlands around the coast; protection of scenic values when looking out toward the sea; and the involvement of local people in decision-making about the coast. Participants also appeared to have a reasonable understanding of coastal processes and their implications for coastal management. Strong support was seen for more natural methods of management such as the use of dune buffer zones both in the short and long term, and there was also support for management approaches such as managed retreat and beach nourishment.

KEYWORDS

Coastal management, natural hazards, erosion, community, survey, questionnaire, Tairua, Waihi Beach, Whangapoua, Coromandel, New Zealand.

1.0 INTRODUCTION

The future long term management of the coast is an important issue, and one that local authorities and communities need to consider, both from a sustainable development and protection perspective. Understanding the perspectives of the community, including people's viewpoints about what they value about the coast, whether they really understand how coastal processes work, and what their preferred community management options or outcomes might be, can assist with setting goals for long term coastal planning.

This report presents the tabulated results of two questionnaires undertaken at Tairua and Waihi Beach in the Coromandel in 2007. The questionnaires asked community members about issues related to current and future coastal management for the local area. At the same time as the questionnaires were undertaken, qualitative interviews which supplemented the survey were also carried out at Tairua, Waihi Beach and Whangapoua. Analysis of these interviews is not included as part of this report but can be found in a parallel study by Stewart et al., (2007) entitled *"Coastal management in the Waikato region: a study of the views of Coromandel beachgoers on coastal erosion and its management. January 2007*".

This report first provides a brief overview about the overall aim of this particular piece of research with respect to coastal management, the communities involved, and the research methods used. A brief summary of the results of the two surveys is presented in section 5.0. All of the original data tables and associated graphs related to the survey can be found in Appendix 1. This report is not intended to provide a comprehensive interpretation or analysis of all the data from the survey, as this will be the subject of subsequent work.

The survey presented here (and the associated interviews) are part of a collaborative research effort between GNS Science (GNS), National Institute of Water and Atmospheric Research (NIWA), Environment Waikato and several independent consultants working in the fields of social research, community consultation, emergency management and coastal research.

2.0 OVERVIEW AND OBJECTIVES

This study contributes to an ongoing body of research in the Waikato Region about community understanding and coastal management (e.g. Dahm, 1999; Environment Waikato, 2002; Dahm, 2003; Thompson, 2003; Dennis et al., 2005; Horvath-Hallett, 2005; Stewart et al., 2005; Blackett and Hume, 2006; Turbott, 2006). A starting point for this study is Dahm's key finding (Dahm, 2003) that although beaches are highly valued and utilized resources, beach user opinions and preferences and community perceptions of coastal erosion have only rarely been studied and even more rarely used as a contribution to management.

The general framework for this study is community involvement in coastal hazard mitigation. The overall aim of this study is:

> *'To identify the value of the coast to communities, to identify peoples' understanding of and interaction with beach management options, with the results of this study being able to inform the formulation of future planning strategies for coastal management.'*

Specific objectives are to:

- Investigate the value of the coast to communities (including visitors as well as residents);
- Investigate public perceptions of erosion;
- Investigate public perceptions of different erosion management strategies (including planning tools such as development setbacks);
- Investigate public preferences for different coastal protection schemes, and reasons for these preferences;
- Investigate respondents' experiences with local coastal protection schemes at the contrasting study locations; and
- Investigate respondents' level of involvement with coastal protection schemes.

As part of the research, three communities on the east coast of the Coromandel Peninsula in the North Island of New Zealand were selected for study: Tairua, Waihi Beach and Whangapoua (Figure 1). These locations were chosen as they illustrate a range of severity of current erosion threats, and of approaches to coastal protection. Tairua's Ocean Beach has a dune management scheme currently in place, and has some visible erosion problems at the southern end. Waihi Beach has a 'package' of coastal protection measures in place, including two sections of rock wall, training and reinforcing of two creeks with sandbags, and a dune management scheme. Whangapoua is not considered to be currently under threat from erosion. A dune management scheme is in place around the centre of the beach; elsewhere along this beach, beachfront property owners have generally planted their own frontages to stabilise the dunes.

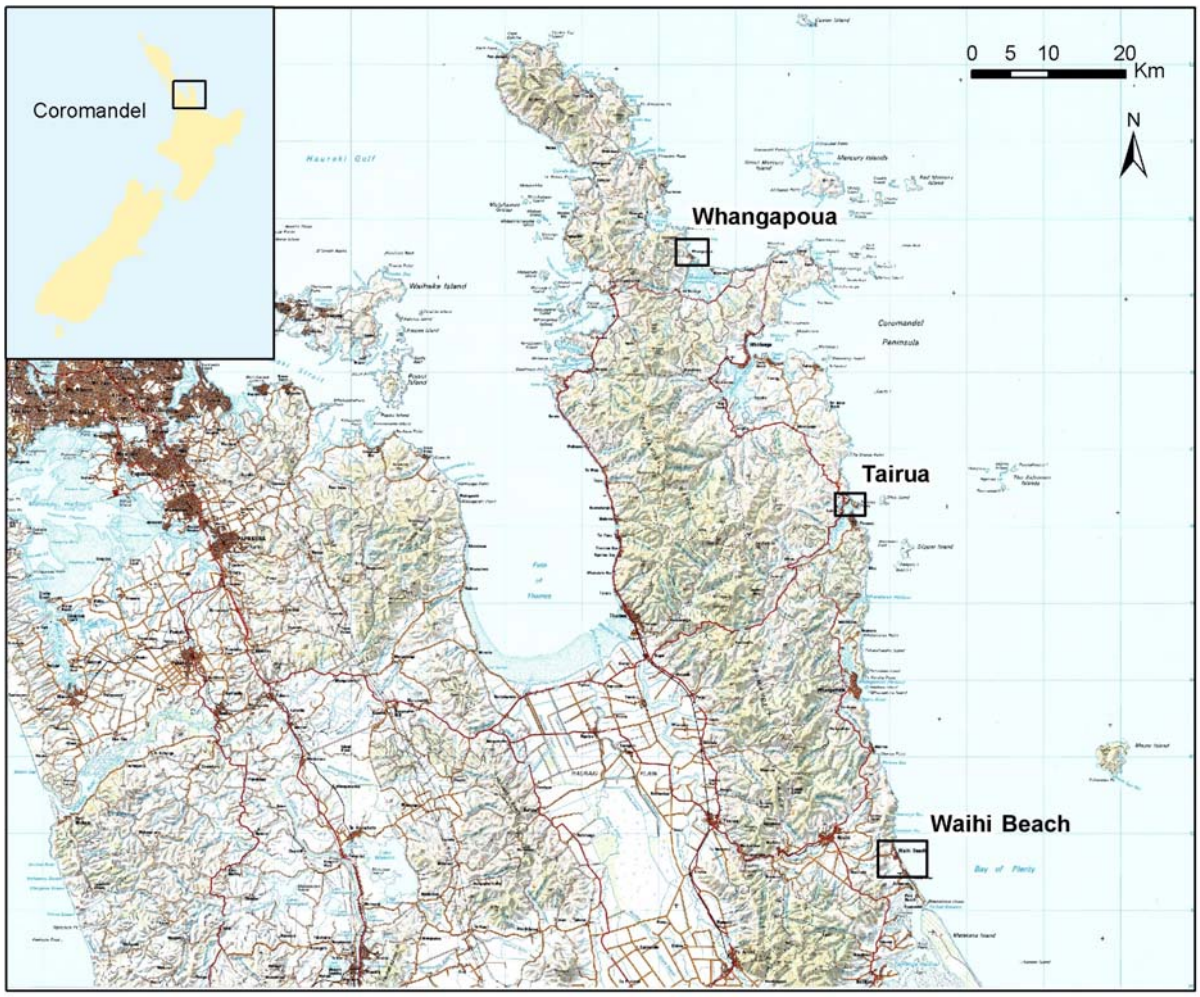

Figure 1 Map showing the location of Tairua, Waihi Beach and Whangapoua on the Coromandel Peninsula, New Zealand.

3.0 COMPARATIVE GEOGRAPHIC SETTINGS OF THE COMMUNITIES

Tairua, Waihi and Whangapoua lie on the eastern Coromandel and northern Bay of Plenty coast of the North Island, New Zealand. They are located on a steep and rocky coastline indented by numerous small embayments, pocket beaches and tidal inlets that front a relatively narrow continental shelf some 15–20 km in width.

The geomorphic settings at Tairua, Waihi and Whangapoua are similar in the respect that they are sand barrier systems comprising of dune ridges packed against the hinterland hills or separating estuarine water bodies from the sea. These barriers began to form some 6500 years ago and at about the time sea level rose to its present level. Since that time sand coming ashore has built the barriers, dunes and beaches that we see today. The barriers built rapidly at first but in the last 1000 years sand supplies have dwindled. As a consequence there is little new sand entering the system to buffer them against erosion.

Tides on the coast are microtidal with spring ranges on the open coast of approximately 1.5m. Tidal currents are generally weak except at inlets and about the islands and generally play a minor role in sand transport. The prevailing wind is west to south westerly associated with the passage of mid-latitude anticyclones.

Waves are the major force moving sand about on the beaches and on this lee shore the wave climate is primarily mixed storm and swell waves. Strong onshore-directed east and northeasterly winds occur during storm events (10–20 per year), typically occluded cyclones, Tasman depressions and rarely decaying tropical cyclones. Waves arrive principally from the north to east sector. Islands and headlands provide some local shelter from waves for the beaches. Mean significant wave height and period, derived from a 20-year hindcast using a 20-year WAM wave generation model, are of the order of 0.86 m and 5.8 sec respectively (Gorman et al. 2003). Storms, particularly tropical cyclones, generate large waves (maximum significant wave height and period of 7.0 m and 12.7 sec respectively) and it is during such events that beach erosion takes place. Erosion on the shores is largely cyclic as sand is exchanged back and forth between the dunes, beach and nearshore bar systems.

3.1 Tairua

Tairua Beach forms the northern part of the Tairua-Pauanui embayment (See Figure 2 in Section 4.3). The embayment is 10-km long and bounded by rocky headlands to the north and south. A small headland (Paku) occurs in the central embayment at the entrance to a tidal inlet and Tairua Harbour. Tairua Beach is 1.2 km long, steep and reflective, and comprised of shelly 0.4 mm medium sand. In contrast Pauanui to the south is 2.7 km long, flatter and dissipative, and composed of 0.2 mm fine sand. Offshore from the beaches the seabed is very fine sand with coarse-grained rippled sands in patches to 50–60 m depth. Tairua Beach is more exposed to the north and ocean swell than Pauanui which faces more to the east and is partially sheltered by Shoe Island. Although the Tairua barrier is narrow (only 200 m wide) the dunes are high (>10m) protecting it from overwash except in the largest seas at the southern end (where it overwashed in July 1978). Erosion tends to be cyclic and overall the beach is in a state of dynamic equilibrium with the shoreline advancing and retreating over 10 – 15 m as conditions change. Erosion has threatened several properties at the southern end of the beach from time to time. Although there have never been engineering works undertaken to protect the properties, sand has been scraped up in front of the affected properties, and dunecare programmes have been implemented to vegetate the dunes and build up the buffer of sand. The Tairua catchment is large (280 km^2) and floods combined with spring tides raise water levels which inundate the estuary shores.

3.2 Waihi Beach

Waihi Beach lies at the northern end of a 9 km long stretch of sandy beach that extends south to the Bowentown Heads and the northern entrance to Tauranga Harbour (see Figure 3 in Section 4.3). Waihi Beach is an intermediate state sandy beach (finer sand and flatter and wider than Tairua) which faces to the NE and is exposed to ocean swell. The sand barrier is attached to the hinterland. The barrier is tall (>10m) protecting it from overwash except at the northern end where the dunes are very low. Although erosion tends to be

cyclic and overall the beach is in a state of dynamic equilibrium, there has been a long history (decades) of erosion at Waihi Beach primarily due to properties being placed too close to the sea and there being little dunes to accommodate the erosion and accretion cycles. There is local erosion where two streams discharge onto the beach and meander back and forth cutting into the dunes. To combat the erosion there have been various measures undertaken including dumping rock and training the streams. More recently, dunecare programmes have been established to vegetate the dunes and build up the buffer of sand.

3.3 Whangapoua

Whangapoua Beach forms the northern part of the Whangapoua-Matarangi embayment (Figure 1). The embayment is 7-km long and bounded by rocky headlands to the north and south. A small headland (Raukawa) occurs in the central embayment at the entrance to a tidal inlet and Whangapoua Harbour. Whangapoua Beach is 1.6 km long, and is not quite as steep and reflective as Tairua. Like Tairua it faces to the NE and is exposed to ocean swell, although it is afforded some protection by Great Mercury Island offshore. The sand barrier is attached to the hinterland as the small estuary behind has largely infilled and now exists as a small stream at the north end of the beach. As at Tairua the barrier is tall (>10m) protecting it from overwash. Erosion tends to be cyclic and overall the beach is in a state of dynamic equilibrium with the shoreline advancing and retreating over 10–15 m as conditions change. The catchment is large (107 km^2) and floods combined with spring tides raise water levels which inundate the stream shores.

4.0 METHOD

4.1 Choice of methods

Both self-administered postal questionnaires (mail surveys) and face-to-face interviews were used in this study.

Bartley (1999) describes advantages and disadvantages of different techniques for social investigations. The key advantages of mail surveys are that:

- they are a cost-effective way to gather data from geographically-dispersed populations;
- much larger sample sizes can also be obtained; and
- in general, more complex issues can be covered in a printed questionnaire that people can read and complete at their leisure, in comparison to other survey methods such as telephone or face-to-face interviews. People are able to make considered responses to complex and interlinked questions.

Drawbacks of postal questionnaires are: their slowness; that no interviewer is present in person to clarify any confusion, low response rates, and the problem of respondent self-selection which introduces well-characterised demographic biases. The latter is probably the main disadvantage of this survey method and is difficult to overcome.

Face-to-face semi-structured interviews were also used in this study, with interviewers recording responses on interview log sheets. The key advantage of this method is that the

'conversation' between interviewer and interviewee can range freely beyond the structure provided. However, in practice it was found that this approach had a number of drawbacks. Many people approached at the beach, particularly at Waihi Beach, were casual visitors without much knowledge or interest in local issues such as erosion control, and were simply unable to comment in any detail on many of the questions. Another problem was that people approached at the beach were, in general, in 'holiday mode' and were often preoccupied with watching children in the surf, and were unwilling to devote much attention to the topics of concern to this project.

At Whangapoua a slightly different approach was used. In addition to a series of semi-structured interviews with beachgoers 'key informant' interviews were undertaken. These interviewees were found using a network approach; one knowledgeable local person was approached initially, and she provided a list of contacts and suggestions for other useful people to talk to in the local community. This approach worked very well as these 'key people' were well-informed and provided insightful comments. The Whangapoua data is not presented in this report, but can instead be found in the report by Stewart et al., (2007).

4.2 Questionnaire design

The questionnaire used for the 2003 National Coastal Community Survey (Johnston et al., 2003) was used as a basis for this study, although major changes were made and the section on attitudes towards and understanding of coastal erosion expanded. For the coastal communities studied (Waihi Beach and Tairua), local information was obtained about the coastal management regimes used at each site from Environment Bay of Plenty and Environment Waikato staff respectively. A series of questions about respondents' knowledge of these schemes and their attitudes towards them were devised. Some questions were relevant to both Tairua and Waihi Beach and were thus included in both versions of the survey, while others were required to be beach-specific.

Draft versions of the questionnaires were circulated to key staff at GNS Science, NIWA, Environment Waikato and Environment Bay of Plenty for their comments, which were then incorporated. Following this the questionnaires were pilot-tested for clarity and readability on several general readers. The final questionnaires contained 40 questions covering coastal values, experience of natural hazards, understanding of coastal processes, perceived threat of erosion, support for and against coastal management options and demographic information. Copies of both the questionnaires are reproduced in Appendices 2 and 3.

The semi-structured interview framework was adapted from the questionnaires for each location, with questions streamlined so that the questionnaire could be administered in approximately 10 to 15 minutes. Key staff at Environment Waikato were consulted about the design of this schedule. Another interview schedule was designed for use at Whangapoua. It was generally similar to the versions for Waihi Beach and Tairua, but had a greater emphasis on considering long-term issues.

4.3 Sampling strategy and survey delivery details

4.3.1 Postal questionnaires

Postal questionnaires were hand-delivered to letterboxes in Tairua on 10 and 11 January 2007. As the number of surveys (500) delivered was quite large in relation to the size of the township, two areas were chosen for blanket coverage, with surveys going to every letterbox. These included the area behind Ocean Beach (Ocean Beach Rd) and Paku, and the area to the south of the bridge across the estuary. The remaining surveys were delivered to the central part of Tairua, starting at Manaia Rd, which runs along the estuary shoreline, and working back inland. At each property, GPS coordinates were recorded. Addresses in Tairua that completed surveys were received back from are shown in Figure 2.

Due to time constraints during the planning and consultation stages of this project, just before the Christmas holiday break, we were unable to finalise the questionnaire for Waihi Beach before our field visit in early January. So during our field visit, GPS locations and addresses were recorded for 550 properties in Waihi Beach. We covered an area between the headland at the northern end of the beach and Glen Isla place (adjacent to Three Mile Creek reserve) at the southern end, and collected addresses for every property starting at the coast and working inland. Questionnaires were then mailed to these addresses in late January. Addresses in Waihi Beach that completed surveys were received back from are shown in Figure 3.

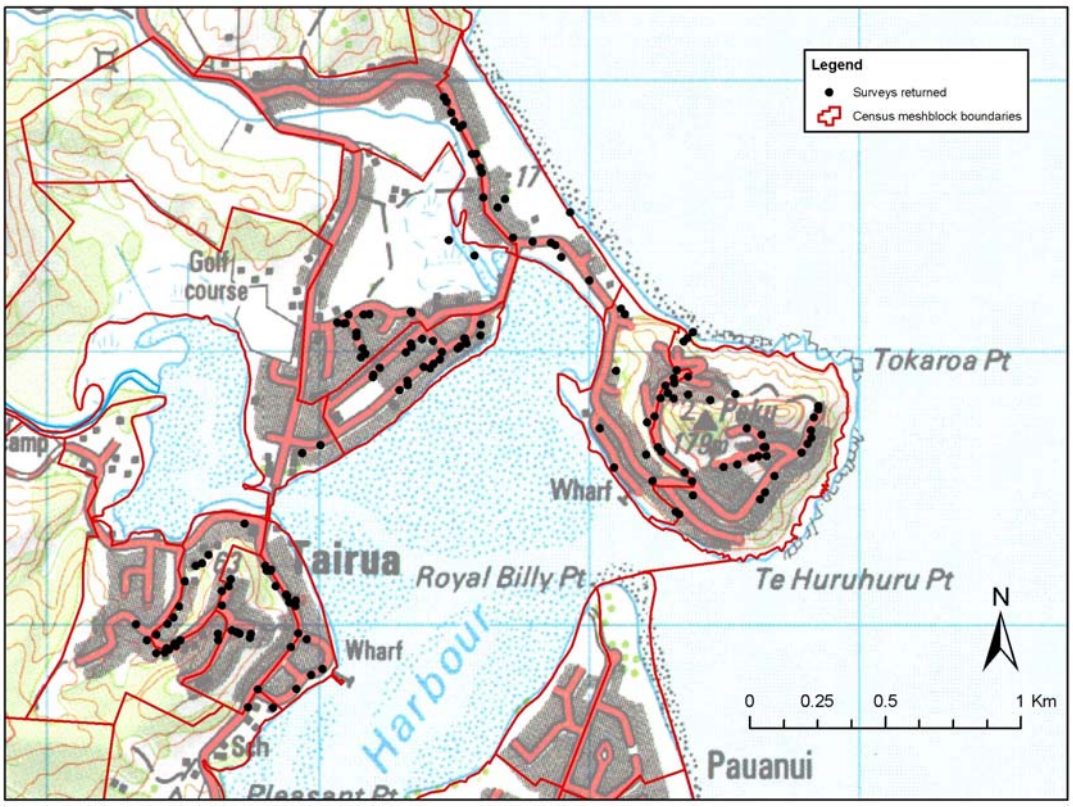

Figure 2 Approximate locations of where surveys were returned from in Tairua.

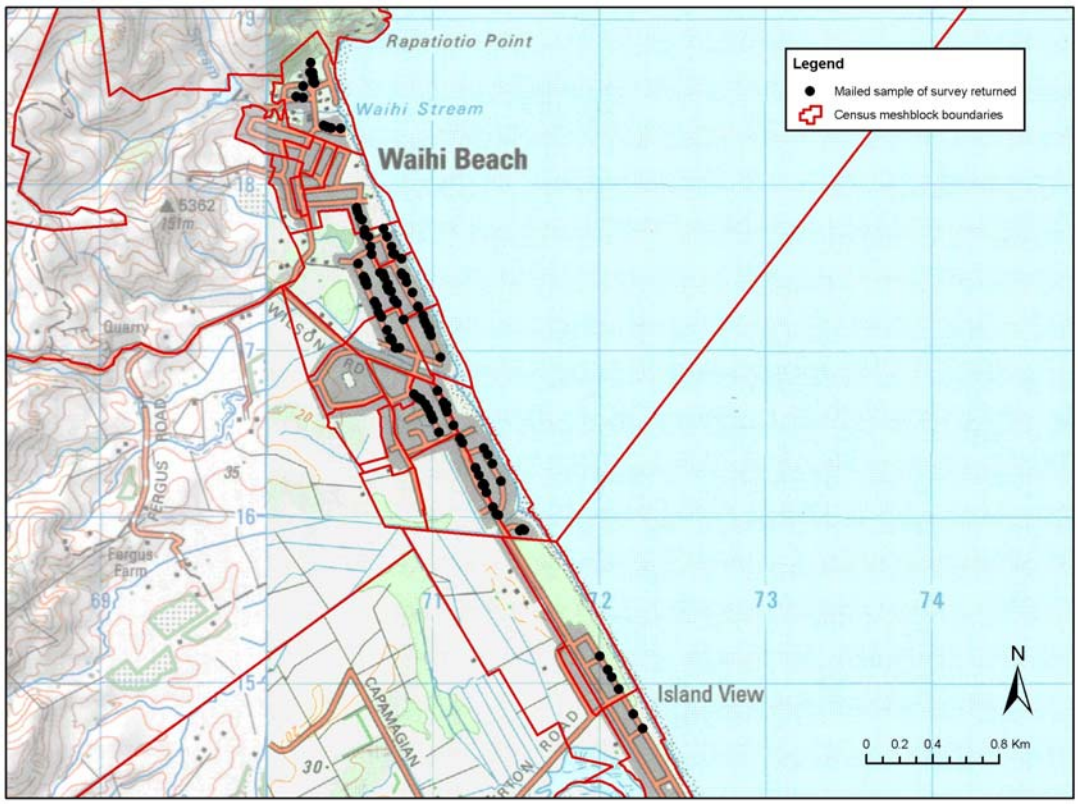

Figure 3 Approximate locations of where mailed surveys were returned from in Waihi Beach.

Unfortunately many of the front-row properties and also some further back did not have letterboxes, presumably because they are holiday homes. As a result, difficulties were experienced in successfully mailing out questionnaires to this database, and a high number (283) were returned to sender. For reasons that are not well-understood, it is quite common to have some proportion of delivery failure rate when using an address database, even when addresses are known to be valid (Iannacchione et al., 2003)

To compensate for the high initial delivery failure rate, 227 copies of the unopened questionnaires were repackaged with another cover letter, and sent to key volunteers at Waihi Beach in February and March 2007. These volunteers distributed the additional surveys to local people within their social networks who had not already received one, and also by delivering them to properties without letterboxes along Shaw Road and The Loop (the closest streets to the beachfront). This approach worked well. The overall return rates for Waihi Beach and Tairua, as a proportion of surveys successfully delivered, are shown in Table 1.

The return rates obtained in this survey (35% for Tairua and 36% for Waihi Beach) are typical for voluntary postal surveys of this type. They are very similar to the return rates obtained for the 2003 National Coastal Survey for Coromandel beaches (37%, Stewart et al., 2005).

Table 1 Location, delivery dates and return rates for postal questionnaires

Location	Date delivered	Number delivered	Number returned	Return rate
Tairua	10-11 January 2007	500	173	35%
Waihi Beach[1]	Late January 2007	267	127	48%
Waihi Beach[2]	Feb - March 2007	227	52	23%
Waihi Beach total	Jan-March 2007	494	179	36%

Notes

1 Of the 550 questionnaires originally mailed out to an address database in late January 2007, only 267 were successfully delivered.

2. To increase the sample size, a further 227 questionnaires were distributed by local volunteers and delivered to properties without letterboxes during February 2007.

4.3.2 Face-to-face interviews

Interviews were undertaken on 8 January at Waihi Beach, on 10 January in Tairua, and on 11 and 12 January in Whangapoua, by two interviewers. People were approached randomly on the beach, and asked if they would be willing to participate; only a small proportion declined (perhaps 5-10%). Their responses were recorded on interview log sheets. Five 'key informants' were also interviewed in Whangapoua. The same log sheets were used, but conversations ranged much more freely and widely, and most of the interviews took an hour or more.

The total numbers of semi-structured interviews conducted were as follows: 29 at Waihi Beach, 30 at Tairua and 19 at Whangapoua. Five more detailed interviews were also conducted at Whangapoua.

4.4 Data analysis and reporting

On receipt of the completed postal questionnaires, data was entered into the statistical package SPSS. Analysis included calculation of response percentages for individual questions for the overall samples from Tairua and Waihi Beach. For Waihi Beach, the whole sample was also treated as two separate groups from the initial 'blanket' mail delivery to all addresses (henceforth known as the "mailed sample"), and from the targeted delivery by volunteers (henceforth known as "interested parties"). Means and standard deviations for the scale-response questions were also calculated.

A recommendation that arose from the previous (Stewart et al., 2005) report on perceptions of coastal hazards in Coromandel coastal communities was that responses be broken down with respect to proximity to the beachfront. For this survey, several categories of location relative to the beachfront were created for the survey respondents. These were: houses directly on the beachfront (beach or shore front); one row of houses back (1st row); two rows of houses back (2nd row); and everything else further back (other).

In Tairua there were no responses received from beach front properties, but 5% were from the estuary front. Nearly a third of respondents (30%) were from the first row back; 29% were from the second row; and 36% were further back. In Waihi Beach, 11% of respondents were from the beach or shore front; 13% were from the first row; 6% were from the second row; and 46% were further back. As some surveys were sent to interested parties for distribution, we were unable to determine a relative property location for nearly a quarter of respondents from Waihi Beach.

The interview log sheets were collated and analysed by hand. As the level of detail provided was variable from one interviewee to the next, the data was treated as qualitative or, where warranted, as semi-quantitative.

This report presents the results from the self-administered surveys at Tairua and Waihi Beach (Appendix 1), and a summary of initial findings. The report is not intended to provide a comprehensive interpretation or analysis of all the data from the survey, as this will be carried out as part of subsequent work. As mentioned previously, analysis of the interviews can be found in the companion report by Stewart et al., (2007).

5.0 SUMMARY OF RESULTS

Summaries of results for the Tauria and Waihi Beach surveys are presented below in bullet-point format for ease of reading.

5.1 Tairua

5.1.1 Demographics

- Overwhelmingly the greatest proportion of respondents from Tairua who answered this questionnaire were property owners (91%) – either permanent residents or visitors who own property in the town. Only 8% of participants were permanent residents renting property and one person who answered the questionnaire was a true visitor who did not own any property.
- Most property owners who answered the questionnaire were long term property owners. Nearly 47% of respondents had owned their property for over ten years; 37.5% had owned it between one and ten years; and only 6% had owned it for less than a year.
- Those that considered themselves "visitors" came primarily from nearby regions including Auckland, Waikato, Bay of Plenty, Hawkes Bay and Taranaki. Only four visitors were from overseas.
- Additional demographic details (e.g. age, gender, ethnicity, etc) were collected from respondents as part of the survey. In their current form the survey demographics are not directly comparable with census data. This is because while most of those who responded are property owners, 36% are still visitors who were unlikely to be in residence in Tairua on census night. Therefore, for this initial analysis, we have not undertaken any direct comparison with census data. We can however report the following points:
  - Slightly more males (56%) than females (42%) answered the questionnaire.
  - Most respondents indicated that they were currently living in a situation of "family

without children" (50%). This was followed by "family with children" (32%), "alone" (12.7%), and "with non-family" (4%).
- Most survey responses were from people of New Zealand European origin (87%), with a small proportion of responses from people of Māori and "other" descent. There were also a number of people who did not indicate an ethnicity.
- Predominantly, respondents represented an older demographic with the greatest proportion of survey participants born between 1931 and 1960 (47 to 76 years).
- A large proportion of respondents (45%) were not in paid employment (e.g. retired, unemployed, or an at home parent) with the rest in either full time (23%) or part time (12%) or self-employment (17%).
- Household income was fairly evenly spread from $5,000 to over $200,000. The largest proportion of respondents indicated their household income was in the $60,001 to $90,000 category (17%).
- In terms of their highest educational qualification, respondents tended to have either secondary school qualifications (24%), a trade/professional certificate or diploma (35%) or a university degree (20%).
- Approximately a third of respondents said that they had been involved with environmental matters in some way before; two thirds said that they had not.

5.1.2 Use of the beach and what respondents value about the coast

- The greatest proportion of survey respondents (30%) said that they used the beach about once a month or so. However the rest of the responses were fairly evenly spread with people saying they used it anything from once a day through to two or three times a year (10 to 20%).
- Respondents valued many aspects of the coast highly. The highest ranked values included "appearance of the beach and dunes; easy access on to the beach; retaining some undeveloped natural beaches around the coast; retaining some undeveloped, natural headlands around the coast; and the involvement of local people in decision-making about the coast".
- The lowest ranked value was "protecting beachfront property, even if it means losing the sandy beach" followed by "the involvement of people who do not live locally in decision-making about the coast".
- "Protection of Iwi values" did not rank as highly as some of the other values, however this may be due to the fact that Māori participation is underrepresented in the survey. To get a better comprehension of Māori coastal values, other methods of engagement are recommended.

5.1.3 Experience and understanding of coastal hazard issues

- Coastal erosion (47%) ranked as the second most likely natural hazard to affect Tairua after flooding[1] (68%) and just before storm or cyclone with high wind (43%). Respondents were more likely, however, to have personally experienced the effects of flooding and storms/cyclones more often than coastal erosion.
- When asked about what respondents thought was the main cause of coastal erosion,

[1] Flooding was asked about generally, and may have been interpreted by participants as river flooding or flooding from the sea.

they were more likely to think it was because of storms (60%) followed by an "other" cause (15%) followed by changes in the sand supply to the beach (9%).

- Overall respondents strongly agreed that inappropriate development in coastal areas can put houses at risk from erosion; that they must accept that coastal erosion is a natural process; and that the width of the dune changes during the year. They were neutral about the statement that there are a range of methods available to stop coastal erosion indefinitely. They moderately disagreed with the statement, "Once a dune is destroyed there's no way to bring it back".
- By far the most community approved scheme for coastal erosion management was dune planting (95%). There was also a strong body of support for managed retreat (53%) and beach nourishment (44%). Rock or sea walls were supported by 38% of respondents. There appeared to be no preference for particular beach management solutions with respect to property location (e.g. no strong trends were evident to suggest that those located closer to the coastline preferred armouring the shoreline).
- Most respondents from Tairua appeared to have a reasonable understanding of beach processes with the majority thinking:
  - A good cover of plants on dunes "helps build up sand reserves by stopping it blowing away, making a store of sand" (66%)
  - Building a seawall on a sandy beach "only provides limited protection to the properties behind it" (77%)
  - The effect a seawall has on the natural behaviour of a sandy beach "can increase the effects of coastal erosion along other parts of the beach" (43%).

5.1.4 Who should fund erosion measures for public and private property?

- Respondents were asked about who should fund erosion measures for private and public property, and could tick as many options as they thought viable.
- When asked who should fund erosion measures for *private* property, respondents predominantly indicated that it should be the private property owner (72%). A third of respondents also indicated that they thought it could be funded at the regional (30%) or district level (28%).
- When asked about who should fund erosion measures for *public* property, participants equally recommended that it should be done at the district and regional levels (just over 60% for each). Central Government was recommended as the second choice at 46%.
- When compared with property location (beach front versus further back) there appeared to be no particular preference for funding agency with respect to either public or private property.

5.1.5 Erosion threat at Tairua's Ocean Beach

- Most participants thought that coastal erosion was a moderate threat to Tairua's Ocean Beach (58%).
- Most participants also thought that coastal erosion was "Unlikely to affect this property within 50 years" (67%). Research on other hazard issues has shown that if people believe a hazard threat is more imminent and more personal, then they are more likely to do something about it (Lubell, 2002; Paton and Johnston, 2006). Most people in Tairua believe that coastal erosion is not an imminent problem for them, and therefore may be less likely to work toward any solution, if needed.

- Only 13% of participants stated that they had seen a map of setback lines (as per Environment Waikato, 2002) for Tairua's Ocean Beach: the majority (76%) had not. This is despite a mail-out to property owners in Tairua in 2002 of information about the set-back lines. As most respondents to the survey were long-term property owners, they should have received this information.

5.1.6 Coastal management at Tairua's Ocean Beach

- Over 93% of respondents were familiar with the dune buffer, the primary method of coastal management at Tairua's Ocean Beach.
- Of those people who were familiar, the majority (68%) thought the success of this approach in addressing current erosion issues at Tairua was "quite successful".
- When asked about whether they thought it was a good long term solution for coastal erosion at Tairua's Ocean Beach, 59% said that they thought it was, showing good support for dune management as a long term approach. Over a third said that they were either unsure, or it was still too soon to tell.
- Nearly two thirds of respondents did not think that a different approach would have worked better.
- The majority of respondents agreed that the dune buffer is visually attractive; the dune buffer approach is a good solution to Tairua's erosion problems; and that they felt positive toward the dune buffer approach.
- Respondents were neutral about the statement, "It is unfair to 'let the sea dictate' (i.e. do nothing) when people's properties are at risk". They strongly disagreed that the beach's natural character had been adversely affected by the dune buffer. They were also either neutral or in disagreement with the statement "The dune buffer approach will help protect my property". This is likely to be linked to the fact that many who answered the questionnaire were set back from the beachfront, and may not see the direct benefits of the dune buffer for their particular property.
- When asked whether the dune buffer zone had affected their usage of the beach most survey participants (over 80%) said that their usage had been "much the same". Those whose usage had been positively affected (13%) tended to be those people who visited the beach most frequently (every day).
- When the dune buffer scheme was proposed, a small proportion (less than 20%) of respondents were involved in the process of deciding whether to employ it (e.g. attended meetings, made submissions, received information about the scheme). A significant number were aware of the scheme, but not involved in decision-making about it (36%) or were not aware of the approach at all (45%). Very few people sought information about the approach (3%).
- It appears that people's expectations about the scheme were met – the dune buffer appeared as they had envisioned, had limited impacts on the beach and limited impacts on their use of the beach.
- When asked whether people would have liked more opportunities to become involved in decision-making about the scheme, they tended to disagree. It seems that while they were happy with the dune buffer outcome, they didn't feel the need to be directly involved in the entire decision-making process. However they also disagreed that there was an adequate amount of information available about the proposed scheme at the time. This may suggest that people would like the opportunity to be involved (through providing

information and opportunity for engagement), but may make the decision not to take this up, depending on the option proposed.

5.2 Waihi beach

5.2.1 Demographics

- As mentioned earlier, due to differences in the way the Waihi Beach survey was distributed, the Waihi Beach sample has been split into several categories including "mailed sample", "interested parties" and "all respondents". Overall, there appears to be minimal difference between the samples, however the tables and charts in Appendix 1 still show all the different sample breakdowns so that comparisons can be made.
- Overwhelmingly, as with Tairua, the greatest proportion of respondents from Waihi Beach who answered this questionnaire were property owners (89%) – either permanent residents or visitors who own property. Only 11% of respondents who answered the questionnaire were permanent residents renting property and there were no true visitors only. In the "interested parties" sample there were slightly more visitors who owned the property who answered (37%), than for the "mailed" sample (16%).
- Most property owners who answered the questionnaire were long term property owners. Over 50% of respondents had owned their property for over ten years; 31% had owned it between one and ten years; and only 5% had owned it for less than a year. These figures are again very similar to Tairua's figures. No significant differences were seen between the "mailed" and "interested parties" samples.
- Those that considered themselves "visitors" came primarily from nearby regions including Auckland, Waikato and Bay of Plenty. Five visitors were from overseas.
- Additional demographic details (e.g. age, gender, ethnicity, etc) were collected from respondents as part of the survey. In their current form the survey demographics are not directly comparable with census data. This is because while most of those who responded are property owners, 22% are still visitors who were unlikely to be in residence in Waihi Beach on census night. Therefore for this initial analysis, we have not done any direct comparison with census data. We can however report the following points:
  - Slightly more males (55%) than females (44%) answered the questionnaire.
  - Most respondents indicated that they were currently living in a situation of "family with children" (43%). This was followed by "family without children" (31%), "alone" (16%), and "other" (6%). This is slightly different from the Tairua sample who indicated that there were most of "family without children".
  - Most survey responses were from people of New Zealand European origin (88%), with a small proportion of responses from people of Māori (3%) and "other" (5%) descent. There were also a number of people who did not indicate an ethnicity.
  - Respondents' age was more distributed in Waihi Beach than in Tairua, with a younger demographic represented. The greatest proportion of survey participants were born between 1951 and 1960 (47 to 56 years).
  - Over a third of respondents (36%) were not in paid employment (e.g. retired, unemployed, or an at home parent) with the rest in either full time (27%), part time (13%) or self-employment (22%).
  - Household income was fairly evenly spread from $5,000 to over $200,000. The

largest proportion of respondents indicated their household income was in the $60,001 to $90,000 category (12%) or the $90,001 to $150,000 category (13%).
- In terms of their highest educational qualification, respondents tended to have either secondary school qualifications (25%), a trade/professional certificate or diploma (35%) or a university degree (22%).
- Over 40% of respondents said that they had been involved with environmental matters in some way before; 56% said that they had not.

5.2.2 Use of the beach and what respondents value about the coast

- The greatest proportion of survey respondents (33%) said that they used the beach about once a day or so, year round. This is a higher usage than stated for Tairua. However the rest of the responses were fairly even spread with people saying they used it anything from once a day (but more in summer than winter) through to two or three times a year (10 to 20%). Respondents from the "mailed sample" had a slightly higher usage than from the "interested parties" sample.
- Respondents valued many aspects of the coast highly. The highest values included appearance of the beach and dunes; easy access on to the beach; retaining some undeveloped natural beaches around the coast; retaining some undeveloped, natural headlands around the coast; protection of scenic values when looking out toward the sea; and the involvement of local people in decision-making about the coast.
- The lowest ranked option was "protecting beachfront property, even if it means losing the sandy beach" followed by "the involvement of people who do not live locally in decision-making about the coast".
- "Protection of Iwi values" did not rank as highly as some of the other values, however this may be due to the fact that Māori participation is underrepresented in the survey. To get a better comprehension of Māori coastal values, other methods of engagement are recommended.
- All values indicated in the Waihi Beach survey correlate closely for those chosen by respondents in Tairua. In addition, little difference was evident between the Waihi Beach "mailed" and "interested parties" samples.

5.2.3 Experience and understanding of coastal hazard issues

- Coastal erosion (70%) ranked as the most likely natural hazard to affect Waihi Beach This was followed by storm or cyclone with high wind (69%) and flooding (25%). Respondents were more likely, however, to have personally experienced or suffered loss/damage from the effects of storms/cyclones and flooding more often than coastal erosion.
- When asked about what respondents thought was the main cause of coastal erosion, they were more likely to think it was because of storms (38%) followed by an "other" cause (27%), followed by changes in the sand supply to the beach (20%). This breakdown is slightly different to those who answered from Tairua with much less proportions choosing "storms" as a cause and a greater proportion choosing "other".
- Overall respondents strongly agreed that inappropriate development in coastal areas can put houses at risk from erosion. They agreed that they must accept that coastal erosion is a natural process; and that the width of the dune changes during the year. They also were in slight agreement about the statement that there are a range of methods available

to stop coastal erosion indefinitely. They disagreed with the statement, “once a dune is destroyed there’s no way to bring it back”.

- By far the most community approved scheme for coastal erosion management was dune planting (93%). There was also a strong body of support for managed retreat (56%) and beach nourishment (48%). Rock or sea walls were supported by only 15% of respondents, which is even less than the figure seen for Tairua. There appeared to be no strong preference for particular beach management solutions with respect to property location (e.g. no strong trends were evident to suggest that those located closer to the coastline preferred armouring the shoreline).
- Most respondents from Waihi Beach appeared to have a reasonable understanding of beach processes with the majority thinking:
  - A good cover of plants on dunes “helps build up sand reserves by stopping it blowing away, making a store of sand” (72%)
  - Building a seawall on a sandy beach “only provides limited protection to the properties behind it” (72%)
  - The effect a seawall has on the natural behaviour of a sandy beach “can increase the effects of coastal erosion along other parts of the beach” (59%).

5.2.4 Who should fund erosion measures for public and private property?

- Respondents were asked about who should fund erosion measures for private and public property, and could tick as many options as they thought viable.
- When asked about who should fund erosion measures for private property, respondents predominantly indicated that it should be the private property owner (83%). About a quarter of respondents also indicated that they thought it should be either funded at the regional (24%) or district level (26%). These figures were also quite similar to those suggested by Tairua survey participants.
- When asked about who should fund erosion measures for public property, participants equally recommended that it should be done at the district and regional levels (just over 50% for each). Central Government was recommended as the second choice at 37%.
- When compared with property location (beach front versus further back) there appeared to be no particular preference for funding agency with respect to either public or private property.

5.2.5 Erosion threat at Waihi Beach

- Most participants thought that coastal erosion was a moderate threat to Waihi Beach (55%).
- Most participants also thought that coastal erosion was “Unlikely to affect this property within 50 years” (59%). As mentioned previously, research on other hazard issues has shown that if people believe a hazard threat is more imminent and more personal, then they are more likely to do something about it (Lubell, 2002; Paton and Johnston, 2006). Clearly, as with Tairua, most people in Waihi Beach believe that coastal erosion is not an imminent problem for them, and therefore may be less likely to work toward any solution, if needed.
- Over half (54%) of participants stated that they had seen hazard maps for coastal erosion at Waihi Beach: a third had not.

5.2.6 Coastal management at Waihi Beach

- Respondents were asked to rank a series of statements about the coastal management at Waihi Beach. Respondents were in slight disagreement when asked whether they were happy with the package of coastal protection measures at Waihi Beach and whether the current approach to managing erosion benefits everyone. They were in strong in their disagreement with the statement, "rock walls are the best long term approach to protecting beachfront properties at Waihi Beach".
- Respondents agreed that sand dunes are the best long term approach; that the rock walls spoil the natural character of Waihi Beach; that there are plenty of access ways to the beach; that they liked the appearance of the sand dune buffer zones; and that they would be happy to see the removal of the rock walls and replacement by dune planting programmes.
- Respondents were either neutral or in slight agreement with the statements, "it is unfair to let the sea dictate (i.e. do nothing) when properties are at risk"; and that "managed retreat is the best long term approach to protecting beachfront residences".
- Survey participants were asked to rate the success of dune buffer zones in addressing current erosion problems at Waihi Beach. Most participants thought that the dune buffer had been successful overall, with 47% saying it was "very successful" and 39% saying it was "quite successful".
- Respondents were also asked about the success of rock walls in addressing the current erosion problems at Waihi. Respondents voted in the opposite direction to the buffer question, with the majority 71% stating that they thought the rock walls were unsuccessful, 15% "quite successful" and 7% "very successful".
- When asked whether the dune buffer zone had affected their usage of the beach, most survey participants (60%) said that their usage had been "much the same". Those whose usage had been positively affected (34%) tended to be those people who visited the beach most frequently (every day).
- When asked whether the rock walls had affected their usage of Waihi Beach, most participants (53%) said that their usage had been "negatively affected". A smaller percentage (35%) said that their usage was "much the same" and the smallest proportion said that their usage was "positively affected" (12%).
- We asked respondents whether they remembered the beach before the rock wall was built, and one third did remember. Of those who remembered, a series of questions about expectations for the wall were then asked. It appears that respondents did not get what they had expected – they had expected the wall to look different from what it looks like now; they had expected it to have less impact; and they had expected it to have less impact on their use of the beach. Respondents also agreed that they would have liked more opportunity to become involved in the decision-making about the wall.
- Respondents disagreed with the following statements: that there was adequate information about the proposed wall; that the rock wall hasn't had much effect on the beach in front of it; and that it was a good idea to build a rock wall (thereby implying that there was inadequate information about the proposed wall; that it has had an impact on the beach in front; and that it was a bad idea to build the rock wall).
- A number of questions were asked about public participation in coastal protection at Waihi Beach. Over half (55%) of respondents who answered the questionnaire said that they had been involved in decision–making processes with respect to coastal

management (e.g. public meetings, making a submission, etc). A larger proportion of these people fell into the "interested parties" sample. When asked about whether there had been enough opportunities for coastal protection at Waihi Beach, 65% of all the respondents thought that, "No", there had not been.

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7.0 REFERENCES

Bartley, A. (1999) Survey research: mail surveys. In Social Science Research in New Zealand: many paths to understanding. Edited by Davidson, C. and Tolich, M. Pearson Education, Prentice Hall, New Zealand pp 188-204.Snook, 1999.

Blackett, P., Hume, T. (2006) Community involvement in coastal hazard mitigation: An initial scoping of process and pitfalls. NIWA Client Report: HAM2006-083. 82p.

Dennis, J., Davies, A., Thomson, J., Barns, S. (2005) Whangamata Beach User Survey: Public Awareness and Attitudes to Dune Management. Environment Waikato Technical Report 2005/59. 112p.

Dahm, C. (2003) Beach user values and perceptions of coastal erosion. Environment Waikato Technical Report 2003/03.

Dahm, J. (1999) Coastal Erosion Risk Mitigation Strategy For The Waikato Region, February 1999. Environment Waikato Policy Series 1999/03. 20p.

Environment Waikato (2002) Coastal hazards and development setback recommendations summary report, May 2002 (available at http://www.ew.govt.nz/enviroinfo/hazards/naturalhazards/coastal/summary.htm). Gorman, R.M., Bryan, K.R., Laing, A.K., (2003) Wave hindcast for the New Zealand region: nearshore validation and coastal wave climate, New Zealand Journal of Marine and Freshwater Research, 37 (3), 567-588.

Horvath-Hallett, E. (2005) Beachcare Members Survey Report. Environment Waikato Internal Series IS05/04, June 2005. 49p.

Iannacchione, V.G., Staab, J.M., Redden, D.T., (2003) Evaluating the use of residential mailing addresses in a metropolitan household survey. Public Opinion Quarterly, 67(2): pp. 202-210.

Johnston, D., Leonard, G., Bell, R., Stewart, C., Hickman, M., Thomson, J., Kerr, J. & Glassey, P. (2003) Tabulated Results of the 2003 National Coastal Community Survey, Institute of Geological & Nuclear Sciences science report 2003/35. 118 p.

Lubell, M (2002) Environmental activism as collective action. Environment and Behaviour, 34, 431-454.

Paton, D and Johnston, D. eds. (2006) Disaster Resilience, An Integrated Approach. Charles C. Thomas Publisher Ltd, Springfield, Illinois. 321p.

Stewart, C., Leonard, G.S., Johnston, D.M. and Hume, T.M. (2005) The 2003 National Coastal Community Survey: results for Waikato beach communities. Institute of Geological & Nuclear Sciences science report 2005/28 88 p.

Stewart, C., Becker, J., Coomer, M., Wilson, T., Davies, A. (2007) Coastal management in the Waikato region: a study of the views of Coromandel beachgoers on coastal erosion and its management. January 2007. GNS Science Report 2007/21.

Thomson, J. (2003) Coastal values and beach use survey report. Environment Waikato Technical Report 2003/09.

Turbott, C. (2006) Managed Retreat from Coastal Hazards : Options for Implementation. Environment Waikato Technical Report 2006/48. 89p.

APPENDICES

APPENDIX 1 **DATA TABLES AND FIGURES**

APPENDIX 2 **TAIRUA QUESTIONNAIRE**

APPENDIX 3 **WAIHI BEACH QUESTIONNAIRE**

APPENDIX 1 DATA TABLES AND FIGURES

A1.1 TAIRUA COASTAL MANAGEMENT SURVEY RESULTS

Table 2 Q1 - Choose the option that best describes your situation: (tick one option only)

	Count	Column N %
Permanent resident, own this property	97	56.1%
Permanent resident, renting this property	14	8.1%
Visitor, own this property (e.g. your bach or holiday home)	61	35.3%
Visitor, don't own this property	1	.6%
No answer	0	0%
Total (N)	173	100.0%

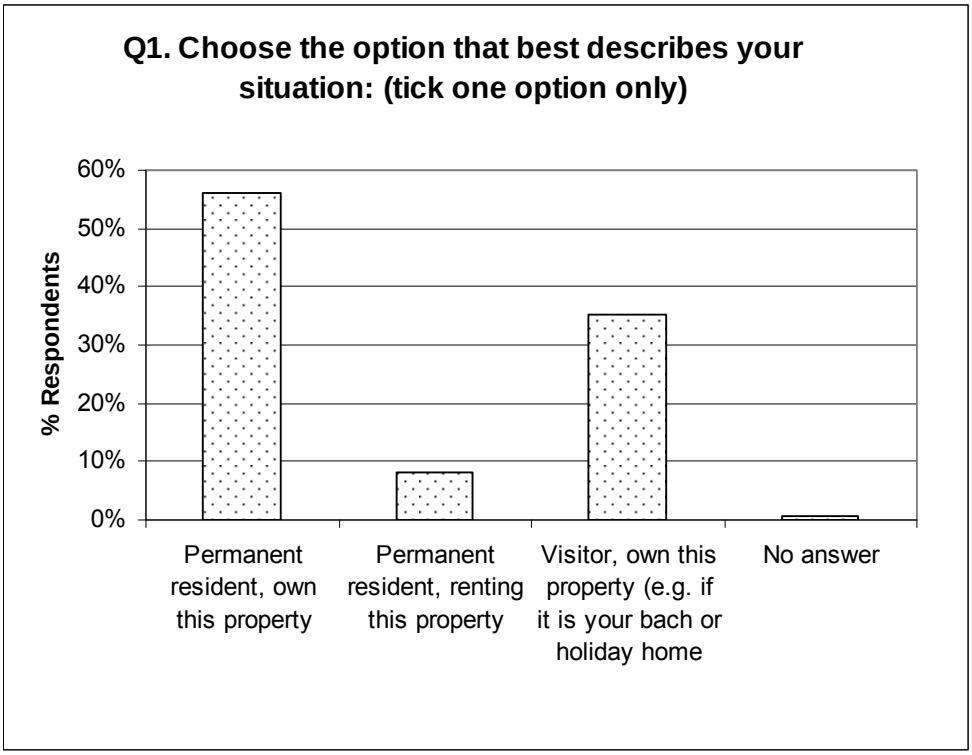


Figure 4 Q1 - Choose the option that best describes your situation: (tick one option only)

Table 3 Q2 - If you own this property, how long ago did you buy it? (tick one option only)

	Count	Column N %
Less than 1 year	10	5.8%
Between 1 year and 5 years	30	17.3%
Between 5 years and 10 years	35	20.2%
More than 10 years	81	46.8%
No answer	17	9.8%
Total (N)	173	100.0%

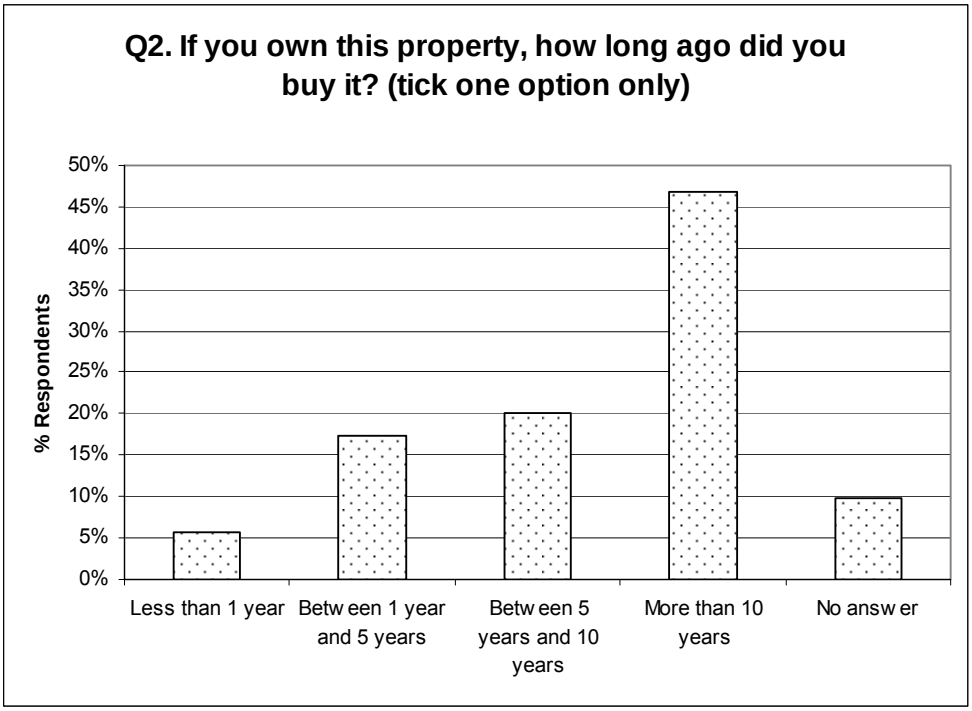


Figure 5 Q2 - If you own this property, how long ago did you buy it? (tick one option only)

Table 4 Q3 - If you are a visitor, where do you normally live?

N=53	Count
Andorra	1
Ararimu	1
Auckland	24
Cambridge	1
Hamilton	10
Hawke's Bay	2
Karapiro Lake	1
Morrinsville	1
New Plymouth	1
Ngatea	2
Pukekohe	1
Tauranga	1
U.K.	2
USA	1
Waikato	1
Wellington	3

Table 5 Q4 - Thinking of the past couple of years, which option best describes how often you visit Tairua's ocean beach? (tick one option only)

	Count	Column N %
Once a day or more, year-round	15	8.7%
Once a day or more, but more in summer than in winter	16	9.2%
Once a week or so, year-round	33	19.1%
Once a week or so, but more in summer than in winter	28	16.2%
Once a month or so	52	30.1%
Two or three times a year	21	12.1%
Once a year or less	8	4.6%
No answer	0	0%
Total (N)	173	100.0%

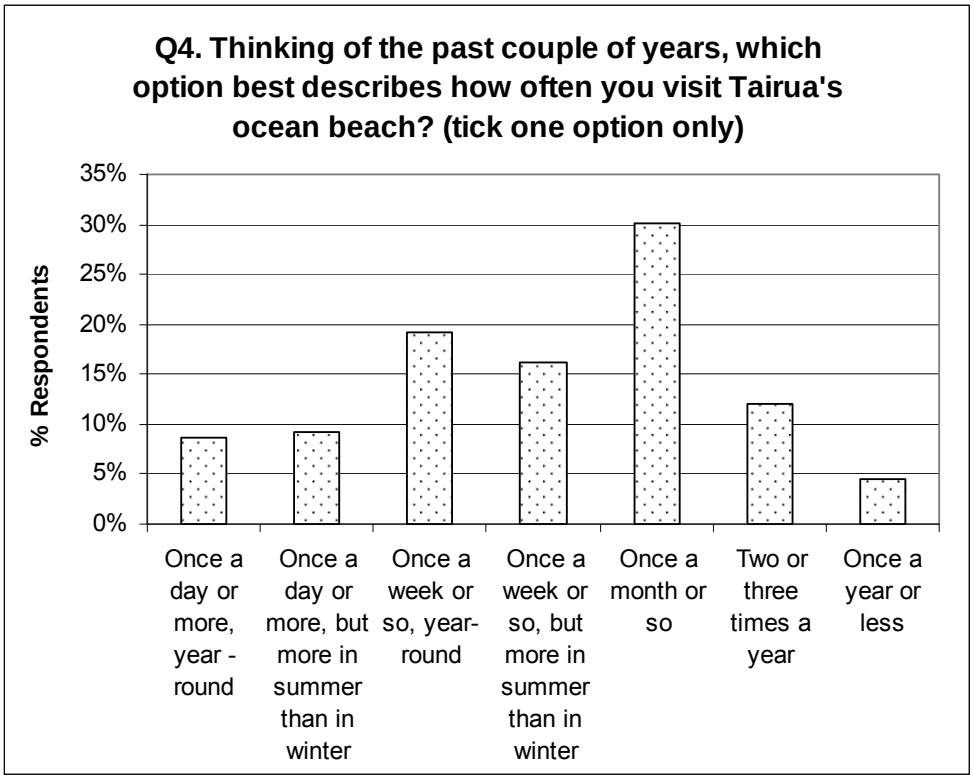


Figure 6 Q4 - Thinking of the past couple of years, which option best describes how often you visit Tairua's ocean beach? (tick one option only)

Table 6 Q5 - What do you value about the coast? (Please tick the options in each row that best matches your view)

		Count	Column N %	Mean	Standard Deviation
Appearance of the beach and dunes (whether or not they are natural, etc)	Very important (1)	109	63.0%	1.55	.84
		38	22.0%		
		21	12.1%		
		4	2.3%		
	Not important (5)	1	.6%		
	Total (N)	173	100.0%		
Good recreational facilities in general (e.g. boat ramps, reserves, etc)	Very important (1)	75	43.4%	1.92	1.00
		52	30.1%		
		35	20.2%		
		7	4.0%		
	Not important (5)	4	2.3%		
	Total (N)	173	100.0%		
A dry beach at high tide levels for recreational activities, such as sun bathing and sports	Very important (1)	48	27.7%	2.23	1.02
		58	33.5%		
		53	30.6%		
		8	4.6%		
	Not important (5)	6	3.5%		
	Total (N)	173	100.0%		
Easy access onto the beach	Very important (1)	101	58.4%	1.61	.86
		47	27.2%		
		19	11.0%		
		4	2.3%		
	Not important (5)	2	1.2%		
	Total (N)	173	100.0%		
Walking access along the full length of the beach at high tide	Very important (1)	73	42.2%	1.98	1.06
		51	29.5%		
		32	18.5%		
		13	7.5%		
	Not important (5)	4	2.3%		
	Total (N)	173	100.0%		
Protection of iwi / Maori values	Very important (1)	34	19.7%	3.06	1.37
		22	12.7%		
		49	28.3%		
		35	20.2%		
	Not important (5)	33	19.1%		
	Total (N)	173	100.0%		
Retaining some undeveloped, natural beaches around the coast	Very important (1)	121	69.9%	1.45	.82
		35	20.2%		
		12	6.9%		
		2	1.2%		
	Not important (5)	3	1.7%		
	Total (N)	173	100.0%		
Retaining some undeveloped, natural headlands around the coast	Very important (1)	119	68.8%	1.45	.79
		37	21.4%		
		11	6.4%		
		5	2.9%		
	Not important (5)	1	.6%		
	Total (N)	173	100.0%		
Protection of scenic values when looking out over the beach and toward the sea	Very important (1)	117	67.6%	1.42	.68
		41	23.7%		
		13	7.5%		
		2	1.2%		
	Not important (5)	0	.0%		
	Total (N)	173	100.0%		

Protection of scenic values when looking inland (e.g. towards houses or the surrounding landscape)	Very important (1)	77	44.5%	1.90	.99
		53	30.6%		
		29	16.8%		
		12	6.9%		
	Not important (5)	2	1.2%		
	Total (N)	173	100.0%		
The involvement of local people in decision-making about the coast	Very important (1)	126	72.8%	1.35	.64
		36	20.8%		
		10	5.8%		
		0	.0%		
	Not important (5)	1	.6%		
	Total (N)	173	100.0%		
The involvement of people who do not live locally in decision-making about the coast	Very important (1)	21	12.1%	3.15	1.25
		29	16.8%		
		57	32.9%		
		35	20.2%		
	Not important (5)	31	17.9%		
	Total (N)	173	100.0%		
Protecting beachfront property, even if it means losing the sandy beach	Very important (1)	13	7.5%	3.53	1.30
		31	17.9%		
		34	19.7%		
		42	24.3%		
	Not important	53	30.6%		
	Total (N)	173	100.0%		
Good fishing and shellfish gathering	Very important (1)	72	41.6%	2.05	1.13
		47	27.2%		
		36	20.8%		
		10	5.8%		
	Not important (5)	8	4.6%		
	Total (N)	173	100.0%		

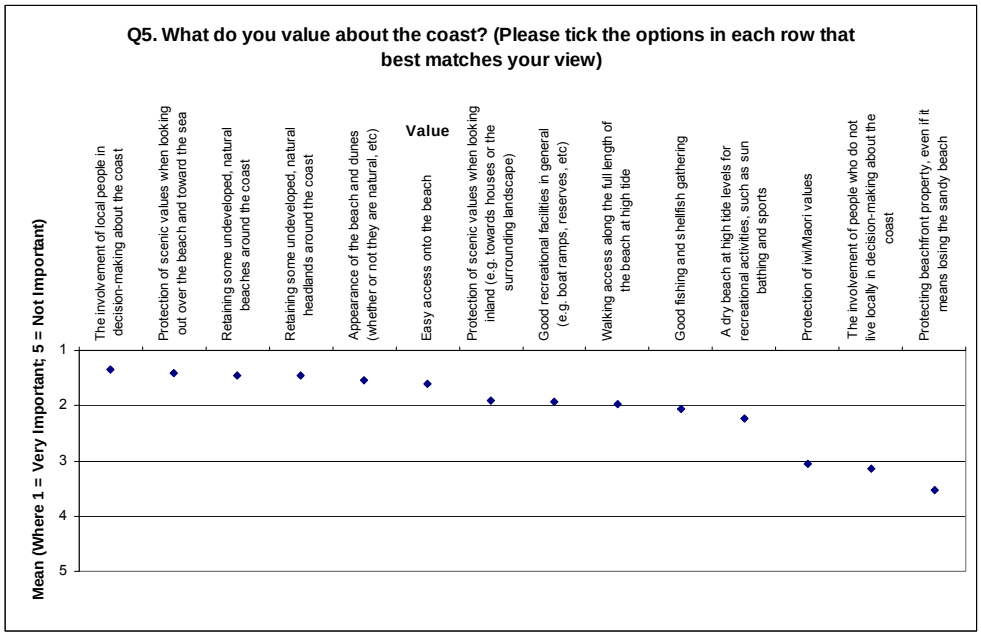


Figure 7 Q5 - What do you value about the coast? (Please tick the options in each row that best matches your view)

Your suggestions on what you value about the coast…please describe:

- Absence of litter. Doctor the signs (other than footprints) of human presence. The beach is for me a place of rest, relaxation, regeneration from a busy life-keeping it clean & simple is best for me. Water clarity is very important. The right to access to the beach at all times
- Access onto the beach, the surrounding area around the beach & headlands not to be over developed. Some beaches to be left natural – i.e. Sailor's Grave Beach-great spot!!
- Accessible but not overcrowded
- All people to have maximum respectful access
- Beaches and reserves kept clean of debris. More monitoring of shellfish collecting
- Being allowed to progress without the objectives to development
- Clean and tidy beaches, access ways, car parking, dune protection signs that say "Please use access way", so people do not walk over dunes. Planting on dunes
- Clean beaches
- Clean beaches & good access for all activities for all people
- Clean sands and unpolluted water
- Clean unpolluted harbour water. Stop all clear felling of pine forests down to streams & rivers. Create 100m buffer zones
- Clean water (harbour & ocean), clean beach. Access to all coastal areas including all parts of the Tairua harbour
- Clean water. Access for all. No litter. Natural habitat if possible (retention of dunes). Protection of animal species i.e. birds
- Clean, natural, open, easy access
- Cleanliness, scenic
- Dog exercise areas
- Don't crowd it out with properties - think of other generations

- Free access to the beach not restricted by riparian or "IWI" rights. Maintain the ‘Queens Chain’ along the foreshore
- Good management of quality coast life
- Grass etc to hold the sand dunes. Tree shade. Toilets near car parks
- I think coastlines should be kept in their natural state and developments set back as far as possible
- I value the contrast to normal city and urban life. We all need a place to review our feeling for place in the natural world - we need to use the coast without spoiling its natural beauty
- Its natural qualities. Keep development away from beach
- It's natural state. Public access. Shellfish collection & fishing
- Its fast disappearing isolation and lack of development. Opportunity to find peaceful, beautiful, uncrowded spots
- Just good beaches for boating, fishing, kids. Just move on and get good facilities for everybody to use. Top beaches bring people, and people mean growth
- Keeping a difficult but necessary balance between keeping coastal areas accessible for the public, but not at the risk of the environment
- Keeping it as clean & natural as possible without many man-made paraphernalia, in keeping with making beautiful spots easily accessible for young & old to enjoy. Being aware of planting natural land native plants to reduce erosion and give protection from sun & wind. Enjoying our natural assets but not developing them to the point of taking away natural beauty & sometimes isolation
- Keeping the 'natural character' as far as possible. Planting to halt erosion. Stop high rise & marina developments
- Keeping the coast frontage but allowing close proximity inland development. Get rid of the protracted bureaucratic bull**** and imposed delays of the EW and local Thames/Coromandel District Councils. Witness the Whangamata and Tairua marina nonsense and the Mangrove debacle
- Lack of crowds, unspoilt feeling
- Leave as is
- Maintaining as much natural character as possible
- Maintaining public access to the coastline & shore
- Make sure everyone has access to our beaches & fishing
- Mangrove free waterways
- Marina development should be approved!
- Minimal development in new areas, access for all
- Minimal development maximum nature appearance
- Minimal housing development close to beaches & water front
- My priority is the arrest and removal of Mangrove infestations. Despite huge public concern for this problem, the dopes at EW just don't get it. The nauseating patronisation by EW, of minority and dodgy groups and forest & bird etc is undemocratic and stupid. Wake up you lot!!
- Natural & tidy & no litter
- Natural as possible. No commercial concessions
- Natural beaches, sandy unspoilt. Appreciate the work put into Sailors Grove Beach in maintenance & planting
- Natural beauty & bird life
- Natural beauty and our ability to make more of the natural environment, walking,

swimming, fishing and boating

- Natural beauty of beaches and landscapes which are maintained for all New Zealanders to enjoy. Availability of good camping grounds so all people can afford to holiday in these areas. Prevention of inappropriate development
- Natural environment left to nature
- Natural undeveloped coastline. Minimal development to protect beaches and dunes
- Natural, clean environment
- No commercial signage, adequate toilet/shower facilities, adequate car parks, no vehicles on beach other than emergency & life savers
- No high rise or infill housing development
- Not tampered with
- Our most exciting interface - sea and land dune areas - should be just that, "dunes". Mother nature sorts them out and councils should never issue permits for private dwellings on such makeshift country
- Peaceful, "wild" wide views
- Preservation and access for all including future generations. Commercial development - No
- Pristine beaches, easy access
- Protecting beachfront property where possible is important, but I know of no case where this would lose a sandy beach. Clear sea water apart from during storms, bush covered hills. Good roads, good fishing boat ramps & trailer parking
- Public assets. Scenic value. Access to coast. Good camping facilities. Sewage & water facilities
- Retain the natural character of our beaches & coastline
- Retaining some undeveloped natural beaches around the coast
- Retention of natural state. Full access & usage for the public, no or very low housing development along beachfront, lots of scenic reserves, not building developments
- Retention of the natural features including vegetation - especially native bush Pohutukawas, flax grasses etc, close to beach/headlands
- Rubbish control not good. Bins now too small! Too much rubbish left on beach
- Rubbish free
- Strict anti-development. Strict height (no more than 2 storey). No white or obtrusive colours IF global warning is correct! Do not allow any more development in any suspect area. Spend no public money on any area that will be affected by the sorry forecasts. The coast has always changed!
- Tairua beach needs to remain as unspoilt & natural as possible
- Tairua needs a 100 berth marina located in the upper harbour (above school) E.W, TCDC, DOC & FWI need to work together to avoid confrontation
- That careful planning is done to accommodate the needs of people balanced with keeping as natural an environment as possible. Areas of housing are defined as high density, medium density, large properties and huge public & natural spaces
- That dunes should be protected, and cleanliness of beach for all users
- That it is natural & accessible and freely available for all to enjoy all year round & well looked after
- The beauty of the existing harbour maintained facilities are great, but not when they overwhelm nature
- The coast is for everyone.

- The coastline needs to be accessible, natural and beach front development controlled to preserve the scenic values. No more development of headlands e.g. Paku
- The fact that it is still almost unspoilt
- The natural beauty
- The opportunity to enjoy the natural look i.e. development is limited or well hidden
- The provision of good walking access including steps, bridges, board walks where necessary
- The right to walk on beaches. Fishing for recreation
- The variety of features, the lack of commercial development, unrestricted access to the foreshore
- The wild rugged coastline with clean ocean waters and dunes protected by native grasses
- To allow our dogs back on the beaches, reserves & shopping centres all the time & all year round. Restrictions on humans using these areas would be more beneficial as they destroy the environment not the dogs. More seating & rubbish bins to be made available. Need better access for the disabled
- To retain our natural coastline & ensure those areas zoned coastal remain so to enhance & preserve native flora & fauna. To ensure our beaches are accessible to everybody and ensure the integrity of the natural dunes & foreshore
- Try to keep as natural as possible
- Undisturbed
- Unrestricted access
- Unspoilt
- View, fresh air, temperature (warm)
- View, access for boats & water craft, protection of fish stocks for recreational fishing. Provision for mooring larger craft
- Visually pleasing
- Walkways, easy access. Not selling off reserves on beach fronts. Trees for shade. Parking for all to enjoy
- We value the birdlife, dolphins, & killer whales. We have valued seeing schools of fish at sea and prolific birdlife that we have lost. We need a marine reserve.

Table 7 Q6 - Which are the two natural hazards you consider most likely to affect Tairua?

N = 173	Count	Layer N %
Flooding	118	68.21%
Storm or cyclone with high winds	74	42.77%
Forest or bush fire	15	8.67%
Earthquake	4	2.31%
Ash fall from an eruption	0	.0%
Tsunami	24	13.87%
Coastal erosion	82	47.39%
Landslide	21	12.14%

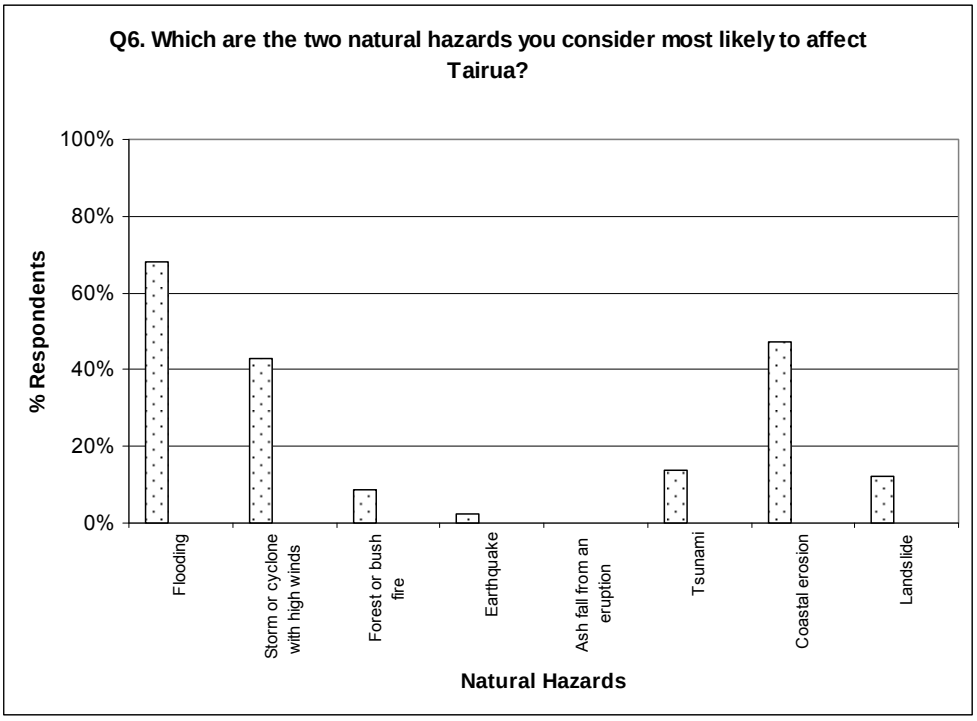


Figure 8 Q6 - Which are the two natural hazards you consider most likely to affect Tairua?

Table 8 Q7 - Have you ever (a) personally experienced any of the following hazards in the past, and (b) suffered loss or damage as a result? (tick all that apply)

N = 173		Count	Layer N %
(1a) Have you ever (a) personally experienced flooding in the past?	Yes	79	45.7%
	No	94	54.3%
(1b) Have you ever (b) suffered loss or damage as a result of flooding?	Yes	21	12.1%
	No	152	87.9%
(2a) Have you ever (a) personally experienced a storm or cyclone with high winds in the past?	Yes	94	54.3%
	No	79	45.7%
(2b) Have you ever (b) suffered loss or damage as a result of a storm or cyclone with high winds?	Yes	27	15.6%
	No	146	84.4%
(3a) Have you ever (a) personally experienced a forest or bush fire in the past?	Yes	5	2.9%
	No	168	97.1%
(3b) Have you ever (b) suffered loss or damage as a result of a forest or bush fire?	Yes	2	1.2%
	No	171	98.8%
(4a) Have you ever (a) personally experienced an earthquake in the past?	Yes	19	11.0%
	No	154	89.0%
(4b) Have you ever (b) suffered loss or damage as a result of an earthquake?	Yes	5	2.9%
	No	168	97.1%
(5a) Have you ever (a) personally experienced ashfall from a volcanic eruption in the past?	Yes	4	2.3%
	No	169	97.7%
(5b) Have you ever (b) suffered loss or damage as a result of ashfall from a volcanic eruption?	Yes	2	1.2%
	No	171	98.8%
(6a) Have you ever (a) personally experienced a tsunami in the past?	Yes	2	1.2%
	No	171	98.8%
(6b) Have you ever (b) suffered loss or damage as a result of a tsunami?	Yes	3	1.7%
	No	170	98.3%
(7a) Have you ever (a) personally experienced coastal erosion in the past?	Yes	30	17.3%
	No	143	82.7%
(7b) Have you ever (b) suffered loss or damage as a result of coastal erosion?	Yes	5	2.9%
	No	168	97.1%
(8a) Have you ever (a) personally experienced a landslide in the past?	Yes	29	16.8%
	No	144	83.2%
(8b) Have you ever (b) suffered loss or damage as a result of a landslide?	Yes	10	5.8%
	No	163	94.2%

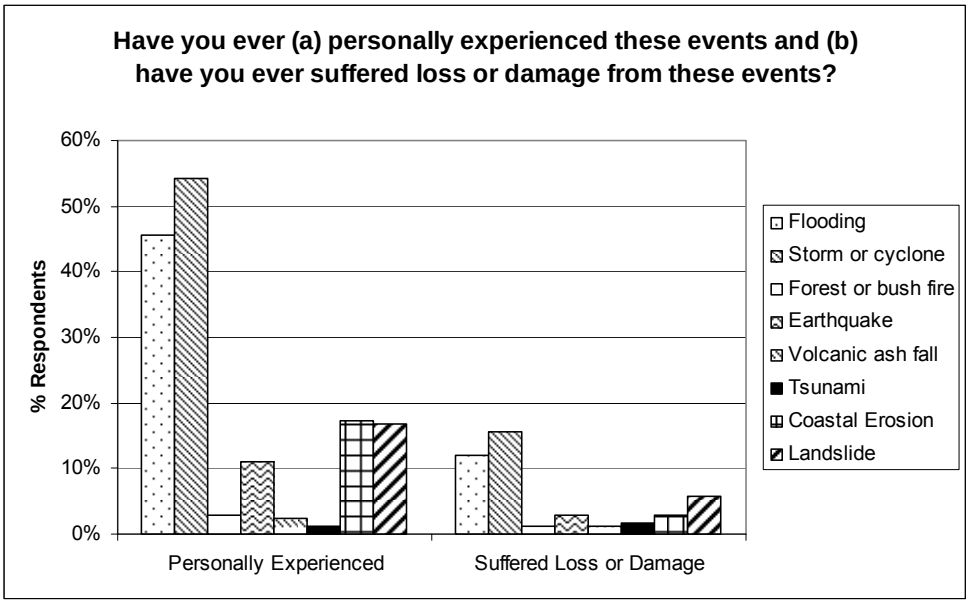


Figure 9 Q7 - For each of the following statements do you agree or disagree?

Q7. Details of experience and loss or damage:

- 1978 (mid winter) regarded as one in a hundred year flood when all bracketed above hit the top of a high spring tide. As a result stopbanks were built
- 2. i.e. as in Tairua for cyclone Bola. 7. Observed considerable anxiety before storms. End of Tairua Beach Jan 06
- Across Ocean Beach Road - creek has flooded several times - I've seen flooding almost up to Ocean Beach Rd opposite us
- Basement of house would flood due to poor stormwater drainage
- Before building on section heavy rain caused slip on next door section to ours
- Both experiences while living in Wellington
- Both these occurrences happen regularly here but no detrimental effects for me
- Cut off by flooding at Hikuai Roads, slips on Paku Hill have caused property damage to friends house/land
- Cut off from mainland
- Cyclone 'Bola'
- Cyclone Bola
- Cyclone Bola & many storms & high winds
- Cyclones in this area a few years ago - heavy rain during this period undermined section next door
- Damage to holiday home
- Earthquake 4.2, ceiling required replastering
- Earthquakes in Rotorua & Tauranga. Minor tremors in Tairua. Tairua has regular storms in winter with flooding by Prescotts Garage & not being able to get through. Also flooding stopping us getting to Whitianga. Landslides in the Kopu/Hitania area
- Edgecumbe earthquake 1987 helping to clear up after Bola in Gisborne area
- Experienced 1 to 4 when living in Te Aroha. Our property was directly affected
- Experienced earthquakes up & down eastern portion NZ flooding during heavy rain

problem due to council raising road level higher than existing properties
- Extreme rainfalls causing slips & internal minor flood damage to our property on Paku Hill
- Flooding - stormwater runoff damaged gardens. Storm - cyclone Bola and subsequent events
- Flooding at Hikuai occurs reasonably frequently. Storms have eroded & changed beach significantly some years
- Flooding 2004
- Flooding annually, Bola, Edgecumbe, Puku/surf beach erosion, Paku landslide
- Flooding at present home (surface). Loss & damage over 20 yrs ago in Hutt Valley
- Flooding in Grahams Creek - sea broke through in Hemi Place during storm, erosion of Manaia Road stopbank during storm
- Flooding of Grahams Creek has caused 3 incidents of flooding of my property in last 10 years
- Gale force winds bringing down trees and breaking garden furniture
- Grahams Creek flood 2005?
- Grahams Creek flooding - various storms
- Grahams Creek flooding of our property
- Had caravan awning ripped and poles broken. Stranded at Hikuai because of flooding
- Had difficulty getting to work in Thames because of flooding at Hikuai but no damage to the property apart from one landslide which TCDC accepted responsibility for correcting
- Have been delayed up to 5 hours by flooding of the Tairua River. On Paku high winds & rain brought down trees and caused slips
- Have had to abandon camping due to cyclone in 1994, and noticed increasing coastal erosion over the last few years
- Have not been able to go to another town "Thames" caused by flooding & slips "Kopu Hikuai" Road
- Heavy rain filled our stormwater drain in front of our house & came inside. There is no kerbing to keep water away
- Heavy rain storm, basement flooded damaging carpet, wall cladding and personal effects
- High river due to cyclone closed roads out of Tairua
- High tides & wind lost drive and part of sea wall (Weymouth on shores of Manukau Harbour)
- High winds damage to property & vegetation
- High winds in 1997 brought down several trees on our previous property & did branch damage. Nothing serious
- Home in Mt Roskill flooded
- Horse paddock flooded destroying my electric fence
- I nearly drowned during a torrential downpour causing a flash flood & fast-moving torrent of water in the horse paddock. I lost my footing & fought hard to get out of the river
- Isolation due to flooding of roads. Previous owner experienced landslide of property
- Isolation of Tairua by flooding of road both north & south. Storm damage to trees
- Just part of our local (and expected) weather patterns
- Landslide behind property & high wind damage to vegetation
- Live on Grahams Stream floor level <2m from near high water level
- Loma Prieta Earthquake in San Francisco
- Lost 1/3 of section in torrential rain through landslide in 2005
- Lost guttering in cyclone also no "berms" round our property, silt & mud slide from road to

our driveway
- Managed to escape any damage
- Minor flooding experienced before stopbank installed Manara Rd. Cyclonic storms are pretty regular
- Our land and property floods during very heavy rain and is worse at high tide
- Professional involvement in southern England, Holland, France and Spain
- Refers to other localities
- Ripped part of roof off house
- Road fell down on Paku Hill
- Road flooding in Hikau storm caused water damage to our home
- Roads blocked
- Seen beach change, sand disappear, dunes damaged
- Slips on Paku Drive & high winds in same area
- Small slip from council reserve through part of section
- Small slip on property
- Storm with high winds causing coastal erosion walkways to beach were eroding preventing public access via walkways. Public used sand dunes for access. Eventually local rebuilt walkways. 2. Tail of the weather bomb resulted in our house being sand blasted. Stainless handrails were 'bead blasted' by sand. Front section covered in sand (approx 80 barrow loads of sand). Window, door & racks filled with sand blocking drainage holes
- Tairua River floods bring major debris through the moored boats - damage usually minor! Paku fire 1973/74 would be a major threat now its built on
- TCDC & EW need to work together, with property owners
- The earthquakes I have experienced were when I was young & in Wellington. The others were in Tairua
- The farm I used to live on flooded 3 or 4 times a year
- The flooding of Graham Tidal Creek due to a once in 100 year flood
- The side effects of a tsunami that began in Chile 76/77
- These are regular and natural occurrences in this area, and will always be, and cannot be regulated
- Town cut off by flooding at Hikuai (very poor communication from local radio not kept up to date), police, land transport & AA
- Two cyclones on 30/12 & 23/12 in late 1990's
- Two hurricanes in Fiji
- Up river but not at my place
- Victoria, Australia
- Water damage to house
- Water damage to house as result off loss of roof
- We have now installed storm blinds to protect the windows
- We were at Tairua during the 20 floods and although surrounded by water out property was not affected
- When I lived in Wellington. 2. When I lived in Wellington. 4. Felt several earthquakes
- When I lived in Whakatane.

Table 9 Q8 - What do you think is the main cause of coastal erosion? (tick one option only)

	Count	Column N %
Changes in the sand supply to the beach	16	9.2%
Storms	103	59.5%
Sea-level rise	7	4.0%
Other cause	25	14.5%
Don't know	5	2.9%
No answer	17	9.8%
Total (N)	173	100.0%

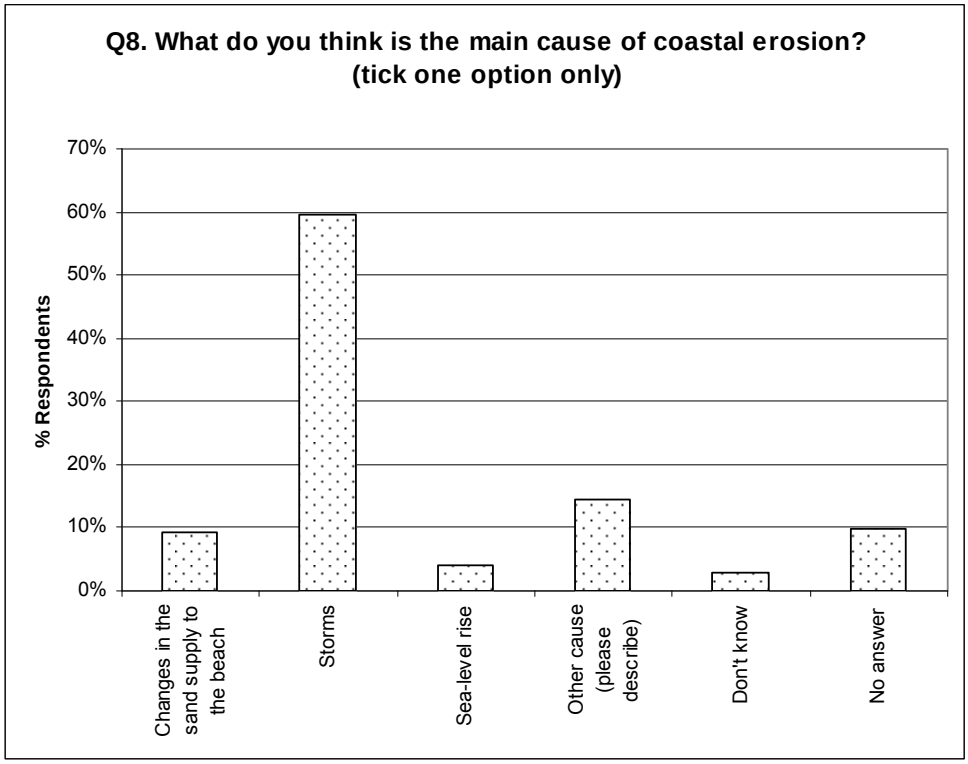


Figure 10 Q8 - What do you think is the main cause of coastal erosion? (tick one option only)

Q8. Other causes:

- 6 feet taken off Waihi beach in Wahine storm
- All the above
- All the above sometimes aided by human activity i.e. runoff, bush clearance
- Building in inappropriate locations i.e. sand dunes
- Building on sand dunes
- Building too close to the sea and on reclaimed land or previous flood areas
- Coupled with human damage to dunes
- Depends on which beach - Ocean Beach is storms. Harbour is sand supply/storms
- Destruction of natural vegetation & runoff of water scouring soil etc
- Development
- Due to global warning
- Has always been there, only now becoming a problem due to invasion of all water side possibilities and increase of leisure activities. Start the move back from all suspect areas now. Warn all existing owners that as in other countries rising sea levels and erosion are normally their problem
- Heavy swells
- Humans not keeping to paths, use of quad bikes, jet skis etc
- Human activity
- Human damage
- Human intervention i.e. building, marinas, etc
- Human intervention
- Humans
- Implementation of an effective harbour management plan - management of Tairua harbour is disgusting
- In harbour due to build up of sediment from deforestation
- It's historical, coastal frontages will always change - and it will never be controlled
- Lack of dune protection
- Mother nature - this interface can never be made static (whatever word you use)
- Natural attrition
- Natural changes that you cannot eliminate
- Natural evolution climate changes etc
- Nature's cyclic balances
- Poor drainage and runoff
- Prevailing weather systems e.g. – SW = beach in good shape, NE = erosion on Ocean Beach
- Wave action
- Wind - heavy rainfall too

Table 10 Q9 - For each of the following statements do you agree or disagree?

		Count	Column N %	Mean	Std Deviation
Inappropriate development in coastal areas can put houses at risk from erosion	Strongly Agree (1)	111	66.1%	1.46	0.77
	Agree (2)	41	24.4%		
	Neither agree nor disagree (3)	11	6.5%		
	Disagree (4)	2	1.2%		
	Strongly Disagree (5)	2	1.2%		
	Don't Know	1	.6%		
	Total (N)	168	100.0%		
We must accept that erosion is a natural process at the coast	Strongly Agree (1)	87	51.8%	1.69	0.88
	Agree (2)	55	32.7%		
	Neither agree nor disagree (3)	20	11.9%		
	Disagree (4)	3	1.8%		
	Strongly Disagree (5)	3	1.8%		
	Don't Know	0	.0%		
	Total (N)	168	100.0%		
There are a range of methods available to stop coastal erosion indefinitely	Strongly Agree (1)	21	12.4%	2.92	1.18
	Agree (2)	33	19.5%		
	Neither agree nor disagree (3)	54	32.0%		
	Disagree (4)	28	16.6%		
	Strongly Disagree (5)	17	10.1%		
	Don't Know	16	9.5%		
	Total (N)	169	100.0%		
The width of the dune changes during the year	Strongly Agree (1)	61	36.3%	1.81	0.82
	Agree (2)	68	40.5%		
	Neither agree nor disagree (3)	19	11.3%		
	Disagree (4)	5	3.0%		
	Strongly Disagree (5)	1	.6%		
	Don't Know	14	8.3%		
	Total (N)	168	100.0%		
Once a dune is destroyed there's no way to bring it back	Strongly Agree (1)	20	12.0%	3.32	1.32
	Agree (2)	21	12.6%		
	Neither agree nor disagree (3)	34	20.4%		
	Disagree (4)	43	25.7%		
	Strongly Disagree (5)	33	19.8%		
	Don't Know	16	9.6%		
	Total (N)	167	100.0%		

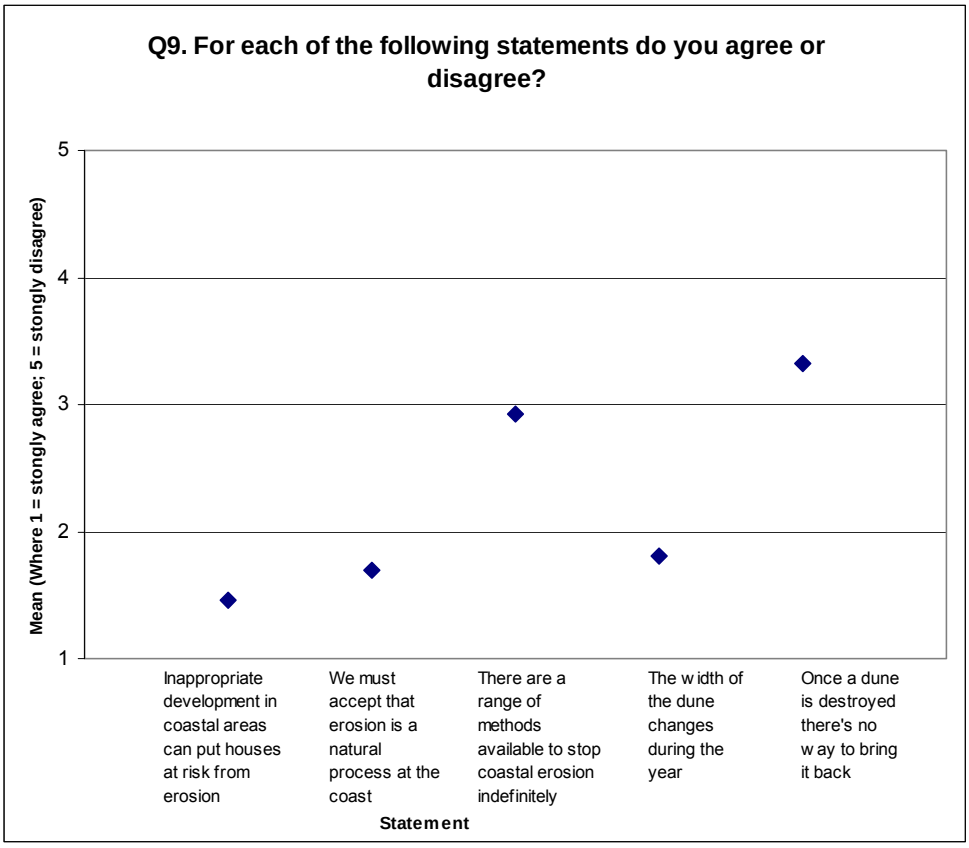


Figure 11 Q9 - For each of the following statements do you agree or disagree?

Table 11 Q10 - In general, which forms of coastal erosion management do you approve of? (Tick all that apply)

	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Beach nourishment (adding extra sands)	0	.0%	10	35.7%	10	52.6%	5	55.6%	9	37.5%	15	51.7%	27	43.5%	76	44.4%
Construction of seawalls and rock walls	0	.0%	8	28.6%	9	47.4%	3	33.3%	9	37.5%	14	48.3%	22	35.5%	65	38.0%
Doing nothing (i.e. letting the sea dictate)	0	.0%	4	14.3%	5	26.3%	0	.0%	7	29.2%	5	17.2%	11	17.7%	32	18.7%
Dune planting (to restore or maintain an adequate buffer zone)	0	.0%	28	100.0%	19	100.0%	8	88.9%	23	95.8%	27	93.1%	58	93.5%	163	95.3%
Moving of buildings back from the beachfront (managed retreat)	0	.0%	13	46.4%	12	63.2%	3	33.3%	12	50.0%	18	62.1%	33	53.2%	91	53.2%
Other options	0	.0%	2	7.1%	1	5.3%	0	.0%	1	4.2%	2	6.9%	5	8.1%	11	6.4%
Total (N)	0	.0%	28	100.0%	19	100.0%	9	100.0%	24	100.0%	29	100.0%	62	100.0%	171	100.0%

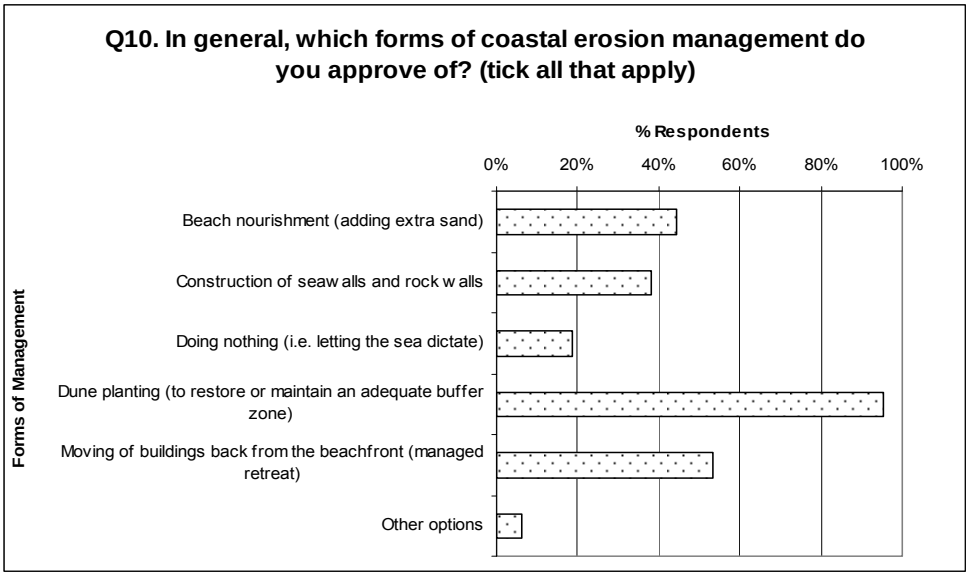


Figure 12 Q10 - In general, which forms of coastal erosion management do you approve of? (Tick all that apply)

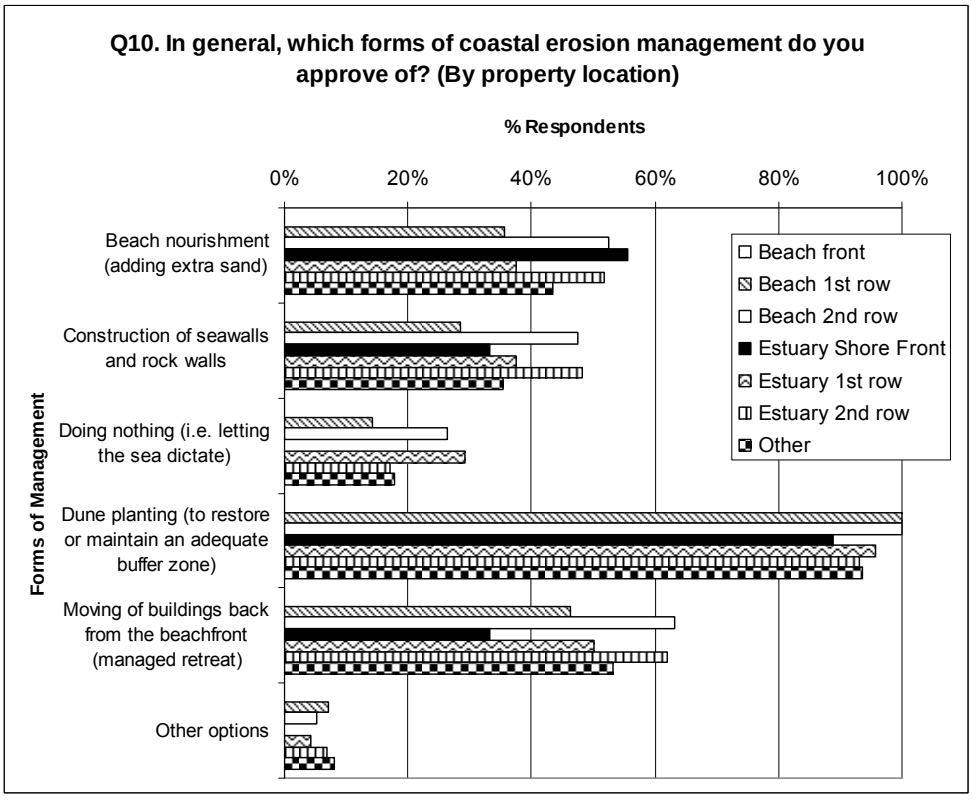


Figure 13 Q10 - In general, which forms of coastal erosion management do you approve of? (By property location)

Q10. Other options (listed):

- Construction of fences etc to keep people off dunes
- Controlling coastal development monitoring run off stringently
- Correcting on imbalance. Property owners on the foreshore who damage dunes need to be prosecuted

- Don't allow housing in inappropriate places
- Don't let regional councils go near the (if it does exist) problem!!
- Dune planting requires areas to be roped off to assist planting to become established
- Education of importance of dunes & increased beach access ways
- Ensure no development in all areas known to be suspect
- Erosion inside a shallow harbour like Tairua is easy to control and is very different to an open sea beach
- Establish a viable dune width buffer before building consent is given
- Fencing off dunes
- Get the T.C.D.C and EW out of management of this area and things will improve
- King Kanute can't help
- Leaving the estuary clear of any further building development re: projected sea level rising
- No foot traffic on dunes
- Policing use of walkways to beach, especially as landowners or ocean beach often worst culprits
- Re-locating sand one end of beach to another
- Sand-ladders. Signs for keeping off the dunes & using walkways
- Tairua harbour has deteriorated dramatically since the opening of Kopu/Hikuai Road

Q11. In general, which of the above options do you consider to be the best long term approach for managing erosion (i.e. over the next 50 – 100 years)?

(1) Dune Planting n=93; (2) Sea wall/rock wall construction n=8; (3) Beach nourishment n=2; (4) Managed retreat n=16; (5) Do nothing n=14; (6) Other n=6 (e.g. stop development too close to the beachfront)

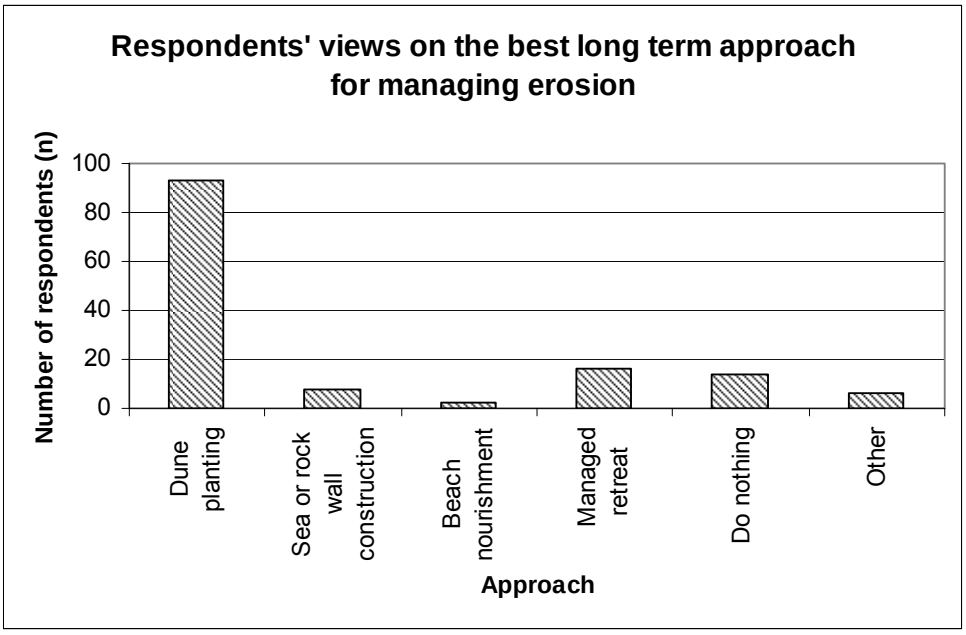


Figure 14 Q11 – Best long term approach for managing erosion (Tairua respondents)

Details of preferred options:

- 1-2-3 should all form part of an effective management plan - doing nothing as at present is no answer. We need forward thinking practical people involved with time to revote to such a ongoing project
- 1
- 1.
- Adequate vegetation is a natural way to stop erosion
- It is very difficult to stop nature (sea storm destruction effects). Dunes that are well maintained will lesson the effects of a storm. Seawalls/luck walls that are built extremely strong ($$$'s) can still be undermined by a very strong storm -suitable I guess in port access etc
- Planting (1) because it seems to be working
- Planting dunes keeps natural look. Prevent development close to beach. Control stormwater run off
- 5. Nature will take it's course but dune planting should slow it down
- 1.
- Planting etc
- Planting to retain the dunes, have a look at the "Vetiver" planting option, a deep & widely rooting grass with effective usage (see website)
- Properties should never been allowed to be built along or so close to ocean beach. Dune planting seems to be working looks natural
- 1 & 2
- 1 & 3
- 1 & 5
- 1 & 6. These options should help, although not cure the problem, but building seawalls/rockwalls would detract from natural beauty
- 1 + 2 must be addressed early & is most cost effective. Residents on sea frontage should contribute to costs
- 1 + 3. These are natural & do the least damage to the earth
- 1 Dune planting - I believe this is the best option
- 1 More natural
- 1,4,2 work in urban areas
- 1.
- Because it has been proven
- Because it is a conservation solution. 4. Because it protects life & property
- Best in long term to give natural environment for ..... & .....
- But recognise that a few good storms can wipe out plantings, beach nourishment, rock walls etc. In the end the sea will dictate
- Cost & effectiveness
- Dune planting - there should be more of it, plants especially on Tairua Beach
- Dune planting - natural form of management keeps the beach visually pleasing
- Dune planting
- Dune planting allows us to maintain the dunes as best we can, providing the buffer & natural protection. There are areas where the dunes are so narrow or nonexistent & houses have been built, these will have to be removed but mostly at the owners expense as these sections were built on with their knowledge of the situation

- Dune planting can restore a buffer zone without destroying the coasts aesthetics, as sea and rock walls would
- Dune planting catches the sand and builds dunes. Dunes need to be roped off to stop people sliding, jumping, walking down dunes destroying any planting
- Dune planting growth - helps prevent movement of sand by wind & water
- 4. 6. Dune planting is cost effective & aesthetically pleasing. 4. Buildings & their preservation should be considered secondary to protecting environment. 6. People would respect the area more if they were educated
- Dune planting is essential to stop the strong coastal winds blowing away the remaining supply of sands remaining on the dunes. i.e. It does not replace itself
- 2. 3. Dune planting is the most natural but unfortunately will not be enough with rising sea levels. 2. Needed for more aggressive defence of land. 3. This choice may be taken from our hands eventually anyway
- Dune planting it worked very well in Invercargill on Oreti Beach the most wind swept beach in NZ
- Dune planting making a much more solid bumper zone for encroaching seas
- Dune planting so it makes it more natural
- Dune planting stabilizes the area and reduces sand loss. Protects (when property done and managed) the appearance of the beach/coast
- 3. Dune planting together with beach nourishment. 3. Retain the natural look of the area.
- Dune planting will assist in holding the sand in place during a storm event - but will also assist in trapping wind blown sand after and assist in the restoration of the dunes
- 5. Dune planting. 5. Must try
- 3. 4. Dune planting. 4. No granting of permits to build on seafront. 3. Beach nourishment
- Dunes are a natural result of erosion. Consolidating the dunes by planting and managing access across them is the least intrusive approach to erosion management
- Dunes planted with native plants naturally restore themselves after a storm but definitely needs to have a good buffer zone before any buildings
- For open sea beaches. 2. Inside Tairua harbour
- Gives nature a helping hand without interfering with nature
- 4. Helps maintain existing dunes. 4. Keep human damage to a minimum
- Hold the dunes in place as protective barrier
- 3. 4. Holds sand - if right flora user. 3. Good repeating temporary measure. 4. Last resort
- In Tairua we already have a good dune buffer area & we need to maintain & consolidate that dune area for the future
- It's the most natural and likely to survive
- It's working & if maintained as is should continue to do so in an economical & effective way
- Keep the beach as close to what nature is doing without our intervention. Re planting dunes to hold together seems as natural a option as any
- Keeping the sand where it is by planting out. Any construction would undermine the stability of the dunes. The sea would break down any man made construction
- More environment friendly
- More natural
- 2. Most natural option for beaches although rock walls are more permanent
- 3. Most natural. 3. OK providing its good quality & not to expensive
- Most practical and cost effective

- Creating a buffer zone
- 2. Depends upon particular situation. 1. Is best where it would be effective. 2. May be necessary in more extreme conditions
- Do nothing more than dune planting. Owners to take risk
- Dune planting - do it now and things become firmly established before the oceans rise due to global warning
- Dune planting - to keep the area looking as natural as possible
- Dune planting
- 3. Dune planting & nourishment
- 3. Dune planting and beach nourishment if there is a suitable supply of appropriate sand. Foreshore building on the dunes must be restricted and activity which destroys dunes prohibited
- Dune planting and to keep people from walking on dunes
- Dune planting appears to be effective although I can't back that up with statistics. In severe storms it isn't sufficient to prevent dune erosion but for moderate situations it appears to work
- 5. Dune planting as a short term measure but generally letting nature take its course. Don't allow building on dunes
- Dune planting holds the sand or at least helps. It doesn't spoil the look of the dunes or beach but enhances it (we have been involved in a local beach care programme)
- Dune planting is the best seawalls are only if the above does not apply
- Dune planting maintaining a good buffer between sea & building
- Dune planting with fencing & preventing building close to dunes
- 3. Dune planting, controlling access and beach nourishment. i.e. assisting natural processes
- I don't know and would like to receive an informed answer - which I presume may change from time to time
- This is supporting natural systems which stabilise the coastal zone. Don't fight the natural processes. No 4 is useful depending on coast/benefit
- 4. I think that planting the dunes (1) and moving buildings (4) would be a grand idea so that the area of the beach is protected from too much human interference
- Natural dunes act as a buffer. They must be protected
- Natural option & less invasive
- Natural way of protection & helps build of sand
- 2. 3. Passive & environmentally acceptable. 3. Improvement is successful if ongoing. 2. Only option where 1 & 3 not an option
- Planting will help for non extreme weather but in the long term it will be impossible to stop all erosion
- Prefer our beaches to be natural and this allows our birds to nest naturally in the dunes
- Preserve natural scenic qualities
- Retains the natural look of the beach
- 3. Root structures assist binding of sand. 3. Additional sand maintains beach level after erosion from tidal movement
- Sand dunes create a nature buffer to erosion. We must ensure they are protected through appropriate beach access ways & increased planting

- Simply the only solution. Reduces erosion of the dune while allowing for its growth (wind from the sea blowing up dry sand) also limited cost to maintain and limited visual detraction
- Suitable heavy planting combined with appropriate walkways sustain sands & dune growth
- This is the least obtrusive & most natural if the sea wants to take the dunes away it will. Despite what we do
- Seem to work well together to stabilize the coastal areas for the long term
- 2
- 3. Sea walls & rock walls, beach nourishment
- Seawalls & rockwalls would help
- Valuable real estate & dune line should be protected with rock build walls
- 2 & 4
- If constructed property, they would help to break the force of the waves and reduce the effects of a storm. We saw how little effect plantings did at the south end of the beach a couple of years ago!
- Seawalls are the only permanent fix used all over the world & would only be required in a very few cases
- Sand nourishment in construction with geotextile fabrics. (large sand bags). Look natural & control erosion
- Beach nourishment - its not a beach if there's no sand
- Building of properties too close to beach front is an obvious risk so why do we keep building in these areas? The beauty of living by the sea doesn't mean we have to live on the beach literally
- Global warming is going to raise sea levels eventually and we need to be proactive & stop people building on beach fronts - cannot keep building more seawalls & protections if this occurs
- Housing is generally moving closer & closer to the sea with little consideration for the environment
- If sea-levels are rising, we are not going to abandon at risk development. The buildings need to be protected
- Humans consistently seem to do more damage then nature
- 4. If development is kept minimised (e.g. digging drains excavation) close to the sand & sea the natural ebb & flow especially on sand beaches seems to work best
- 4. Last tsunami killed 280,000 people. It's irresponsible to build houses that close to the shore. Keep them away at least 150m
- 4. Moving buildings as climate changes will become increasingly necessary with more unpredictable weather & higher tide levels
- 4. No buildings in beachfront areas likely to suffer from erosion
- 4. Restrict housing on dunes. Create 100 metre from h/water zones
- 4. You can view the erosion at Tairua from merely twenty years ago. At the Paku end of the beach
- 4. You can't build on the coastline then blame nature for the natural processes which are inevitable
- 4. Considering the link between Paku & Tairua was formed by a back up of Kauri logs that then silted & formed Ocean Beach Road, I believe the managed retreat or removal of homes along this sections

- 4. In the long run people will have to accept larger set backs from the sea. Erosion is only a problem when people/property are in the way
- 4. Moving buildings 4 protect the natural environment
- 4. 5. Not allowing any development along the coastline as eventually nature will run its course and claim parts of the coastline for a time. Governments + councils should be accountable for allowing development, but property owners should be made well aware of the affects of development and then also held accountable for any development they complete
- There has been much talk of "erosion" at Tairua - we have owned property since mid 80's-no erosion noticed in the middle of beach-possibly some at south end-on big swell
- Erosion can be more controlled without changing natural environment
- 5
- Keep man away let nature look after it. You only need to look where he hasn't been
- 5. Doing nothing
- 5. I think we should let the sea do what it will, don't fight it. Don't build to close to the dunes
- 5. Can't mess with nature, it will always beat you
- 5. Let nature be nature
- 5. Managing erosion usually only benefits a few people who have built on the beach
- 5. Mankind will never alter or contain whatever natural forces throw up. History has proven that time and again. It's a risk you take when living on the coast
- 5. Nature rules but dune plantings is the best option
- 5. Reasons: cost, nature will dictate, if people are stupid enough to build on sand, then they must accept the costs, and consequences
- 5. People must realise there are storms and if they choose to buy or build on a beach front property problem will arise. Owners should pay for any damage to their properties
- 5. The power of the sea always siren unless the engineering is huge
- 5. Why try to 'manage' (?) something over which EW will never be able to control. E.W.'s past management efforts have already proven this. Witness the Whangamata Mangrove problem - E.W has adopted an absurd and childish stance, totally against overwhelming public opinion, advocating the removal of Mangroves
- Level the dune and plant with grass to consolidate with picnic tables and road as Mt Maunganui
- On going protection and repair will be needed
- I have seen too many sea walls destroyed (in NE, UK and in Holland) to expect any form of protection to be permanent

Table 12 Q12 - A good cover of plants on dunes... (tick one option only)

	Count	Column N %
Stops the beach eroding because their roots keep the sand from being washed away in storms	44	25.4%
Helps build up sand reserves by stopping it from blowing away, making a store of sand	114	65.9%
Won't help with beach erosion as the dunes come and go with the tides and winds	7	4.0%
Protects buildings built on dunes from erosion	0	.0%
Unsure	3	1.7%
No answer	5	2.9%
Total (N)	173	100.0%

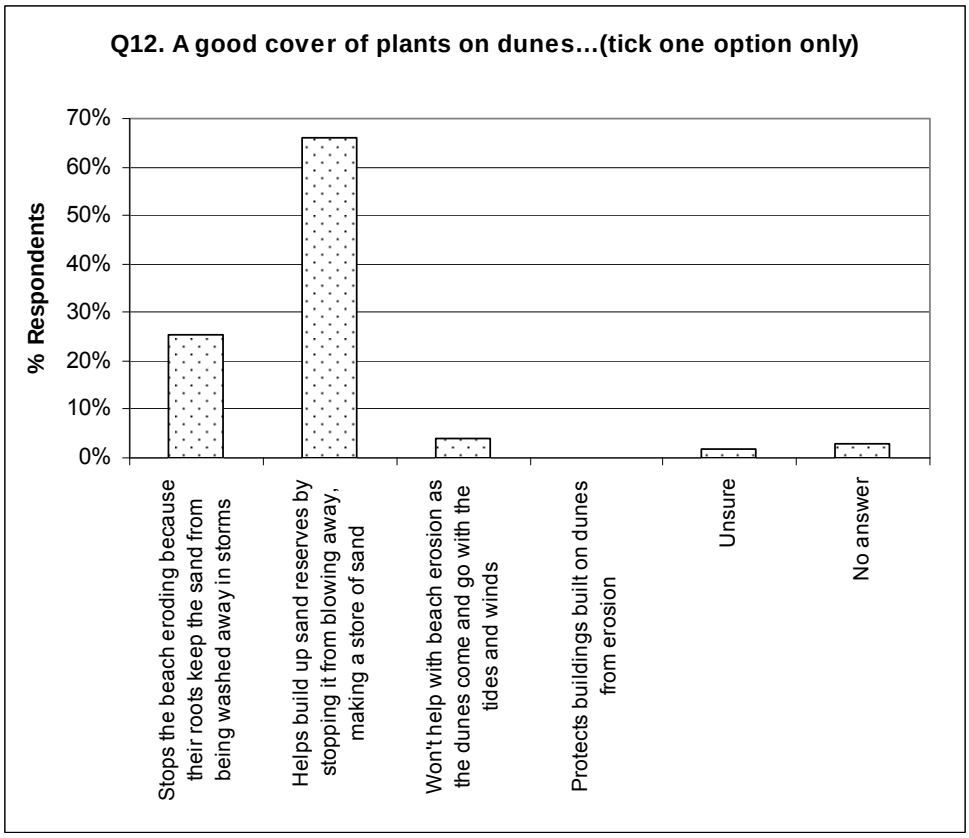


Figure 15 Q12 - A good cover of plants on dunes... (tick one option only)

Table 13 Q13 - Building a seawall on a sandy beach... (tick one option only)

	Count	Column N %
Protects beach-front properties from erosion indefinitely	9	5.2%
Only provides limited protection to the properties behind it	133	76.9%
Provides protection for properties immediately to the sides of the seawall	4	2.3%
Protects properties behind it from storm events of any size	3	1.7%
Unsure	24	13.9%
Total (N)	173	100.0%

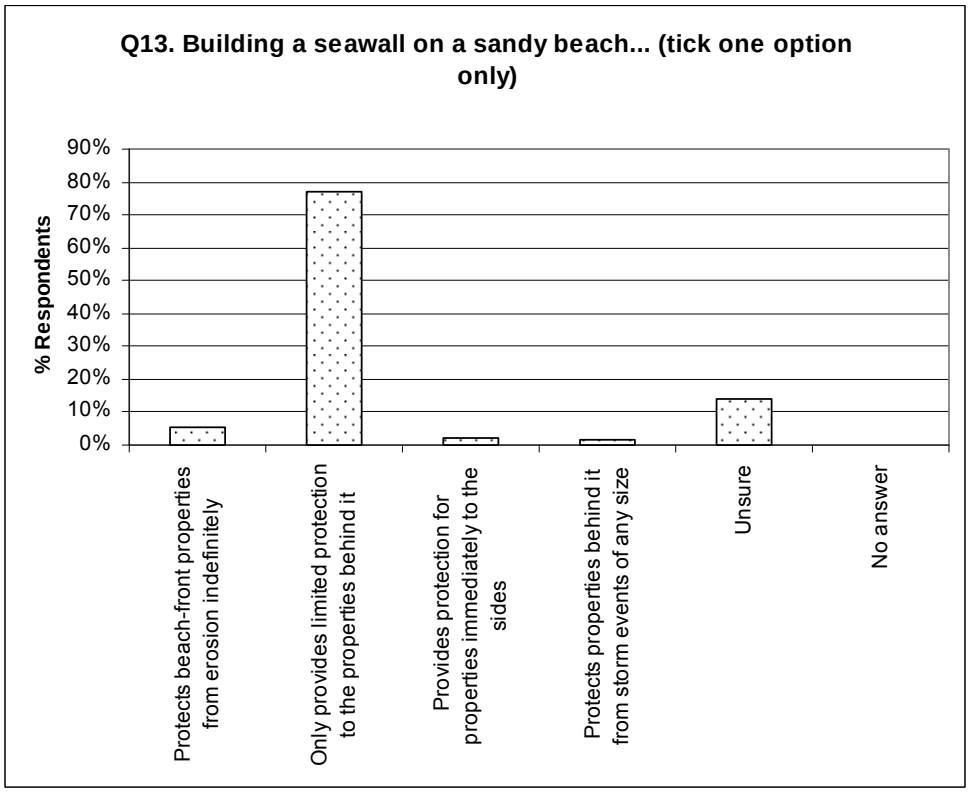


Figure 16 Q13 - Building a seawall on a sandy beach... (tick one option only)

Table 14 Q14 - The effect a seawall has on the natural behaviour of a sandy beach... (tick one option)

	Count	Column N %
Is limited to the beach in front of the seawall	32	18.5%
Doesn't change the width of the beach	8	4.6%
Doesn't increase the effects of coastal erosion along other parts of the beach	16	9.2%
Can increase the effects of coastal erosion along other parts of the beach	74	42.8%
Unsure	43	24.9%
No answer	0	0%
Total (N)	173	100.0%

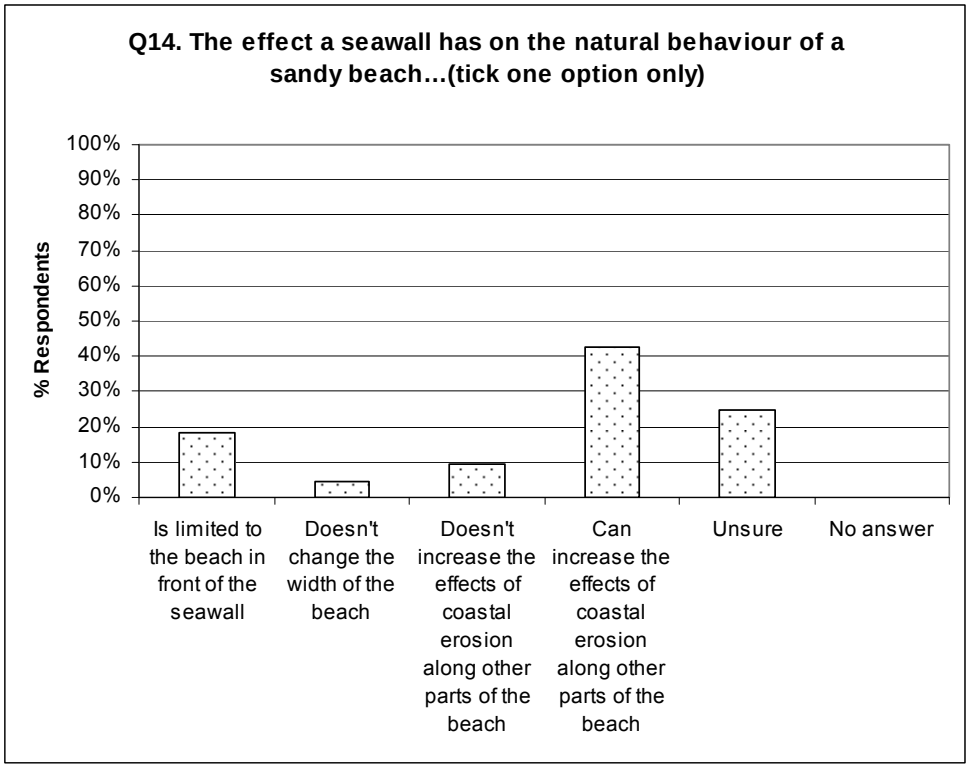


Figure 17 Q14 - The effect a seawall has on the natural behaviour of a sandy beach... (tick one option)

Table 15 Q15 - In general, who should fund erosion measures for private property?

N = 173	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Central government (via taxes)	0	.0	8	29.6	4	20.0	3	37.5	5	21.7	7	23.3	9	14.8	36	21.3
Regional community (e.g. via Regional Council rates)	0	.0	15	55.6	8	40.0	4	50.0	8	34.8	6	20.0	11	18.0	52	30.8
District community (e.g. via District Council rates)	0	.0	13	48.1	9	45.0	2	25.0	8	34.8	3	10.0	13	21.3	48	28.4
Local communities or towns	0	.0	3	11.1	2	10.0	2	25.0	4	17.4	0	.0	6	9.8	17	10.1
Private owners whose property is at risk	0	.0	15	55.6	12	60.0	6	75.0	14	60.9	24	80.0	50	82.0	121	71.6
Other	0	.0	1	3.7	0	.0	0	.0	4	17.4	1	3.3	5	8.2	11	6.5

Table 16 Q16 - In general, who do you think should fund coastal erosion control measures where public property (e.g. reserves and roads) is at risk?

N = 173	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	N %	Count	Column N %	Count	Column N %
Central government (via taxes)	0	.0%	9	33.3%	10	50.0%	4	50.0%	10	43.5%	17	60.7%	26	43.3%	76	45.8%
Regional community (e.g. via Regional Council rates)	0	.0%	20	74.1%	11	55.0%	6	75.0%	15	65.2%	13	46.4%	39	65.0%	104	62.7%
District community (e.g. via District Council rates)	0	.0%	21	77.8%	15	75.0%	6	75.0%	15	65.2%	17	60.7%	28	46.7%	102	61.4%
Local communities or towns	0	.0%	7	25.9%	3	15.0%	4	50.0%	6	26.1%	6	21.4%	13	21.7%	39	23.5%
Private property owners living nearby (e.g. at risk of losing road access)	0	.0%	2	7.4%	0	.0%	1	12.5%	3	13.0%	1	3.6%	9	15.0%	16	9.6%
Other	0	.0%	0	.0%	0	.0%	0	.0%	1	4.3%	0	.0%	4	6.7%	5	3.0%

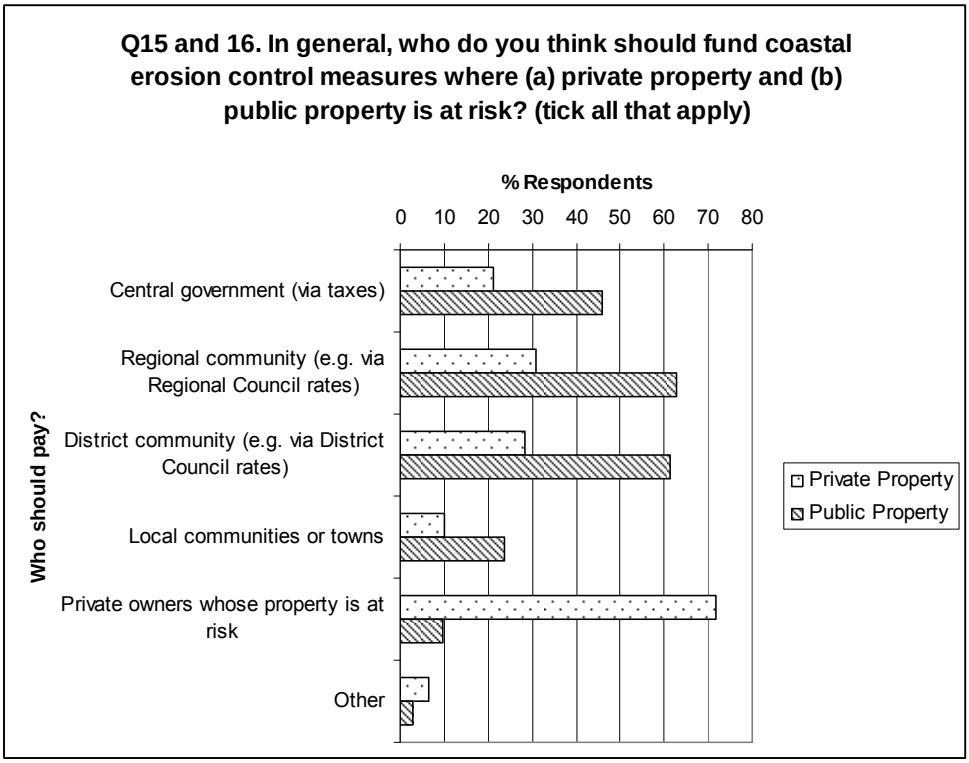


Figure 18 Q15 and 16 - In general, who should fund erosion measures where (a) private property and (b) public property is at risk?

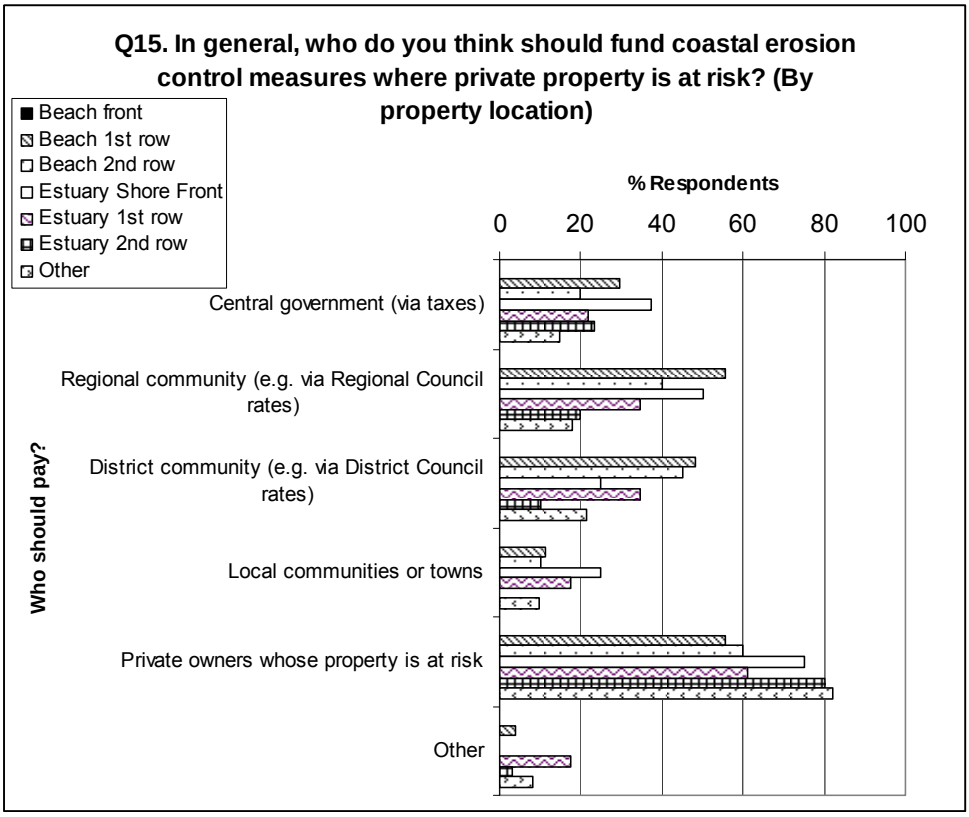


Figure 19 Q15 - In general, who should fund erosion measures for private property? (By property location)

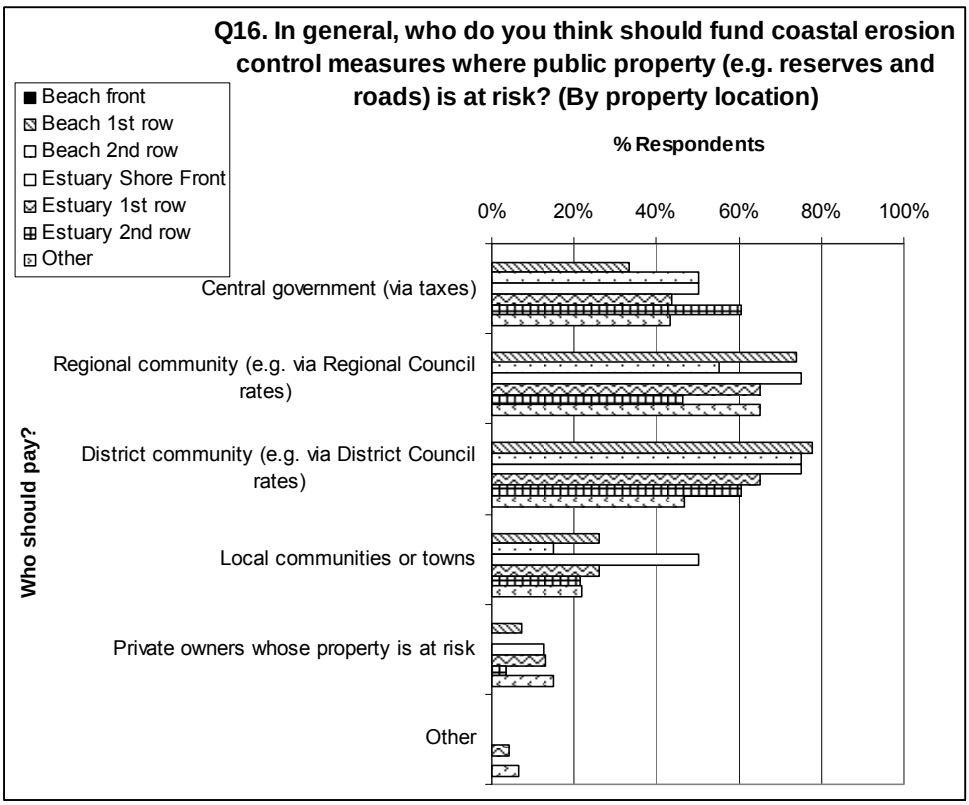


Figure 20 Q16 - In general, who should fund coastal erosion measures where public property is at risk? (By property location)

Q16. Other (please describe):

- All the above as we all lose out where public property is involved - residents & visitors alike
- As question 15
- Depends on original reason for constructing the road
- Insurance Companies as a preventative measure & long term saving on expensive claims when the flow-on effect could damage private land
- Or nature should be allowed to take its course
- Petrol tax. Why bother for reserves? for roading – re-engineer or shift
- Remove or alter the property at i.e. shift/relocate roads or buildings

Q17. Please tell us any thoughts you have on your choices for questions 15 and 16:

- 15. Owners should help fund scheme as they should be aware of dangers of living near sea. 15 & 16 The coastline is a national but local asset & problem & should be funded nationally
- 15. The properties at risk are built in inappropriate positions
- 15. If you build on sand you accept the risks. 16. Forget the reserves-use the petrol tax extorted from motorists for roads
- 15. If you build on the seafront "you are aware of erosion". 16. It councils issue permits to build in these areas they must also be responsible

- 15. If you choose to build in a risky situation then you pay. 16. Central govt has more funds available and takes financial pressure off communities
- 15. Private owners chose location & know the risks. 16. Not only a local problem. Regional visitors are very common users of area
- Again, too much building too close to the sea
- All resident benefit so all should contribute
- All too often property had been purchased or developed that had a history of problems that purchasers want others to fund a remedy
- Anyone buying property on beach fronts has to be aware that they risk damage by the sea. It is their choice.
- Beaches are destinations for all so central govt should be to the fore assisting all New Zealanders favourite destinations in NZ (not just beaches)
- Beaches are enjoyed by all not just residents of a local community therefore central govt should be responsible via taxes paid by everyone
- Beaches are public places available to all, citizens, tourists etc & maintenance shouldn't be a burden on ratepayers. Tourist tax would help maintain facilities & fight erosion
- Buildings, roads & reserves should not be delivered too close to sea front
- Burden of natural disasters to public properties should be shared by local, regional and central funding
- Central and Regional & local authorities have allowed the buildings, they should be protected
- Coasts are enjoyed by all not just property owner & local/district/removal common
- Coastal erosion may happen through natural events such as storms/tides/etc however, should it occur because of people it should be rectified. Non property places could be protected by planting if appropriate
- Councils do have some responsibility where they continue to allow development in hazard prone areas
- Councils need to refuse building permits and subdivision plans in "at risk" areas
- Councils should ensure land sold is not going to be subject to erosion in the foreseeable future - also the government should do the same with public reserves access etc
- Councils should not issue permits for property that could be or has been at risk
- Damage to beach affects all users not just property owners
- Depends on the severity of problem, if natural disaster then it should be government, if minimal then private owners and local bodies
- Dwellings or buildings should never be that close to beach. Roads & reserves are county problems
- Erosion and flooding, especially due to rising sea levels is a local and national problem
- Erosion near private property should be the responsibility of owners, where public beaches are being ruined by Central Government. With public property at communities use so we should fix
- Everyone is responsible for preserving our coastline & environment. It cannot be left to just one group. However prevention before it happens is critical. Educate & involve groups in preventative measures. Working together as a group is essential!
- Function of ownership of public property e.g. a local park by local community. SH by taxes
- Good qualifying policy to be formed for best use of annual budgets
- Has to be joined/combined effort

- Houses should be built further back erosion is a natural occurrence. Protecting dunes at what cost?
- I pay my rates & taxes for a better society. Avoid reduce compliance under the RMA
- I think that if there is active community & council involvement in erosion control measures individual owners will feel supported in the process of protecting their own properties
- If people want to live that close that is their responsibility/public property funded by governing body
- If private land is built on when secure, then erodes through no fault of the owner, outside help should be provided perhaps
- It's a combined responsibility - otherwise developers develop unsuitable property and they expect the council to put things right
- It depends on what is eroding & why and who and on what grounds building or development was allowed
- It is private property owners responsibility to protect their own property - ratepayers only if collectively agreed in best interest
- Life is a risk in NZ whenever you live. Districts, regional councils can help by making planning consent for remedial work easier but the individual should pay if private property only is at risk
- Local communities help to control erosion to benefit all
- No one should be allowed to own or build on the beach front. A minimum of 1/2km from sand dunes before buildings should begin to be erected
- Not only local people benefit so all should pay including Aucklanders as holiday makers etc
- Not only property owners benefit though of course mainly do. But they pay high rates for coastal properties
- Onus must go back to the developer or engineer who deems property (suitable safe) for use
- Owners that buy risky homes must know its faults
- People buy at their own risk. NZ belongs to all
- People must be made aware that building in such areas involves risk
- People who buy water front property have to think ahead about these problems - or not buy them!
- Presumably you are referring to NZ wide. Most of us pay taxes and it would be a lesser burden paid this way if managed correctly!
- Private owners appear in general appear to think only of their sea views than the need of dune plants to protect their valuable assets
- Private owners must accept the risk for beachfront development. Public property is accessible by all - community pays
- Private owners should protect their own land but for reserves/roads etc. Central govt should pay as the area is enjoyed by people from all regions
- Private properties placed too close to beach have been very unwise
- Private property - residential or commercial should never be allowed to be built in an area where erosion is even a possibility
- Private Property - should know risks & be prepared to fund solutions
- Private property almost always had public reserves which the public use (at least the Queens chain) between it & the sea. Private properties should not have (on their own) to maintain public reserves, in front of them

- Private property owners should contribute to measures taken, as they have most to gain. Some properties built without concern for natural changes - cost should not be carried by everyone in community
- Private property owners should know the risks when they buy, public property is for everyone so should be supported by public funding
- Private property owners take the risk when they build or buy. Public property should be protected via rates
- Problems is these areas have always existed so property owners would have been aware before purchasing
- Proper restriction on subdivision of coastal land should limit the degree of risk
- Properties on the absolute beachfront of the south of the ocean beach were meant to be "relocatable" in the event of erosion
- Public funding recognises the coast line belongs to New Zealanders & visitors to enjoy
- Q.15. You bought coastal property - your responsibility. Q.16. Public property used by all here split costs
- Q15 - They have enough money to own a beachfront property, well they must have money to fund coastal erosion or help with funding. Q16-Reserves & roads-Central government should help with funds. Taxes. We already do. So why not?
- Required rates paid to maintain parks & reserves
- See 11. Property owners should be aware of the "pit falls" of buying coastal property and the inevitabilities, and therefore should be accountable
- See 15
- Some properties built when risk is known should be protected at least in part at owners cost
- The "region" benefits from these measures
- The coastline is a regional asset. The beneficiaries are primarily people who live in the region and visit/use the coast
- The cost should be born my those most affected
- The water's edge is pretty much regional council business but owners of affected property should contribute
- There should be no private property development in risk areas!
- They should not have been allow to build there in the first place
- Those most affected should contribute more but they pay rates so should have support from the various councils
- We all make choices about where we live and are aware of the consequences, so individual responsibility is appropriate
- We are not all experts - that's why we rely on Councils to advise as and be accountable for bad decisions. Being accountable makes better decisions & therefore will result in less claims for drainages on rate payers etc
- We pay rates, councils here given building/planning permission with local knowledge
- Where erosion is the result of development, developers are held accountable for long term changes/damage
- With the current forecasts (Global Warming) a proper discussion should start immediately. This questionnaire is probably irrelevant

Table 17 Q18 - Currently, how much of a threat is coastal erosion to Tairua's Ocean Beach? (tick one option only)

	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
A severe threat	0	.0%	7	25.0%	3	15.0%	2	22.2%	6	25.0%	2	6.7%	6	9.7%	26	15.0%
A moderate threat	0	.0%	15	53.6%	14	70.0%	6	66.7%	11	45.8%	22	73.3%	33	53.2%	101	58.4%
A minor threat	0	.0%	4	14.3%	3	15.0%	0	.0%	6	25.0%	5	16.7%	18	29.0%	36	20.8%
Not a threat	0	.0%	2	7.1%	0	.0%	0	.0%	1	4.2%	1	3.3%	4	6.5%	8	4.6%
No answer	0	.0%	0	.0%	0	.0%	1	11.1%	0	.0%	0	.0%	1	1.6%	2	1.2%
Total (N)	0	.0%	28	100.0%	20	100.0%	9	100.0%	24	100.0%	30	100.0%	62	100.0%	173	100.0%

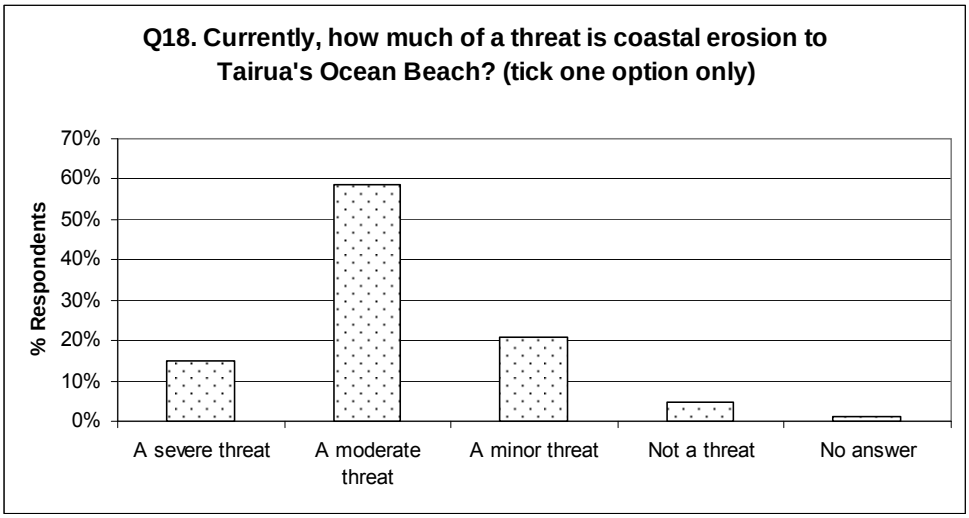


Figure 21 Q18 - Currently, how much of a threat is coastal erosion to Tairua's Ocean Beach? (tick one option only)

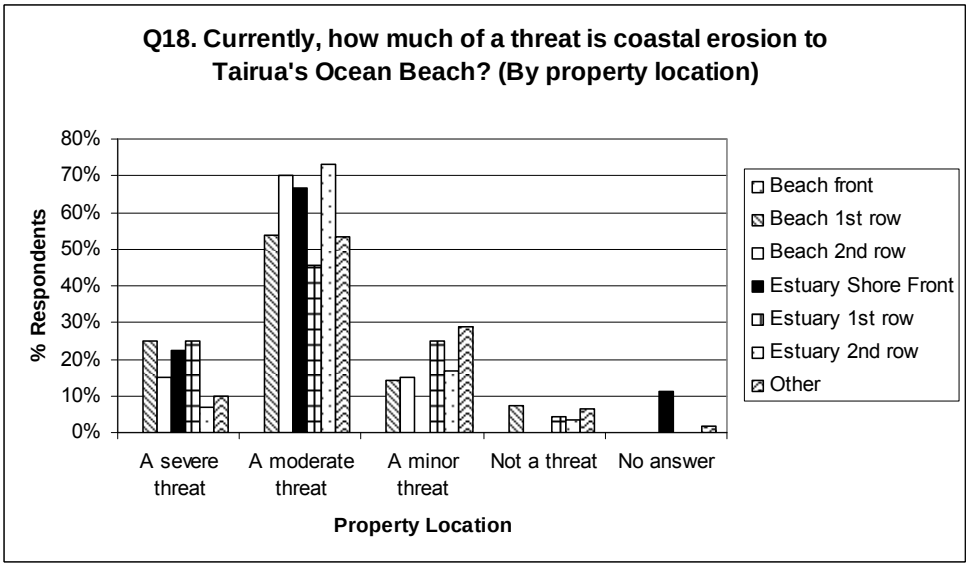


Figure 22 Q18 - Currently, how much of a threat is coastal erosion to Tairua's Ocean Beach? (By property location)

Table 18 Q18 - Currently, how much of a threat is coastal erosion to Tairua's Ocean Beach (within hazard setback zone)?

	People Within Hazard Setback Zone (n)	Column N %
A severe threat	3	100.0%
A moderate threat	0	.0%
A minor threat	0	.0%
Not a threat	0	.0%
No answer	0	.0%

Table 19 Q19 - Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (tick one option only)

	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Already affects this property	0	.0%	2	7.1%	0	.0%	1	11.1%	4	16.7%	0	.0%	0	.0%	7	4.0%
Likely to affect this property within 10 years	0	.0%	0	.0%	1	5.0%	1	11.1%	1	4.2%	2	6.7%	0	.0%	5	2.9%
Likely to affect this property within 50 years	0	.0%	11	39.3%	4	20.0%	2	22.2%	8	33.3%	9	30.0%	7	11.3%	41	23.7%
Unlikely to affect this property within 50 years	0	.0%	15	53.6%	14	70.0%	4	44.4%	10	41.7%	19	63.3%	54	87.1%	116	67.1%
No answer	0	.0%	0	.0%	1	5.0%	1	11.1%	1	4.2%	0	.0%	1	1.6%	4	2.3%
Total (N)	0	.0%	28	100.0%	20	100.0%	9	100.0%	24	100.0%	30	100.0%	62	100.0%	173	100.0%

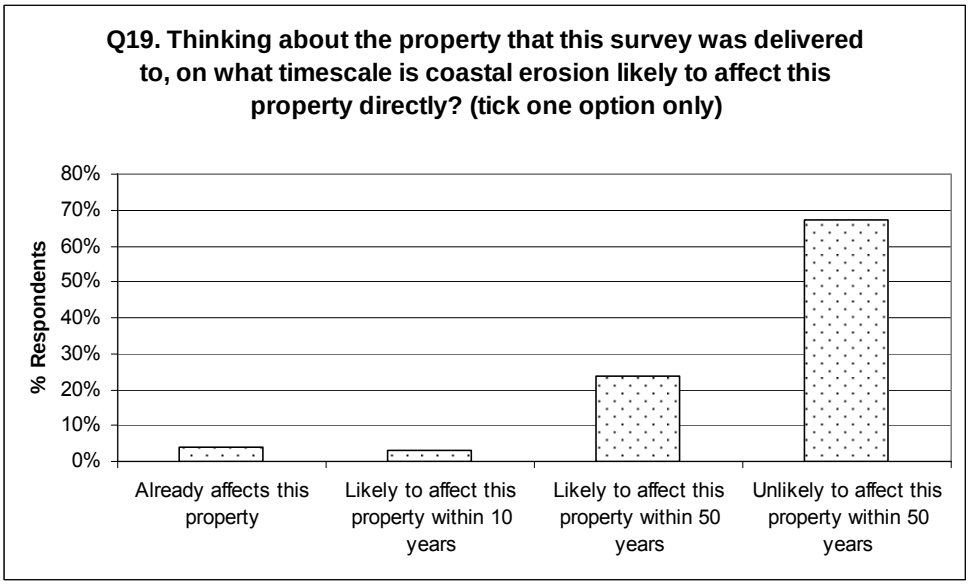


Figure 23 Q19 - Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (tick one option only)

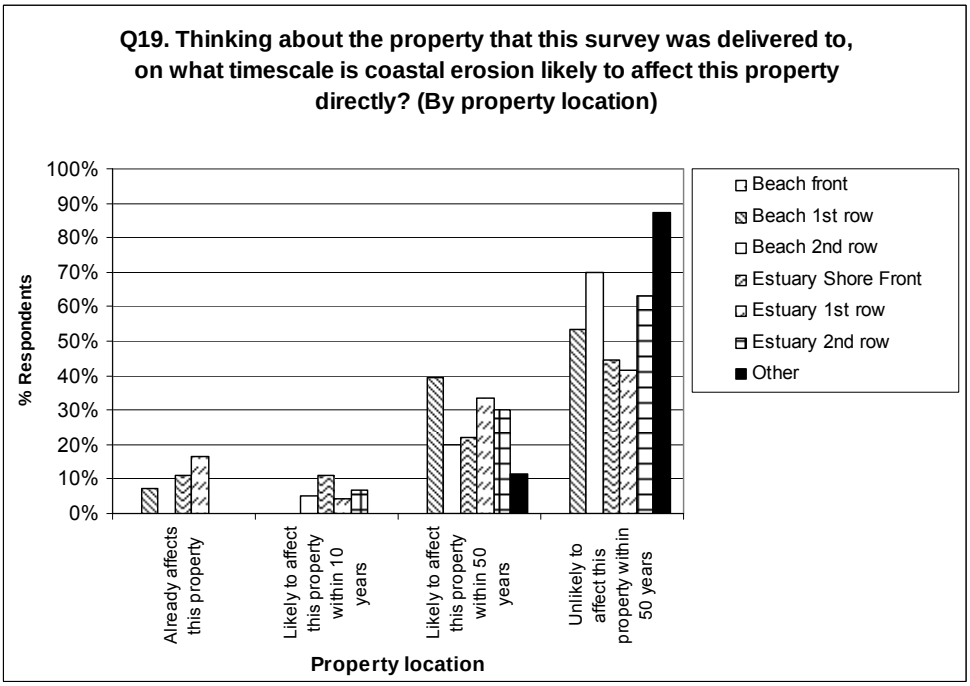


Figure 24 Q19. Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (By property location)

Table 20 Q19. Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (Within hazard setback zone)

	People Within Hazard Setback Zone	
	Count (n)	Column N %
Already affects this property	2	66.7%
Likely to affect this property within 10 years	0	.0%
Likely to affect this property within 50 years	1	33.3%
Unlikely to affect this property within 50 years	0	.0%
No answer	0	.0%

Q20. What consideration did you give to coastal erosion issues when you bought this property?

- I avoided all beachfront/dune areas. 2. I built on a hill - back from the edge well above sea level, or Tsunami risk
- A lot of consideration due to the fragile nature of 'sand bridge' access to our property on Paku Hill. We have lived there for 14 years and have visually seen it's deterioration in width
- A lot, we looked at waterfront properties & decided not to invest
- Asked questions of neighbours but do not really see it as a significant risk
- Average - Not on issue 1km inland... Can't afford property on the beach anyhow
- Avoided property on sand banks, harbour edge less than 2m above HWS as was Building regs 13 years ago. This now seems ignored - most officers are no longer locals
- Aware of risks - but not an issue here
- Build on rock not on sand!
- Built high up on section
- Buyer beware. I was aware of the risk & decided to buy anyway & wouldn't expect anyone to pay to protect my property. However if the whole community became at risk I would expect help from council & government
- Can be fixed if necessary by the use of a seawall or rock wall
- Chose property with slight elevation to avoid surface flooding (and unlikely event of Tsunami)
- Considerable - we are on a rock headland of Paku - we steered clear of soil filled gullies...but nothing is forever on any coast
- Considerable, we bought in an area that hopefully should not be affected by erosion or constant, and more regular patterning by storms
- Considered it not to be a threat and would not have bought a property that was
- Decided to get property away from beachfront & up hill to avoid erosion and flooding
- Decision to choose this property was governed by the view, but we were aware of coastal erosion & would not have bought on Ocean Beach Road
- Did not think it a risk at all
- Flooding from both the sea & streams, the height of the stopbanks
- Flooding was more of an issue to our property. Coastal flooding not an issue
- Helped determine where we purchased within Tairua

- Historical stability of coast
- I am on a hill over looking the beach, I do not like houses on or near the beach
- I bought away from the coastal shore as the risk of damage is much reduced & I couldn't afford the coast and any problems that may result from erosion, flooding etc
- I consider it wasn't an issue for my property
- I knew it was built one metre above the highest ever recorded high tide mark. I would have preferred two metres but think one metre will be adequate for my lifetime
- If very little at all. Our property is situated on Paku well back from the cliff top. It would take a major landslip to cause a threat to our property – i.e. a massive natural disaster
- It was not a necessary consideration
- It was not top of the list! We have see the results of storms on Ocean Beach - and for the children it has been an education on the power of the sea - very hard to stop - if ever!!
- Leaving as much natural vegetation on the slopes as is practicable particularly native flora
- Little consideration
- Made a conscious decision not to buy on dunes or in areas subject to flooding - aware of Tsunami affects
- Nil - unlikely affect
- Nil
- Nil not near sea
- No consideration
- No foreseen problems. Have owned property for 24 years, never a threat
- No thought, did not see it as an issue
- No thought, not applicable in this location
- None - as we checked though the solicitor that all permits were confide & therefore Council approved in every respect
- None - we are not on a flood plain or sea front
- None - we live on top of Paku - no risk of flooding. However recent rain has caused slips & storms show potential for isolating Paku from the mainland
- None - we thought all ok
- None
- None as development on sand dunes at ocean beach hadn't occurred at time property originally came into family ownership more than 40 yrs ago
- None because it will not affect my place
- None needed
- None whatsoever
- None, elevated & not facing the sea
- None, its a safe property
- None. 20yrs ago I didn't realise the significance of coastal erosion
- None. I'm a mile back from Ocean beach & 60 - 100ft above sea level
- None. Not applicable to this property
- None. Our property not likely to be affected
- None. We are back from the water's edge (inner harbour), and well above sea-level, on a rise
- Not a great deal my property is under no threat but the access Paku Drive opposite Hemi Place could be threatened but not for some considerable time
- Not applicable to this property

- Not much
- Not much to be honest
- Not much. Big wide dune between us and beach
- Not thought to apply
- Only as a road link between Paku and Tairua, however there is a ferry service so its not a big deal
- Paced the dunes between house and beach - loved the view
- Probably not a lot as unlikely to affect our property due to where it is situated
- Property was purchased over 50 years ago so probably very little. Our family have contributed financially (over & above rates) to protect this and other foreshore properties
- Property well away from Ocean Beach
- Provided the Meenaia Road stopbank is maintained this property will not be affected by coastal erosion
- Purchased harbourside as opposed to oceanside for erosion consideration
- Quickly realized it needed considerable consideration and hence took steps to address the issue
- Regarded as minor problem easily controlled (inside harbour)
- Situation was sheltered from likely storm damage
- Small consideration as global warning was not an issue then
- Some - aware that it is not an issue for this property as it does not overlook the beach
- Some
- The marina potential of 400+ boats
- There is a statement on our 'title' referring to erosion, so this was a consideration, but we were experiencing a building up of sand dunes at the time. Sand dunes were roped off & building. One storm about 3 years ago took metres off the dune. It was an eye opener to see the dune disappear so quickly
- This property is not right to sea front and that is why we bought it as there was little chance of coastal erosion
- Took into consideration - would not have bought immediate beach front
- Usual consideration of engineers advice, good foundations etc. Coastal erosion is probably not a great concern to this property
- Very definitely thought this home is far enough off the "cliff" to be safe for many years - hopefully!
- Very little - property 100m above sea. Always felt there was a slight possibility of disruption to road across to hill due to storms or sea level rise
- Very little
- Very little as we are rather high up on the hill
- Very little. Now realize Tsunami, Global warning & Graham's Stream flooding are hazard possibilities
- Viewed engineers report & council LIM report
- Wasn't a problem at the time - significant changes are occurring ongoing - local authority to be advised
- We bought because of the view and did not consider coastal erosion at all
- We bought on Paku Hill to keep away from erosion
- We decided to live high above on Paku Hill. Can't understand people who want the sea at their front steps

- We wanted to be far enough back from the ocean so not to be effected by any erosion, but near enough to walk to the beach
- We were aware & did research into the 100yr scenario of flooding within the area, erosion on Ocean Beach we felt would not at this stage affect our property
- We were aware of our right to relocate sand to protect our own property as needed
- We would have loved a beachfront property but were aware of the risks and decided against it
- What erosion would occur over the next 5 - 50 years?
- Wondered whether Paku could become isolated i.e. become an island again, if sea levels rose enough to cut off road access
- Zero. 2 kms from ocean beach.

Table 21 Q21 - Have you seen a map of development setback lines for Tairua's ocean beach?

	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		N/A		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Yes	0	.0%	8	28.6%	1	5.0%	0	.0%	3	12.5%	5	16.7%	6	9.7%	23	13.3%
No	0	.0%	16	57.1%	19	95.0%	9	100.0%	19	79.2%	19	63.3%	50	80.6%	132	76.3%
No answer	0	.0%	4	14.3%	0	.0%	0	.0%	2	8.3%	6	20.0%	6	9.7%	18	10.4%
Total (N)	0	.0%	28	100.0%	20	100.0%	9	100.0%	24	100.0%	30	100.0%	62	100.0%	173	100.0%

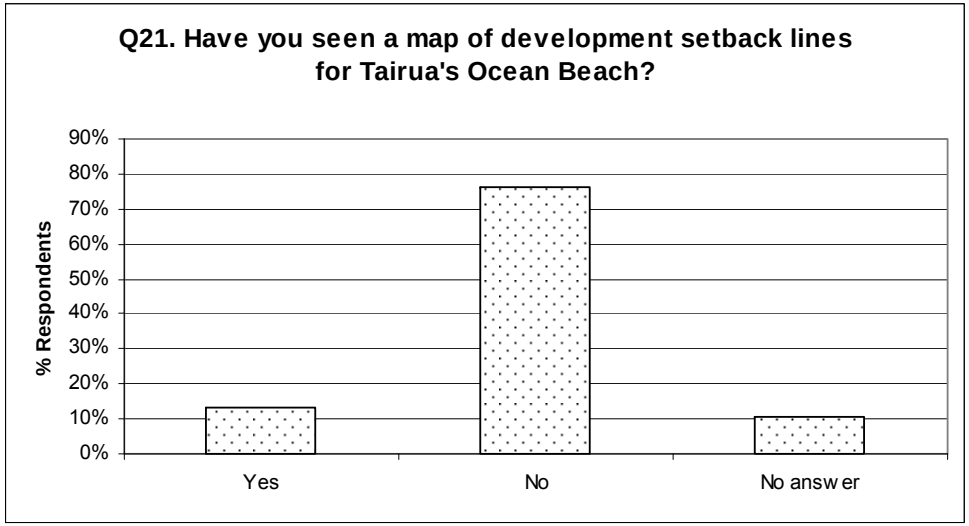


Figure 25 Q21 - Have you seen a map of development setback lines for Tairua's Ocean Beach?

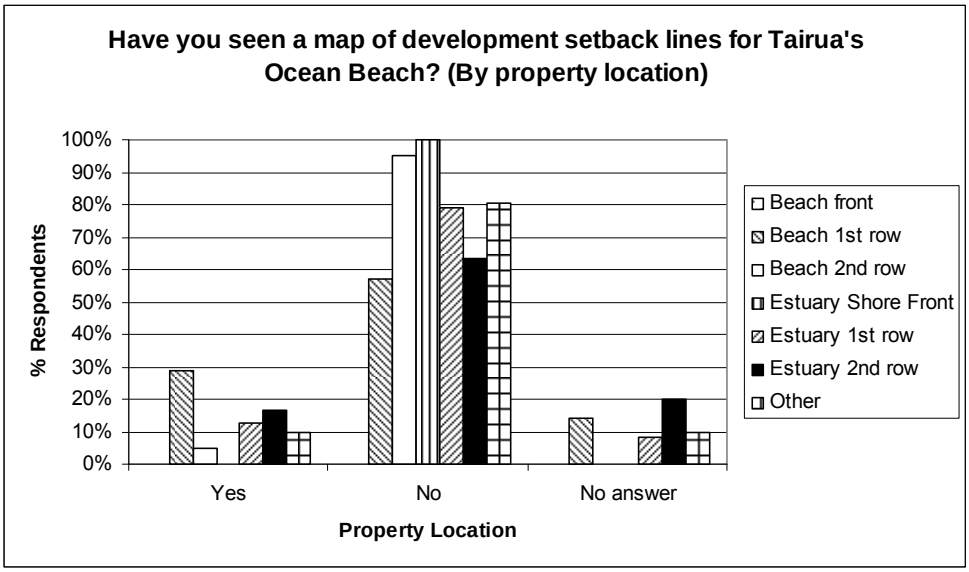


Figure 26 Q21 - Have you seen a map of development setback lines for Tairua's Ocean Beach? (By property location)

Table 22 Q21 -. Have you seen a map of development setback lines for Tairua's Ocean Beach? (Within hazard setback zone)

	People Within Hazard Setback Zone	
	Count (n)	Column N %
Yes	3	100.0%
No	0	.0%
No answer	0	.0%
Total (N)	3	100.0%

Table 23 Q22 - Are you familiar with the dune buffer at Tairua's Ocean Beach (tick one)?

	Count	Column N %
Yes	161	93.1%
No	12	6.9%
No answer	0	.0%
Total (N)	173	100.0%

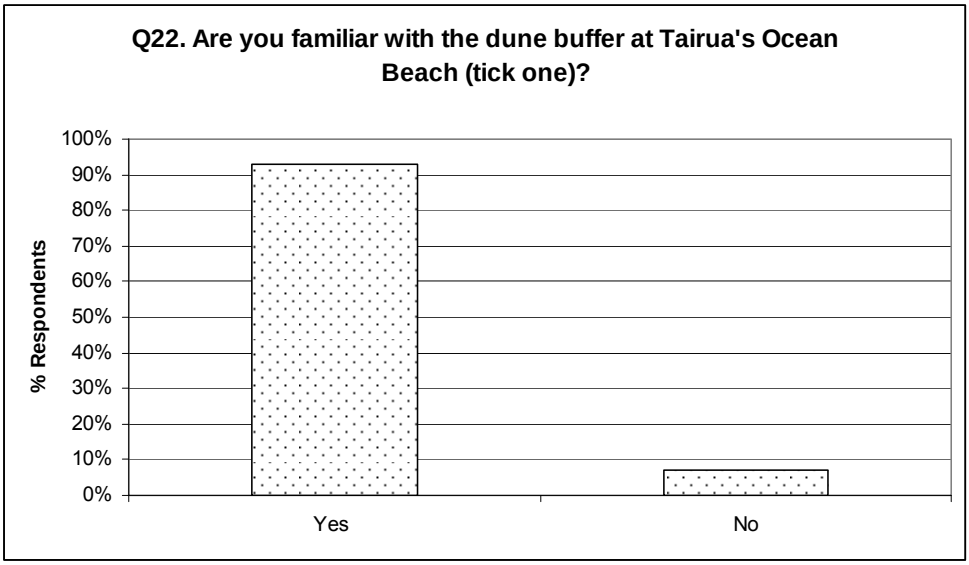


Figure 27 Q22 - Are you familiar with the dune buffer at Tairua's Ocean Beach (tick one)?

Table 24 Q23. How do you rate the success of this approach in addressing the current erosion problems at Tairua's Ocean Beach? (Tick one option only) (Based on the proportion of respondents who answered "Yes" to Question 22).

	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Very successful	0	.0%	3	12.0%	2	10.0%	1	11.1%	3	12.5%	4	14.8%	7	12.5%	20	12.4%
Quite successful	0	.0%	21	84.0%	13	65.0%	7	77.8%	15	62.5%	19	70.4%	35	62.5%	110	68.3%
Not very successful	0	.0%	1	4.0%	5	25.0%	1	11.1%	4	16.7%	1	3.7%	7	12.5%	19	11.8%
Don't know	0	.0%	0	.0%	0	.0%	0	.0%	2	8.3%	3	11.1%	5	8.9%	10	6.2%
No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	2	3.6%	2	1.2%
Total (N)	0	.0%	25	100.0%	20	100.0%	9	100.0%	24	100.0%	27	100.0%	56	100.0%	161	100.0%

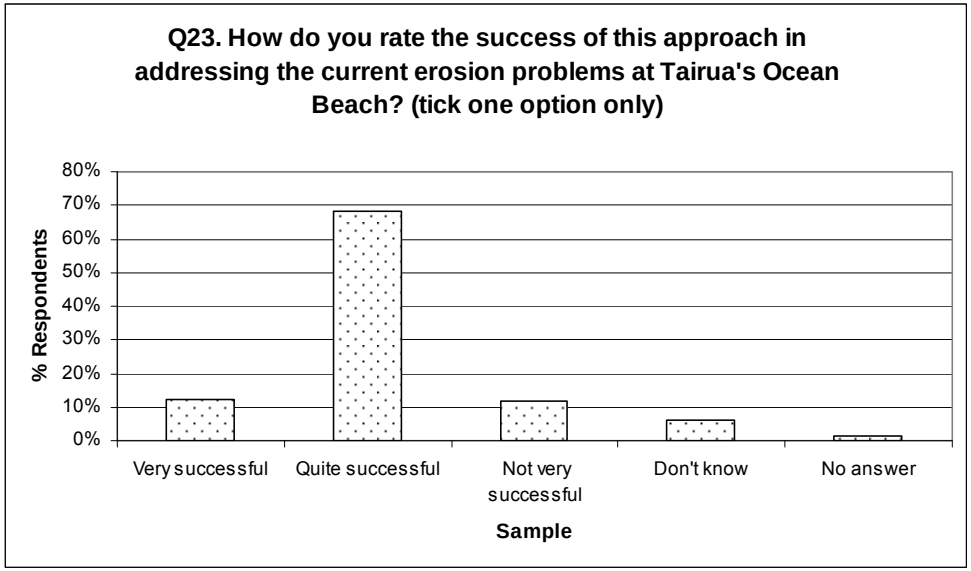


Figure 28 How do you rate the success of this approach in addressing the current erosion problems at Tairua's Ocean Beach?

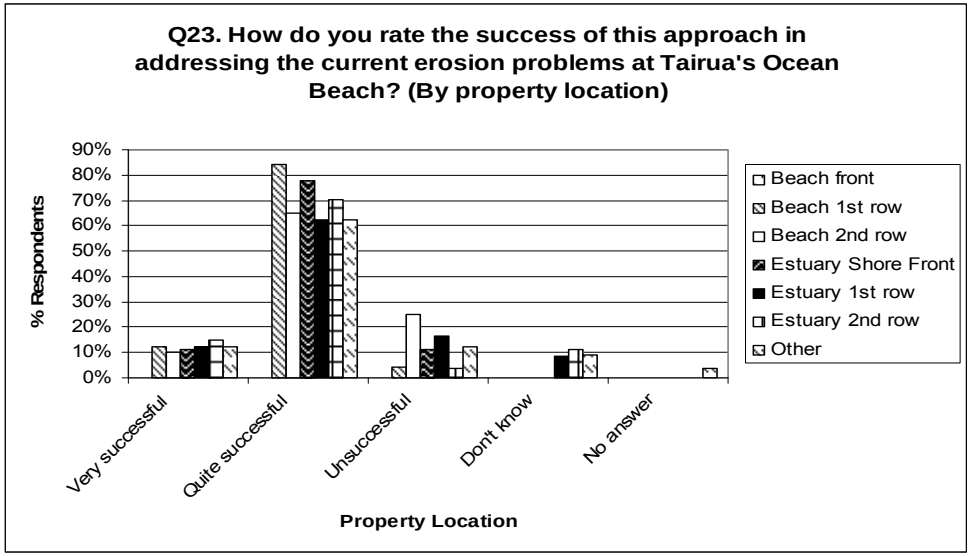


Figure 29 Q23 - How do you rate the success of this approach in addressing the current erosion problems at Tairua's Ocean Beach? (By property location)

Table 25 Q24 - Do you think that the dune buffer approach is a good long-term solution for coastal erosion at Tairua's ocean beach? (Tick one option only) (Based on the proportion of respondents who answered "Yes" to Question 22).

	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Yes	0	.0%	18	72.0%	9	45.0%	5	55.6%	16	66.7%	18	66.7%	29	51.8%	95	59.0%
Unsure/too soon to tell	0	.0%	7	28.0%	9	45.0%	4	44.4%	7	29.2%	7	25.9%	22	39.3%	56	34.8%
No	0	.0%	0	.0%	2	10.0%	0	.0%	0	.0%	2	7.4%	5	8.9%	9	5.6%
No answer	0	.0%	0	.0%	0	.0%	0	.0%	1	4.2%	0	.0%	0	.0%	1	.6%
Total (N)	0	.0%	25	100.0%	20	100.0%	9	100.0%	24	100.0%	27	100.0%	56	100.0%	161	100.0%

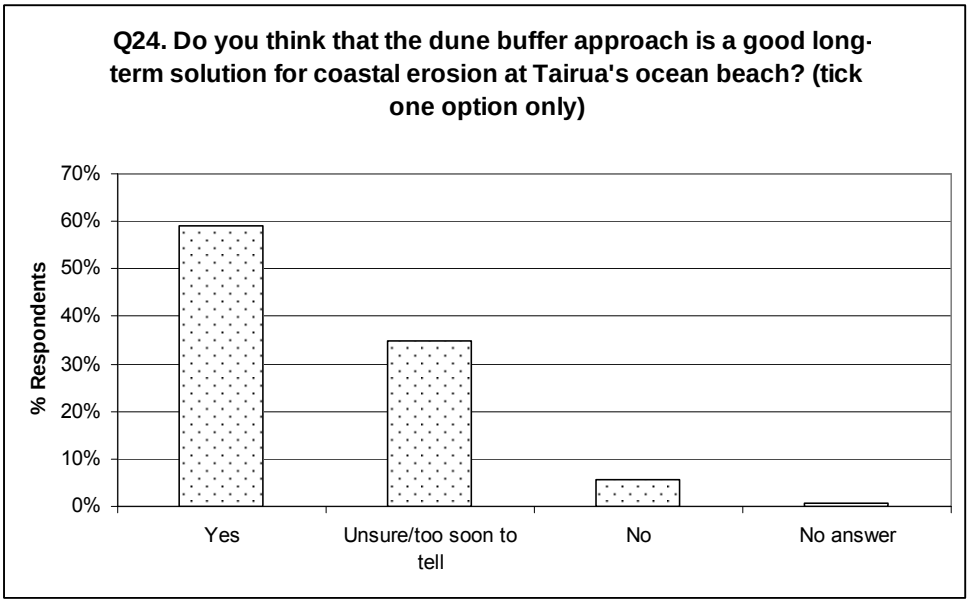


Figure 30 Q24 - Do you think that the dune buffer approach is a good long-term solution for coastal erosion at Tairua's ocean beach? (Tick one option only)

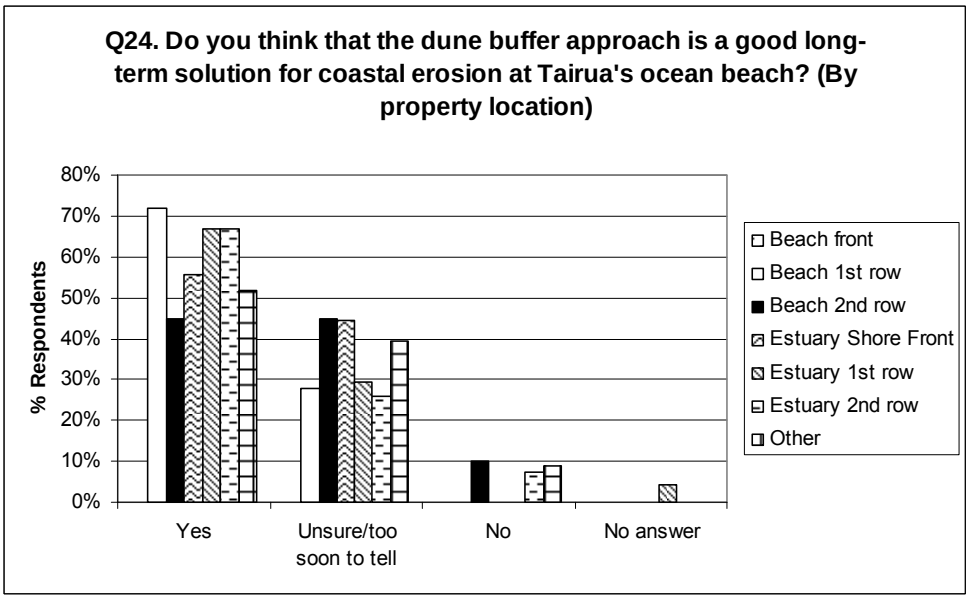


Figure 31 Q24 - Do you think that the dune buffer approach is a good long-term solution for coastal erosion at Tairua's ocean beach? (By property location)

Table 26 Q25 - Do you think a different management approach would have worked better? (Based on the proportion of respondents who answered "Yes" to Question 22).

	Relationship to beach															
	Beach front		Beach 1st row		Beach 2nd row		Estuary shore front		Estuary 1st row		Estuary 2nd row		Other		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Yes	0	.0%	2	8.0%	3	15.0%	0	.0%	7	29.2%	2	7.4%	6	10.7%	20	12.4%
No	0	.0%	21	84.0%	15	75.0%	8	88.9%	14	58.3%	22	81.5%	44	78.6%	124	77.0%
No answer	0	.0%	2	8.0%	2	10.0%	1	11.1%	3	12.5%	3	11.1%	6	10.7%	17	10.6%
Total (N)	0	.0%	25	100.0%	20	100.0%	9	100.0%	24	100.0%	27	100.0%	56	100.0%	161	100.0%

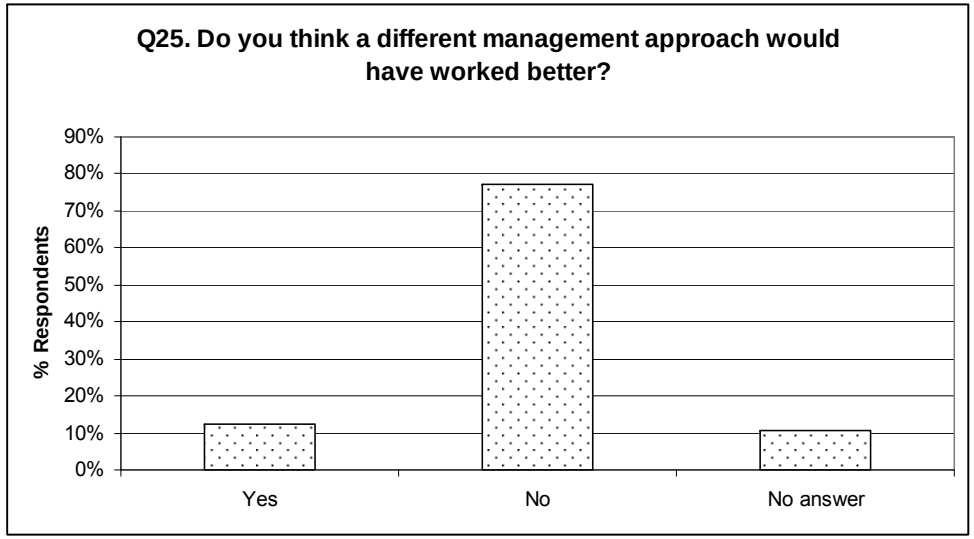


Figure 32 Q25 - Do you think a different management approach would have worked better?

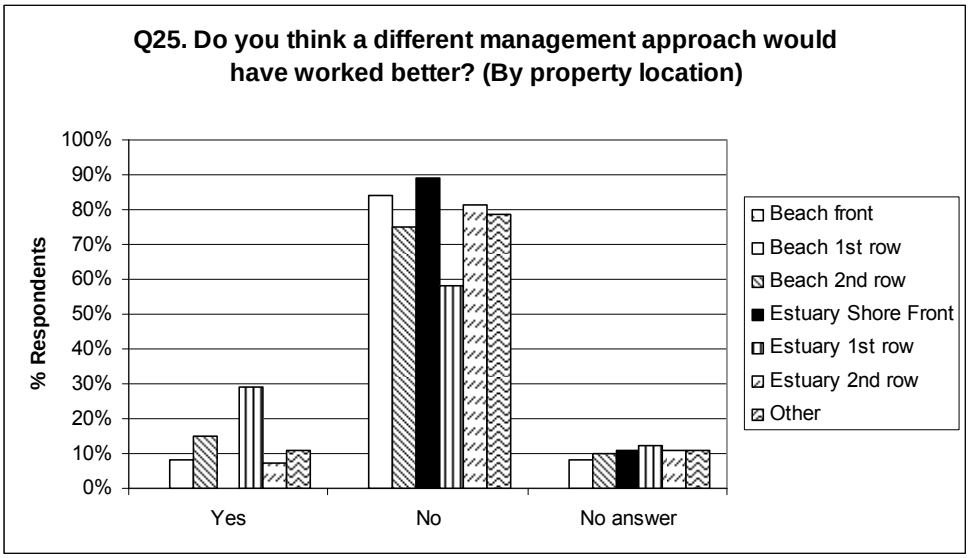


Figure 33 Q25 - Do you think a different management approach would have worked better?

Q26. If you answered 'yes' to question 25, what do you think would have been a better approach?

- More intensive plantings. 2. At the southern end remove access completely. 3.No permits should have been granted to build there at all where the dune narrows and the sea beaches into Hemi Place
- A more aggressive approach may be needed, perhaps this should have been started already
- A rock wall at the eastern end of the beach
- A younger group with more assistance from EW. The dunes group of workers appear to have no leadership to be effective
- Answer 'yes' only if there would be stronger policing of public damage to plantings
- Better management of the programme. There is no policing of dune repair
- By planting more sand binding plants. There are currently a lot of bare patches
- Do nothing - you don't fix what ain't broke! Natural forces will always dictate the Tairua Ocean Beach frontage
- Housing interferes with natural movement of dunes
- I think a more formal designation of areas where heavy planting & fencing would be better
- Leave it alone - let nature take its course
- Level dunes and plant to consolidate the sand more without the hump & hollows
- Manage people to use tracks - not go over or along dunes
- More fencing & signs - enforcement & council behaviour
- More substantial tree planting with pohutukawa
- Non access from adjacent landowners unless down designated walkways
- Perhaps planting trees e.g. pohutukawa trees behind sand dunes as well as dune buffer approach
- Seawall would be unsightly & huge. Problems with sand binding grass is that the erosion is more water than wind based
- Some permanent protection needed at Eastern end
- The buffer is difficult for the very young and the very old to negotiate

- The building should not have been allow and nature allowed to prevail
- The polices were poor, the local residents ignored, and there were no fences
- When a planting programme is activated the planted area needs to be roped off to give the grasses a chance to grow and keep people off the dunes

Q27. What do you think are the main advantages and disadvantages of Tairua's erosion management approach (dune buffer)? (List up to three of each)

Advantages

Access
- Access good
- Access without damage
- Beach access
- Channels public access
- Creates clear walkways
- Keeps good access
- Limits public access
- Makes people aware at respecting dunes & beach care with public access ways
- Marks beach access ways
- Provides access
- Walkways are clearly labelled
- Walkways are excellent

Appearance
- Aesthetic
- Aesthetic
- Aesthetically pleasing
- Appearance good
- Appearance good
- Attractive
- Attractive
- Attractive natural look
- Dune planting is attractive
- Looks good
- Looks great
- Looks attractive
- Looks better
- Looks good
- Looks natural
- Not unsightly
- Planting is regularly spaced
- Planting makes the beach look nice
- Pleasant outlook
- Pleasing to the eye
- Scenic

- Scenic value
- Visually attractive
- Visually OK
- Visually pleasing

Community involvement
- Brings community awareness
- Community help
- Community involvement
- Involves local people
- Locals can contribute
- Uses locals who care
- Volunteers involved

Cost
- Cheap
- Cheaper
- Cheap
- Cost effective
- Cost effective
- Cost effective
- Doesn't cost a fortune to maintain
- Low cost
- Low cost
- Minimum cost
- Not a large capital outlay
- Not too costly
- Probably most cost effective
- Relatively cheap

Natural method
- A natural method
- Acts naturally
- Assists natural processes
- Assists with dune banks
- Natural
- Conforming with nature
- Encourages bird life
- Fits the beach environment
- Grasses will stay there
- Is natural
- Keep using spinifex on dunes
- Keeps a natural look
- Looks natural
- Looks natural
- Low impact
- Maintain existing dune line

- Maintains natural look
- Maintains supply of sand
- Maintains the natural environment
- Most natural approach
- Natural attracts some bird life
- Natural - as sand shifts & this helps hold it above high tide level
- Natural
- Natural
- Natural appearance
- Natural approach
- Natural approach
- Nature protection
- Natural looking
- Natural replenishment of sand has helped
- Natural solution
- Nurture v nature
- Non-intrusive (i.e. no seawalls)
- Not intrusive
- Not intrusive
- Protects/sustains natural look
- Protects the natural environment
- Unobtrusive
- Provides natural protection
- Retains natural character
- Retains natural look
- Working with nature
- Works with natural process & resources

Success of approach
- Allows birds to nest
- And it works
- Assists in recovery
- Beach/sand being retained
- Better sand holding with grasses
- Binds the sand
- Builds up dunes
- Can be replanted
- Community involvement
- Controlled traffic
- Conserves sand & beach
- Controlled beach
- Dune area is consolidated
- Dune planting is effective if plants allowed to grow
- Easily maintained & sustained
- Easily maintained by voluntary efforts
- Easy to do
- Ecologically sensitive & sustainable

- Education (school)
- Effective
- Effective risk reduction
- Environmentally friendly
- Good for bird life
- Good safe distance to buildings
- Gives playing areas
- Good viewing spots, stops sand blowing over Tairua
- Helps control walkways and therefore dune erosion
- Helps during storms
- Holds planting sand in place
- Holds sand
- Holds sand in place
- Increased bird life
- Helps keep dunes
- It appears to work
- It is working
- It works
- It works
- It works
- Its working
- Keeping foot traffic off
- Keeps houses back
- Keeps people from destroying dunes
- Keeps people in the paths
- Long term
- Long term
- Minimal maintenance
- Minimises erosion
- Partially effective
- Property protection
- Protecting property
- Protects dunes
- Preserves wild life
- Protection
- Protects native birds
- Protects nearby property
- Protects property
- Provides habitat
- Public have good use of beach
- Relatively effective
- Retains the sand
- Retains higher sandy beach
- Retention of sand
- Sand & dune control
- Sand build up
- Sand build up

- Seem to be working
- Seems to be working
- Short term looks good
- Should prevent future development in inappropriate area
- Slows erosion
- Stabilizes dunes
- Stabilizes dunes
- Stabilizing dunes
- Stops beach buggies
- Stops erosion
- Stops sand eroding
- To keep the beach as is
- To stop further erosion
- Unobtrusive
- Will maintain current beach conditions under normal sea conditions
- Wildlife-birds-plants growth
- Wildlife
- Will protect properties
- Will Spread
- Working
- Long term
- Not too many people disadvantaged
- Organised
- Permanent (if care is given)
- Protects dune to certain degree
- Protects properties to a reasonable degree
- Replanting options
- Some benefits in wind
- Stabilizing sand
- Stops sand blows
- Successful
- We can contact appropriate bodies
- Works well

Disadvantages

Access
- Access & sand boarding from adjacent sections
- Beach access difficult
- Board & chain steps not maintained & have become unsafe
- Limited access to beach
- Limits access
- More notification of only access
- Parking restrictions near access ways
- People don't use access ways
- People need to understand the importance of using walkways through dunes
- People they walk all over (no fence)

- People walking freely over dunes
- People want to walk, jump, slide down dunes
- People disregard it
- Restricts access
- Restricts access
- Signs & barriers not in place to protect replanted dunes

Appearance
- Can look rather scrubby
- Looks terrible
- Not enough plantings
- Plants could be killed by foot traffic
- Views from streets impeded

Cost
- Costly
- Costly
- Cost of maintenance
- On going cost/time
- Maintenance of it
- Maintenance
- Manpower (Maintenance & persistence)
- Money (Maintenance & persistence)
- Needs on going maintenance
- Needs to be monitored
- Needs to be ongoing
- None that I know of except maybe cost

Community involvement
- Children are our future, involve them in the programme
- Needs maintaining - volunteers

Natural method
- Defies nature
- Open to weather erosion
- Often rebuilds its self

Success of approach
- Anything's better than nothing
- At least trying
- At risk from uneducated
- A slight restriction of sand dunes
- A bit haphazard
- Areas of the dunes are used by children to play on & slide down
- Better site education needed
- By and large left to one man to appraise
- Can be easily undermined

- Can be washed away (of sand from under or can be)
- Can't prevent damage in worst conditions
- Can't see sea unless on top of hills
- Can be destroyed by severe storms
- Can be disappointing
- Could be vulnerable to severe storm
- Could need constant care
- Difficult to walk on
- Difficult to maintain
- Doesn't work well where there is very little dune - i.e. south end
- Disregarded by visitors
- Does not prevent breaches
- Does not prevent erosion form sea during storms, high tides, high winds etc
- Does not prevent some erosion
- Don’t allow development along ocean beach rd on the sea side
- Don't know of any
- Dunes can not be used for activities
- Erosion
- Exercise in futility
- Greenie pipe dream
- Hasn't been tested
- It won't win
- Just needs more people and cash resources
- Kids play in it & destroy efficacy
- Labour intensive
- Limits usage area
- Long term - how good?
- Long term unknown
- May not be enough
- May not be permanent solution with global warning if sea level rises
- May be insufficient
- Not able to protect against storm conditions
- Not enough area at top of dunes for visitors to stop & view the beach
- Not so effective on southern end of beach
- Not the ultimate answer
- Not aggressive enough
- Not further effective
- Nothing will stop major storms
- Ongoing
- Ongoing management
- One cyclone storm can undo all the good work
- One freak weather combination could destroy the whole thing
- Only maintains sand above high water mark
- One tsunami would wipe it out
- People abuse
- Pinow grasses have a limited life cycle (no good on arid dunes that are wind blown)
- Planting small shrubs etc

- Policy (Maintenance & persistence)
- Prone to damage by inconsiderate beach users
- Prone to human damage
- Property damage
- Property owners concern
- Public not educated enough on role of grass, vulnerability of dunes & use of access ways
- Public damage of dunes
- Query long term effectiveness
- Requires education of beach users
- Restricting further development
- Sensitivity to ill-use
- Sea water washes sand away
- Severe storms destroy plants
- Slow recognition of problem
- Slow
- Slow growth
- Slow process
- Slow to develop
- Slow to make a difference
- Some people don't respect
- Sometimes have to wait months
- Storms & high winds eroding away
- Storms can undo
- Storms can still wipe out good work achieved
- Storms wreck all work
- Subject to vandalism
- Takes time
- The beach is doing fine if it isn't broken - don't try to fix it
- Time to achieve protection
- Too easy to destroy
- Too late
- Too little too late
- Tree planting would increase stability
- Unknown outcome
- Unsure of management philosophy so not prepared to comment
- You won't beat nature
- Vandalism
- Vulnerable to both people & huge storms
- Wasn't started soon enough
- What exactly are you trying to achieve? All previous endeavours have been wiped out by storms
- Wouldn't help in tsunami

Table 27 Q28 - With respect to the dune buffer approach to erosion control at Tairua's Ocean Beach, please consider the following statements and tick the box on each line that best describes your attitude.

		Count	Column N %	Mean	Std Deviation
This dune buffer approach is visually attractive	Agree strongly (1)	74	42.8%	1.72	.83
	Agree (2)	53	30.6%		
	Neither agree nor disagree (3)	25	14.5%		
	Disagree (4)	0	.0%		
	Disagree strongly (5)	2	1.2%		
	No answer	19	11.0%		
	Total (N)	173	100.0%		
The beach's natural character has been adversely affected by this dune buffer approach	Agree strongly (1)	1	.6%	4.26	.83
	Agree (2)	5	2.9%		
	Neither agree nor disagree (3)	16	9.4%		
	Disagree (4)	62	36.3%		
	Disagree strongly (5)	68	39.8%		
	No answer	19	11.1%		
	Total (N)	171	100.0%		
The dune buffer approach is a good solution to Tairua's erosion problems	Agree strongly (1)	63	36.6%	1.82	.86
	Agree (2)	62	36.0%		
	Neither agree nor disagree (3)	24	14.0%		
	Disagree (4)	3	1.7%		
	Disagree strongly (5)	2	1.2%		
	No answer	18	10.5%		
	Total (N)	172	100.0%		
I feel positive towards the dune buffer approach taken toward erosion management at Tairua's ocean beach	Agree strongly (1)	57	33.1%	1.87	.85
	Agree (2)	67	39.0%		
	Neither agree nor disagree (3)	26	15.1%		
	Disagree (4)	1	.6%		
	Disagree strongly (5)	3	1.7%		
	No answer	18	10.5%		
	Total (N)	172	100.0%		
The dune buffer approach will help protect my property	Agree strongly (1)	8	4.8%	3.75	1.25
	Agree (2)	9	5.4%		
	Neither agree nor disagree (3)	43	25.6%		
	Disagree (4)	14	8.3%		
	Disagree strongly (5)	53	31.5%		
	No answer	41	24.4%		
	Total (N)	168	100.0%		
It is unfair to 'let the sea dictate' (i.e. do nothing) when people's properties are at risk	Agree strongly (1)	21	12.2%	3.14	1.30
	Agree (2)	25	14.5%		
	Neither agree nor disagree (3)	49	28.5%		
	Disagree (4)	26	15.1%		
	Disagree strongly (5)	31	18.0%		
	No answer	20	11.6%		
	Total (N)	172	100.0%		

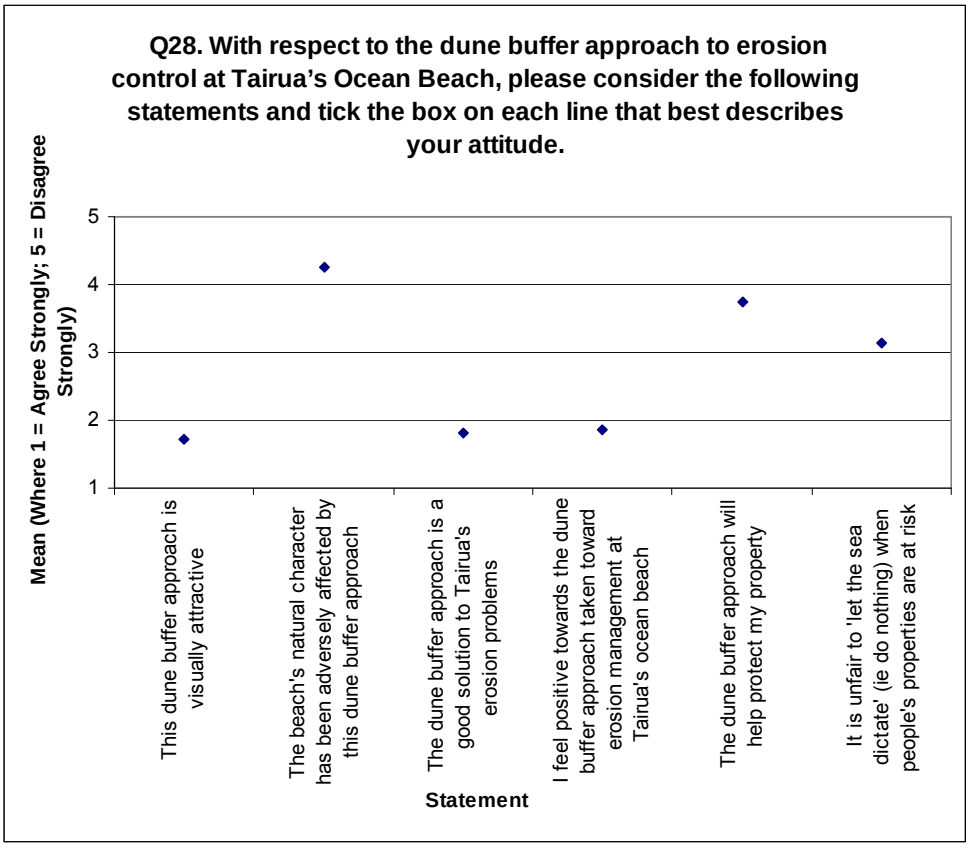


Figure 34 Q28 - With respect to the dune buffer approach to erosion control at Tairua's Ocean Beach, please consider the following statements and tick the box on each line that best describes your attitude.

Table 28 Q29 - Has your usage of the beach been affected by the dune buffer zone?

	Q4. Thinking of the past couple of years, which option best describes how often you visit Tairua's ocean beach? (tick one option only)															
	Once a day or more, year-round		Once a day or more, but more in summer than in winter		Once a week or so, year-round		Once a week or so, but more in summer than in winter		Once a month or so		Two or three times a year		Once a year or less		Total (n)	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Your usage of the beach has been positively affected by the dune buffer zone	4	26.7%	2	12.5%	5	16.1%	2	7.7%	6	12.2%	0	.0%	1	20.0%	20	12.7%
Your usage of the beach is much the same as before the dune buffer zone	10	66.7%	14	87.5%	24	77.4%	24	92.3%	37	75.5%	16	100.0%	4	80.0%	129	81.6%
Your usage of the beach has been negatively affected by the dune buffer zone	1	6.7%	0	.0%	2	6.5%	0	.0%	6	12.2%	0	.0%	0	.0%	9	5.7%
Total (N)	15	100.0%	16	100.0%	31	100.0%	26	100.0%	49	100.0%	16	100.0%	5	100.0%	158	100.0%

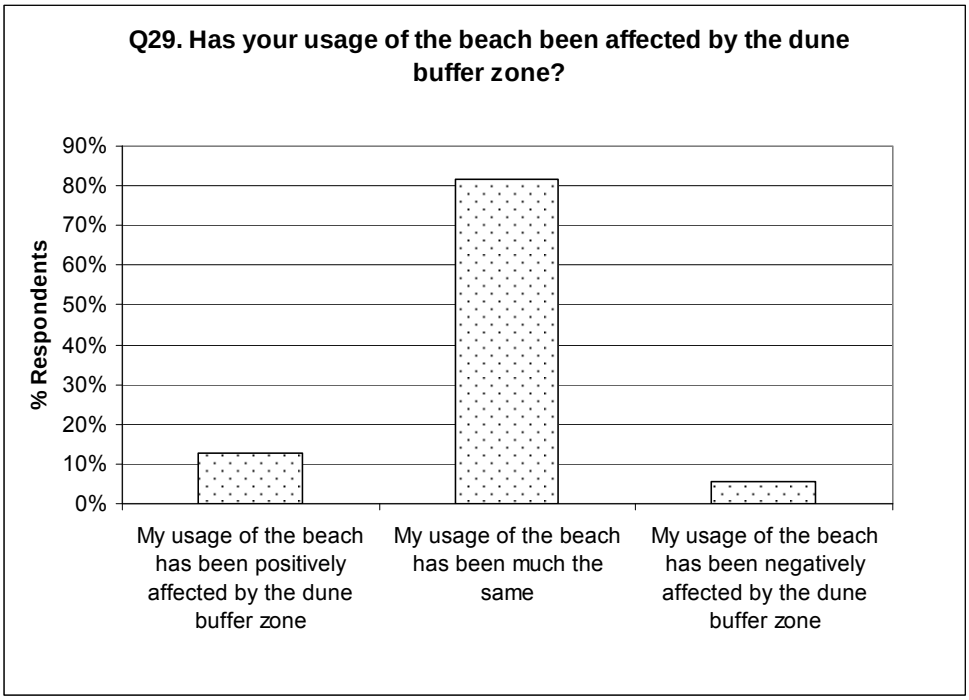


Figure 35 Q29 - Has your usage of the beach been affected by the dune buffer zone?

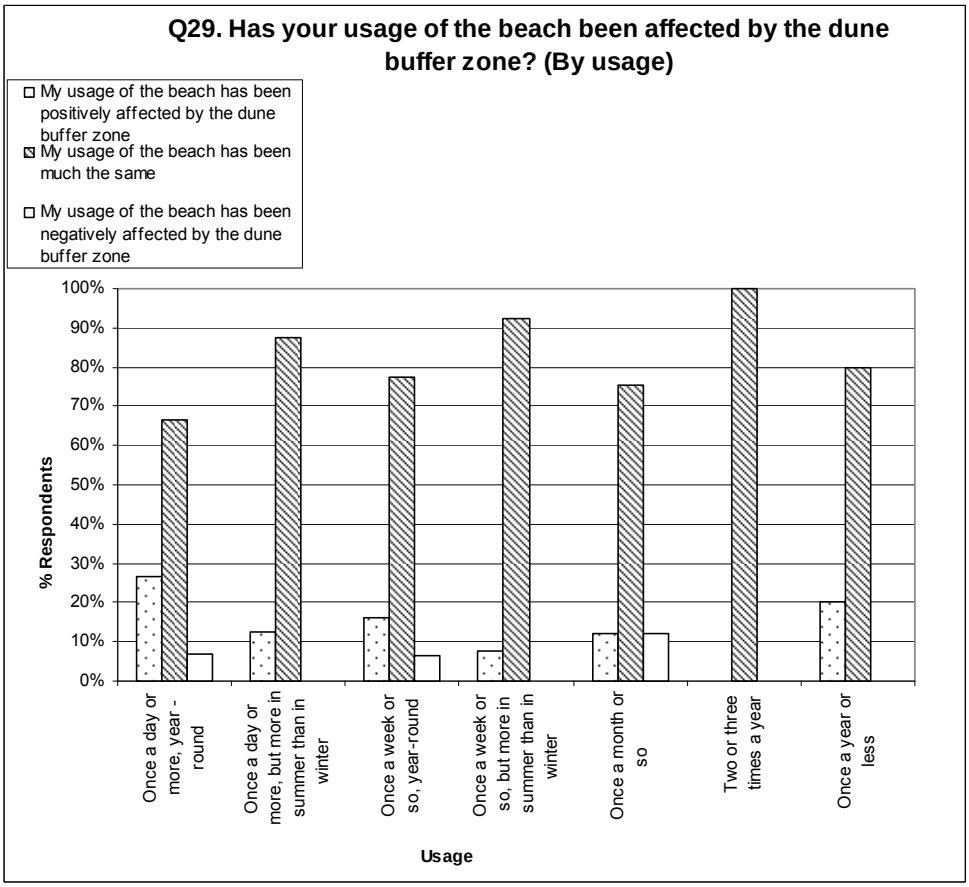


Figure 36 Q29 - Has your usage of the beach been affected by the dune buffer zone? (By usage)

Q29. How has your usage of the beach been negatively affected by the dune buffer zone?

- (1/2 round poles) I am unable to negotiate the sand "ladders" easily to get down to the beach. They are not satisfactory for the elderly or very young
- Beneficial - less sand blowing
- Better access
- Better access via wooden stairways
- Big storm - no sand
- Dune beach, more plants
- Improved beach access
- Is protecting it
- Natural character maintained
- Visual improvement
- Visually pleasing
- We care too
- Well defined walkways away from dunes.

Q29. How has your usage of the beach been negatively affected by the dune buffer zone?

- Difficult getting my disabled son down on to beach
- Hard to find a safe exit for horses
- Harder to get onto beach at southern end
- I use dedicated pathways
- We use the walk ways to get to the beach.

Table 29 Q30 - Thinking back to before the current planting and dune buffer maintenance programme began, did you personally…(tick all that apply)

	Count	Column Valid N %
Attend any public meetings about the proposed approach	14	9.5%
Participate in any focus groups or interviews	12	8.1%
Complete a survey (e.g. a questionnaire or phone survey)	22	14.9%
Make submissions about the proposed approach (e.g. to council)	4	2.7%
Receive any information about the approach (e.g. flyers, newspaper, articles etc). If yes, please describe	27	18.2%
Actively seek information about the approach. If yes, please describe	4	2.7%
Other	5	3.4%
I was aware the approach was being proposed, but wasn't involved in any way	53	35.8%
I was not aware the approach was being proposed (if so, skip to question 32)	67	45.3%

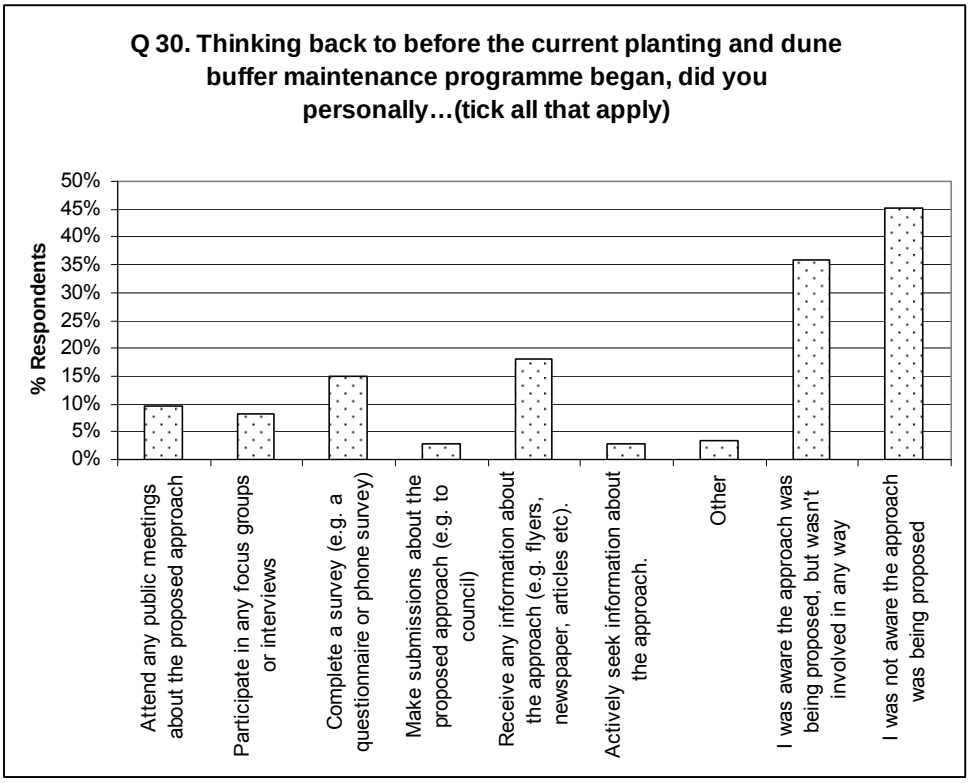


Figure 37 Q30 - Thinking back to before the current planting and dune buffer maintenance programme began, did you personally…(tick all that apply)

Q30. Did you receive information about the approach? If yes, please describe:

- As harbour committee rep
- Beach Care Newsletter 2003 onward
- Cannot remember - may have done
- EW beach care pamphlets
- EW dune care
- Environment Waikato and TCDC pamphlets
- Flyers
- Flyers & articles
- Flyers from Tairua beach area
- Info from TCDC in rates
- Local newspaper
- Local newspapers
- Local paper
- Newspaper
- Newspaper, flyers

Q30. Did you actively seek any information about the approach? If yes, please describe:

- Dune care
- Harbour development, interests
- Spoke to some involved in planting programme

Table 30 Q31 - Once again, think back to before the current planting and dune buffer maintenance programme began. Please indicate how much you agree or disagree with the following statements (tick one for each line) (Of the 106 people who **did not** indicate that they "Were not aware the approach was being proposed").

		Count	Column N %	Mean	Std Deviation
I expected the scheme to look different to how it looks now	Agree strongly (1)	0	.0%	3.68	1.40
	Agree (2)	9	8.5%		
	Neither agree nor disagree (3)	24	22.6%		
	Disagree (4)	14	13.2%		
	Disagree strongly (5)	21	19.8%		
	No answer	38	35.8%		
	Total (N)	106	100.0%		
I expected the scheme to have less impact on how the beach looks now	Agree strongly (1)	1	.9%	3.69	.96
	Agree (2)	4	3.8%		
	Neither agree nor disagree (3)	28	26.4%		
	Disagree (4)	17	16.0%		
	Disagree strongly (5)	17	16.0%		
	No answer	39	36.8%		
	Total (N)	106	100.0%		
I expected the scheme to have less impact on my use of the beach	Agree strongly (1)	0	.0%	4.05	.87
	Agree (2)	2	1.9%		
	Neither agree nor disagree (3)	17	16.0%		
	Disagree (4)	22	20.8%		
	Disagree strongly (5)	26	24.5%		
	No answer	39	36.8%		
	Total (N)	106	100.0%		
I was well aware of the impacts of the scheme	Agree strongly (1)	15	14.2%	2.57	1.18
	Agree (2)	23	21.7%		
	Neither agree nor disagree (3)	20	18.9%		
	Disagree (4)	6	5.7%		
	Disagree strongly (5)	4	3.8%		
	No answer	38	35.8%		
	Total (N)	106	100.0%		
I would have liked more opportunities to become involved in decision making before the scheme was put in place	Agree strongly (1)	0	.0%	3.62	1.05
	Agree (2)	8	7.5%		
	Neither agree nor disagree (3)	23	21.7%		
	Disagree (4)	17	16.0%		
	Disagree strongly (5)	17	16.0%		
	No answer	41	38.7%		
	Total (N)	106	100.0%		
There was an adequate amount of information available about the proposed scheme	Agree strongly (1)	11	10.4%	2.83	1.24
	Agree (2)	21	19.8%		
	Neither agree nor disagree (3)	22	20.8%		
	Disagree (4)	7	6.6%		
	Disagree strongly (5)	7	6.6%		
	No answer	38	35.8%		
	Total (N)	106	100.0%		
I was not interested in the scheme before it was implemented	Agree strongly (1)	7	6.6%	3.47	1.21
	Agree (2)	5	4.7%		
	Neither agree nor disagree (3)	21	19.8%		
	Disagree (4)	21	19.8%		
	Disagree strongly (5)	15	14.2%		
	No answer	37	34.9%		
	Total (N)	106	100.0%		

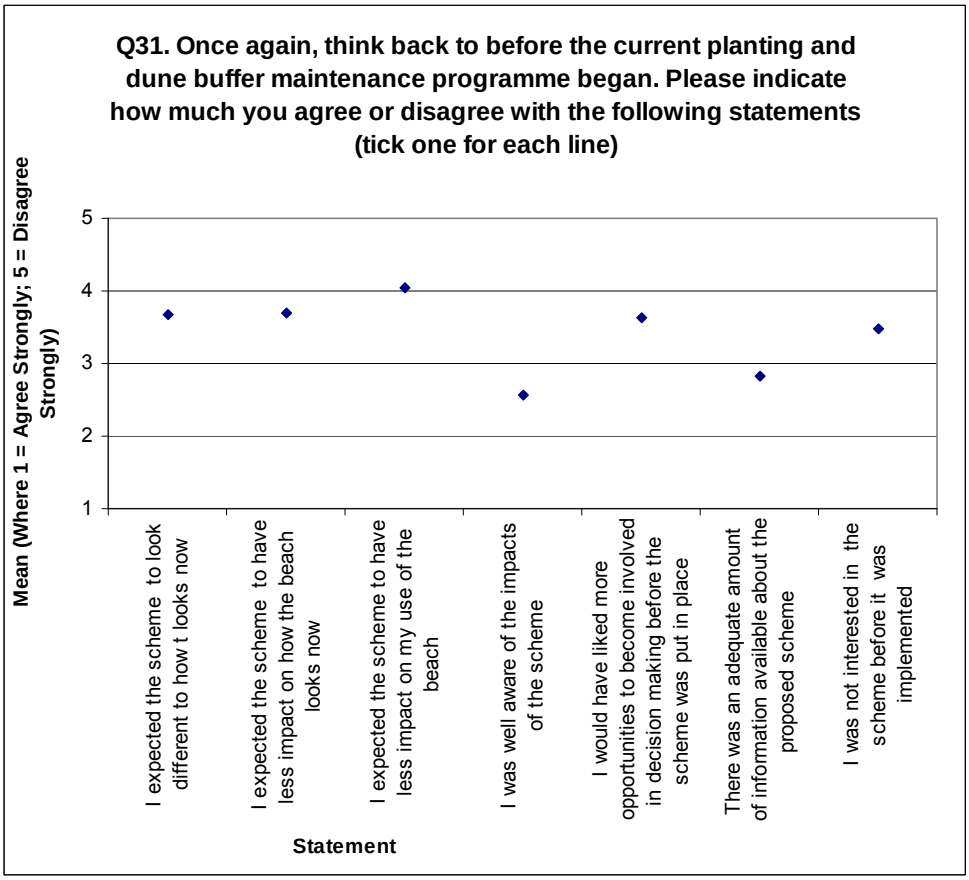


Figure 38 Q31 - Once again, think back to before the current planting and dune buffer maintenance programme began. Please indicate how much you agree or disagree with the following statements

Table 31 Q32 - Are you (gender)?

	Count	Column N %
Male	97	56.1%
Female	72	41.6%
No answer	4	2.3%
Total (N)	173	100.0%

Figure 39 Q32 - Are you (gender)?

Table 32 Q33 - Which best describes the situation you are living in now? (Tick one option only)

	Count	Column N %
Family with children	56	32.4%
Family without children	86	49.7%
Alone	22	12.7%
With non-family	7	4.0%
Other	0	.0%
No answer	2	1.2%
Total (N)	173	100.0%

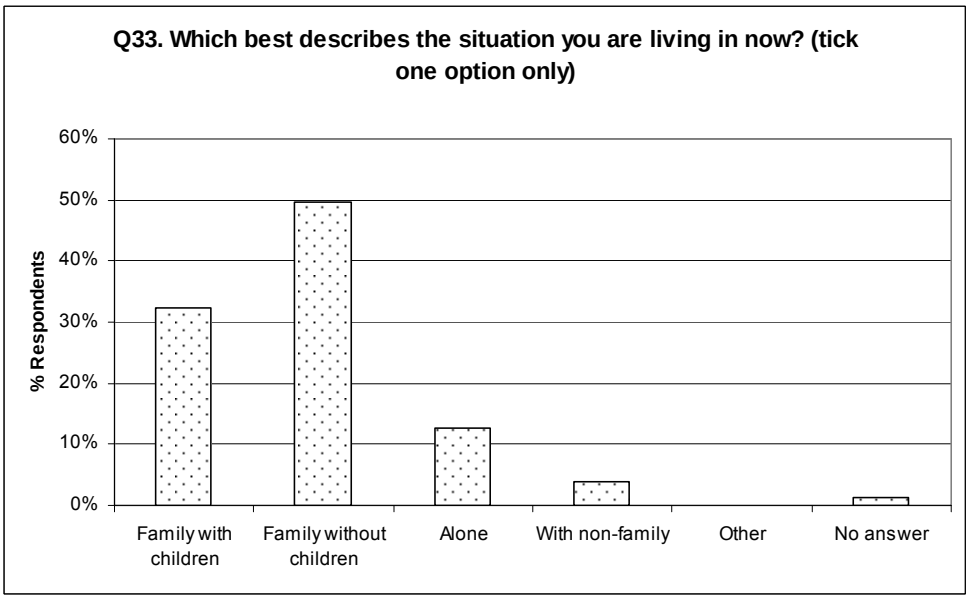


Figure 40 Q33 - Which best describes the situation you are living in now? (Tick one option only)

Table 33 Q34 - Which ethnic group do you belong to? (Tick one option only)

	Count	Column N %
New Zealand European	155	89.6%
Maori	2	1.2%
Pacific Island	0	.0%
Chinese	0	.0%
Indian	0	.0%
Other	9	5.2%
No answer	7	4.0%
Total (N)	163	100.0%

Q 34. Other please specify:

Dutch	2
English	4
European	1
Maori, Indian	1
Scottish/NZ	1
U.K.	1

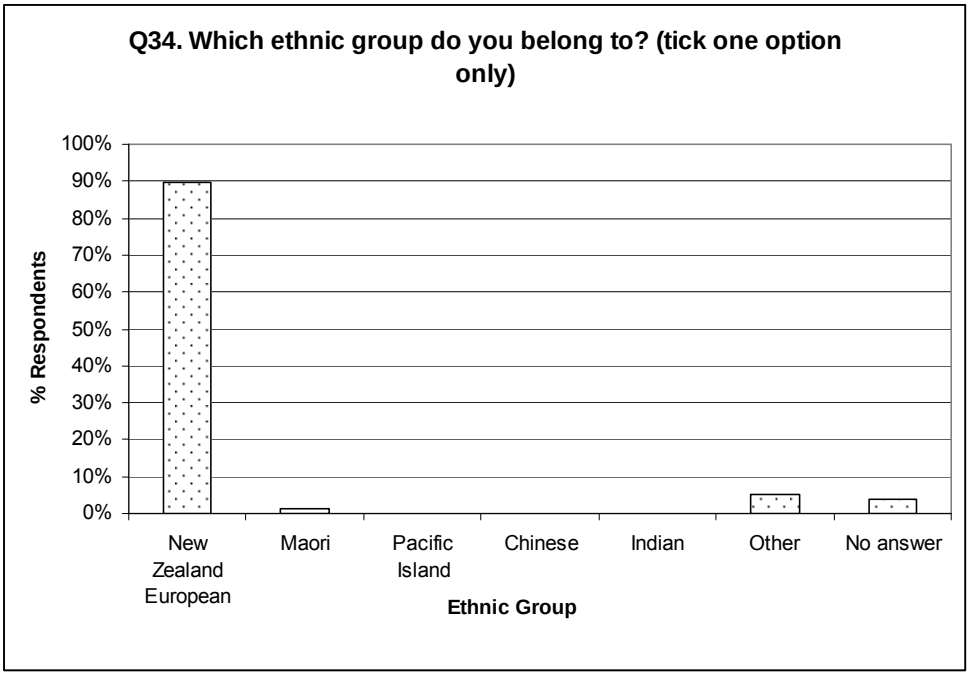


Figure 41 Q34 - Which ethnic group do you belong to? (Tick one option only)

Table 34 Q35 - What is your age (year born)?

Year Range	Count	Column N %
1911-1920	3	1.7%
1921-1930	10	5.8%
1931-1940	42	24.3%
1941-1950	47	27.2%
1951-1960	36	20.8%
1961-1970	11	6.4%
1971-1980	12	6.9%
1981-1990	2	1.2%
No answer	10	5.8%
Total (N)	173	100.0%

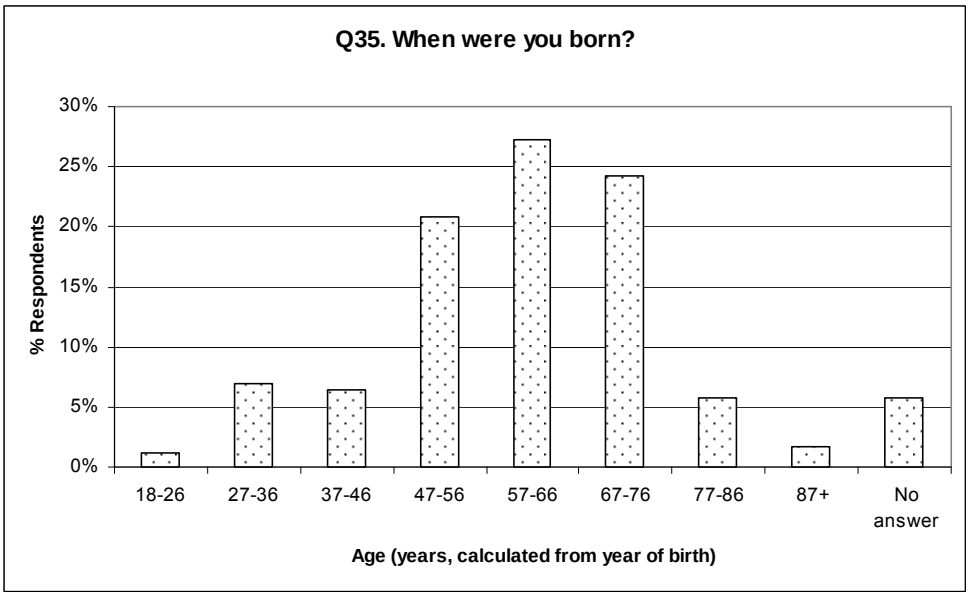


Figure 42 Q35 - What is your age (calculated from year born)?

Table 35 Q36 - What is your current employment status? (Tick one option only)

	Count	Column N %
Employed full-time	40	23.1%
Employed part-time	21	12.1%
Not in paid employment (e.g. if you are retired or an at-home	78	45.1%
Self-employed	30	17.3%
No answer	4	2.3%
Total (N)	173	100.0%

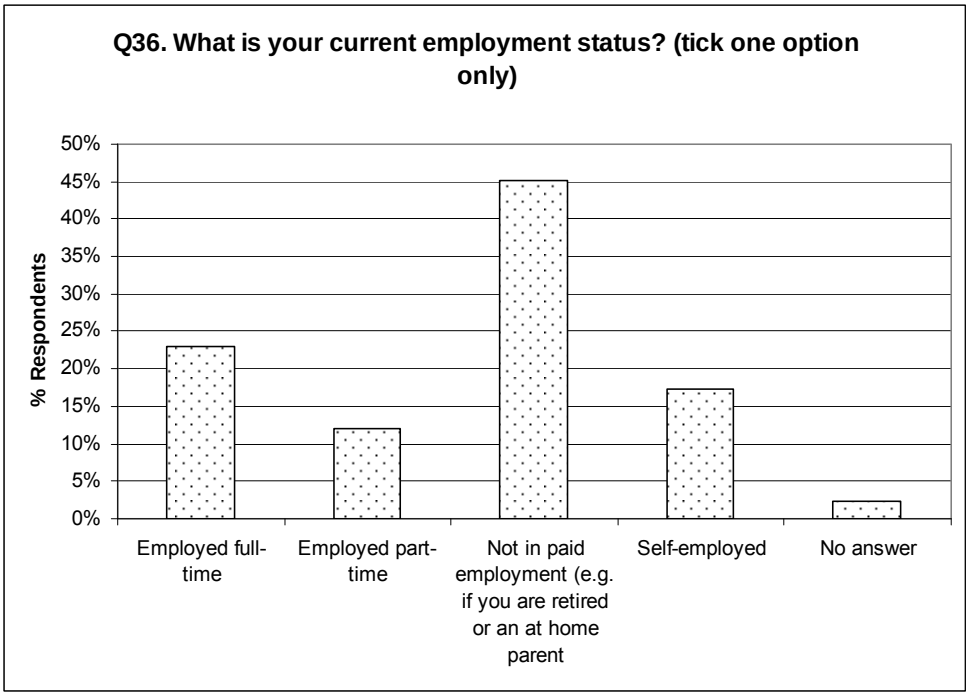


Figure 43 Q36 - What is your current employment status? (Tick one option only)

Table 36 Q37 - What was your gross household income for 2006 before tax is removed?

	Count	Column N %
Under $5,000	1	.6%
$5,000 to $15,000	9	5.2%
$15,001 to $20,000	12	6.9%
$20,001 to $30,000	15	8.7%
$30,001 to $40,000	14	8.1%
$40,001 to $50,000	9	5.2%
$50,001 to $60,000	16	9.2%
$60,001 to $90,000	30	17.3%
$90,001 to $150,000	19	11.0%
$150,001 to $200,000	8	4.6%
Over $200,001	11	6.4%
No answer	29	16.8%
Total (N)	173	100.0%

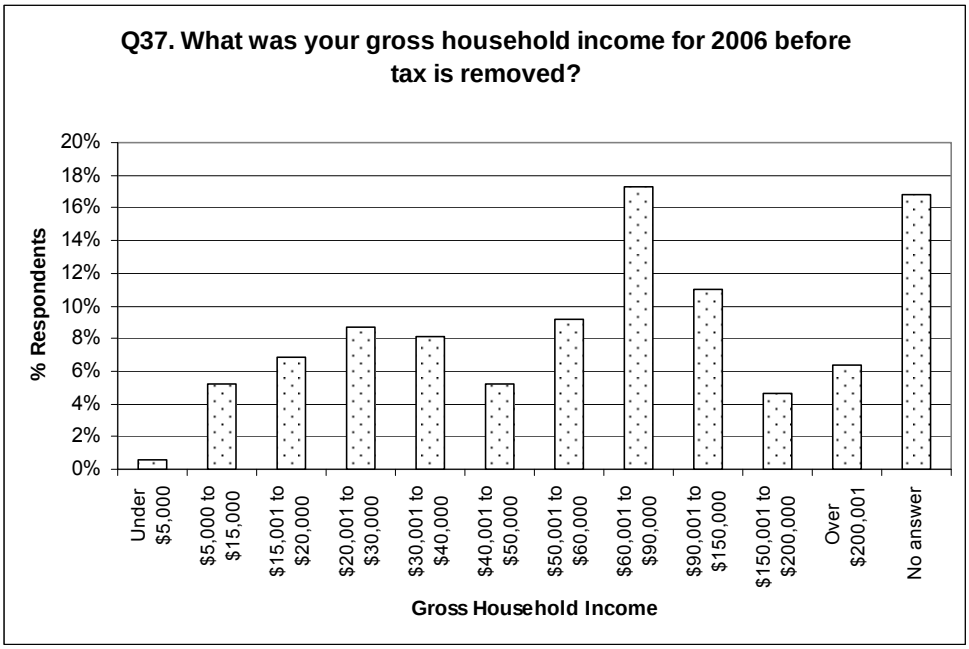


Figure 44 Q37 - What was your gross household income for 2006 before tax is removed

Table 37 Q38 - What is your highest educational qualification?

	Count	Column N %
No school qualifications	13	7.5%
Secondary school qualifications	41	23.7%
Trade certificate or professional certificate or diploma	61	35.3%
University undergraduate degree (such as a diploma or bachelors degree)	35	20.2%
University postgraduate degree (such as a masters degree or doctorate)	16	9.2%
No answer	7	4.0%
Total (N)	173	100.0%

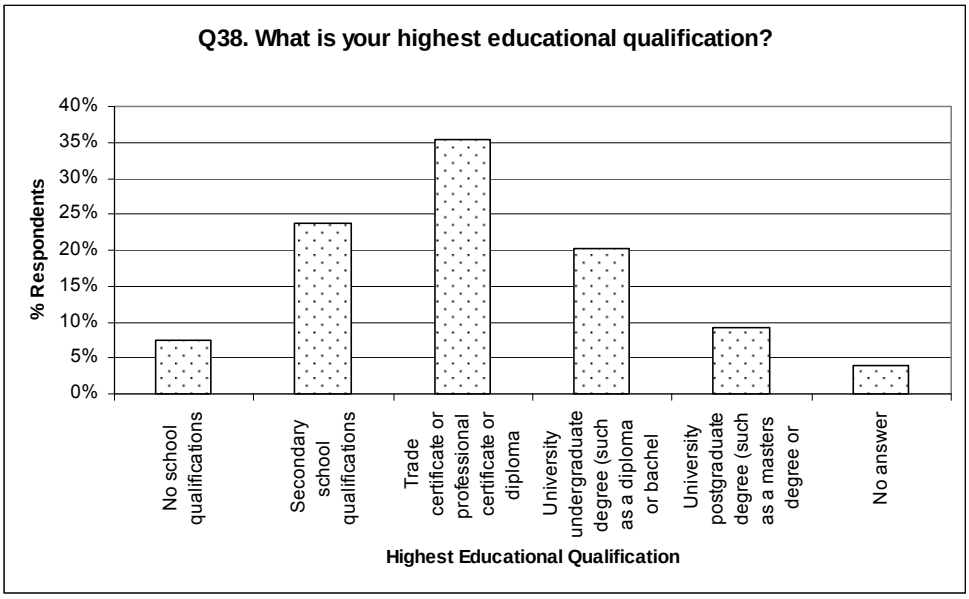


Figure 45 Q38 - What is your highest educational qualification?

Table 38 Q39 - Have you had any experience with environmental matters (e.g. have you been involved in activities, groups or employment related to the environment?

	Count	Column N %
Yes	64	37.0%
No	109	63.0%
Total (N)	173	100.0%

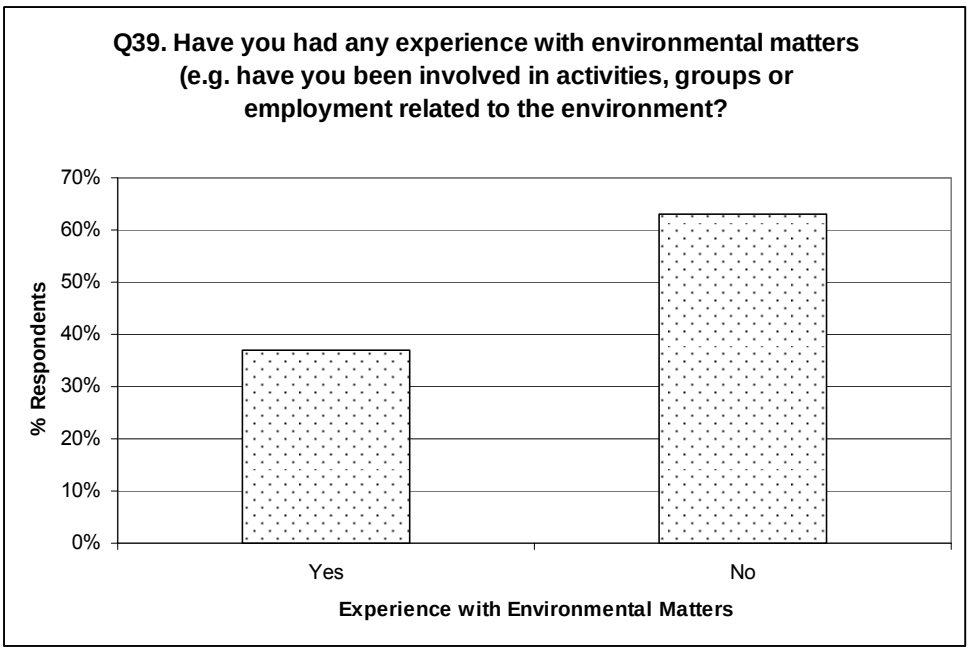


Figure 46 Q39 - Have you had any experience with environmental matters?

Q39. If yes, please describe:

- 30 odd years with a land drainage board
- Architect planner consultant for waterside development and marinas
- As an architect
- As harbour committee representative
- As part of my career in management, involved in opposition to Tairua marina proposal for environmental reasons
- Battles with T.C.D.C over vegetation, "urban weeds" allowed to be planted blocking views
- Beach care
- Beach care, dune planting, restoration, fencing etc
- Belong to Whenuakite Kiwi Care Group
- Building contractor
- Coastal walkways
- Commercial diver
- Committee member possum control group
- Community garden
- Dive instructor/skipper (commercial)
- Dydimo
- Environment Waikato project
- Environmental film-making
- Farming
- Federated farmers/Fruit growers assoc
- Fishing, water sports committees
- Flooding control
- Forest & Bird. NFAC
- Helped with sand ladder
- I am a environmental engineer specializing in water treatment
- I am a member of the Tairua Paku Bay Preservation Society. I joined up on my arrival in Tairua in 2002 (Dec)
- I have been involved in Greenpeace campaigns for coastal plastic removal
- I teach beach/coastal processes to year 13 students
- In a minor way e.g. focus groups
- In Holland walkways protected
- Kauaeranga education camp development
- Kauri Planting Employment
- Kiwi recovery, coastal walkway development
- Kiwi walk, Kiwi care
- Mangrove removal (apparently illegal)
- Marina's etc
- Marina Paku Bay
- Marine life environmental issues
- Masters environmental education, Environmental education
- Meetings concerning preservation of natural beauty of Paku Bay
- Member of Paku Bay Preservation Society
- My degree included geography & issues related to erosion etc
- No
- Oppose marina for Tairua very strongly

- Opposing marina in Paku Bay - 5 1/2 years
- Paku Bay Guardians (ante Marena)
- Paku Bay Preservation Soc
- Paku Bay Preservation Society, Tairua Environment Society, Whenueki'e Kiwi Care Group
- Paku Bay preservation soc.
- Planting
- Recycling & solar heating
- SAS - Surfers Against Sewage. A big lobby group in UK
- Served on Tairua/P community Board
- Spray painting
- Tairua environment society beach care - Tairua
- Tairua Environment Society Paku Bay Guardians
- Tairua Environment Society, Dune Planting, Kiwi Care
- Tairua marina proceedings
- TLA parks management
- Very active in local body affairs many years
- Via ratepayers association & community board
- Waste water, water supply & drainage matters
- Water gates Onehunga powers
- Worked with beach care group for several years

Q40. Please use this space to write any other comments regarding erosion management for Tairua's ocean beach, coastal management in general, or this survey. All remarks will be useful.

- Involvement of non residents depending on qualifications in coastal management
- The dune grasses need urgent inspection. 2. Active 'dune planting' group needs to be re established under Environment Waikato guidance - very upset!
- A management plan needs to be supported by a council willing & able to back it up. More public education on dunes protection required (e.g. large visual signs on beach access). And stop allowing building consents for property prone to erosion
- According to geologists the sandfill connected to Paku has been there for about 1000 years. It is really not standing up too badly
- Although I was not aware of the work done on the dunes (at the time) it is obvious to me now that a lot of work has been done & those responsible are to be congratulated. I believe purchasing property right on the beach is risky & those who do that should take some personal responsibility for that - they are quite happy to make profit from these properties when everything is going well! They should also be responsible for protecting their own places
- An offshore breakwater seems to work well overseas
- As I live on a hill in Tairua the only threat I have is slips caused by heavy rain. No threat from the sea
- As written
- Beachfront owners still need education re access to beach, chopping down vegetation inappropriate planting, encroachment etc
- Being involved with the sea for over 30 years and going to beaches all my life I have seen what the power of the sea can do. Tairua's ocean beach programme to me has

being working well, except for exceptional storms which nothing could stop. Keep things natural

- Coastal erosion needs to be managed by enhancing natural buffer zones not through man made seawalls etc. The natural character of the beach needs to be maintained & will be enhanced through dune planting. There is no guarantee a seawall will protect properties and it may adversely affect other areas of the beach
- Concerned with takeover of mangroves in lower harbour. We live some distance from main beach. I don't believe in the development of dwellings on erosion prone areas - if they do why should the rest of the community pay?
- Continue to be proactive, investigating all possible initiative to preserve the natural environment of the beach
- Continue with dune planting. Limit beach nourishment. No walls
- Continued development without regard to long term effects cannot fail to have a detrimental outcome!! We must stop the greedies from having their way
- Development along Tairua beach is inappropriate given the unpredictable nature of coastal erosion & climate change. Hindsight is a wonderful thing. Tairua beach is a public asset & should be protected as far as possible in a cost efficient way. We should learn from our mistakes & not allow further development on erosion prone areas
- Environment Waikato's input to our beach care programme was excellent, and there was plenty of encouragement, interest, and support from various EW personnel to the volunteers in our group
- Erosion will be dictated by weather, earthquakes & other natural forces & aggravated by inappropriate beach front developments. If costs are incurred in an attempt to halt erosion then those that dwell on the coastal edge or who use the coast for gain should be directly responsible for such costs
- Global warming and consequential sea level rise will eventually affect all coastal and estuarine properties. This and any future tsunami could be devastating for Tairua and Pauanui. I would be interested to hear of any computer modelled study of this scenario that NIWA has undertaken
- Good luck because you must deal with a lot of **** heads
- Have only just moved here so there are a lot of questions I do not know about
- Having seen what a storm can do to sand dunes, it was obvious that planting grasses, although reducing the movement of sand by wind, water will sweep the sand, grasses and others plantings away - but next week bring it back
- Historically Ocean Beach and Pauanui beaches are recent phenomena (100-150) years Ocean Beach has been breached at least three times in last twenty years, so with current forecasts a long term plan is essential and people should face up to how access provided the Peninsula will make all other actions second place.
- How about the erosion for the last 15yrs by Manaia Rd, nothing has ever been done there. T.D.C allow too many sub-division of properties and have not allowed for water/sewage etc, that is a huge concern for our family, we pay huge rates but have little or no facilities - no lampposts, kerbs? Clean water. If there were less houses on cliff area's there would be less landslips etc
- I agree with the rejection of the Marina proposal, leaving Tairua in a natural state. Ocean Beach sand comes and goes with tides/storms etc, it changes but returns, the building of houses was a mistake here, just look what they are built on, sand. Thank you
- I am very critical of the erosion management (lack of) in respect to the foreshore areas of

the Tairua harbour - from the Tairua school to the wharf - immediately below the wharf - Tairua esplanade foreshore to harbour entrance

- I am very pleased with the efforts that have been made to preserve the beach and properties using dune care
- I believe that many people are unaware of the power of the sea. Normally, when the sea robs one part of a shoreline, it deposits its 'goods' in another area/sometimes detrimentally. No-one is ever completely happy about it!
- I did appreciate receiving the Beach care newsletter & would like them to restart.
- I go to Ocean Beach in all weathers. The dune planting is very effective in windy conditions - retaining the sand. We are long overdue for a cyclone/easterly storm, and I don't think dune planting will protect dunes against a powerful ocean surge & higher tides, nothing will
- I have enjoyed helping dune care Dave & Harley plus Jim Dahm good to have them in the loop
- I know how difficult it is to motivate people. Keep it up - info
- I support the work that has been carried out, and am happy to see my rates being spent on wind breaks, fascines etc (private properties on the dunes could have special rates in areas of benefit)
- I think this survey is excellent. Surveys should be posted to the persons actual living at the address. Not all letter boxes in Tairua, as a fair percentage live out of town
- I would like more info about programs being proposed e.g. flyers or signs at beach regarding beach management & where one would or could get more information
- Important that erosion management and coastal management does not adversely affect the natural state of our beaches, also that they are maintained for all to enjoy
- In recent years I have noticed very little activity in sand retention (e.g. planting). The southern half of the beach seems particularly vulnerable to erosion. Bare sand, no barriers to stop people walking on the dunes
- In the end nature will triumph. Rising sea levels are forecast. Create a wider buffer zone from the sea. Human made construction. Don't allow people to live right by the sea. Take this into account with future subdivision of coastal land
- It is very easy to be critical of a programme that you watch from the outside. Education is the key to ensure a dune planting programme work. We have a beach front property & do not walk down the dunes. It disturbs me watching others climbing/sliding/jumping down/ up dunes destroying planting schemes. The main offenders in front of our property are teenagers & children. I would like to see planted areas being roped off in a way similar to the southern end of Pauanui. Maybe involve local schools and other clubs where children are involved pulled into the planting programme. Children are our future. They can also educate adults. Thank you for the opportunity to participate in this questionnaire
- It is vital that the hazard lines are enforced by TCDC to prevent development within the hazard zone. Beaches such as Sailors Grave must be protected from intense development. No new subdivisions in the Coromandel on undeveloped beaches. No further development of marina in estuaries, or canal developments
- It may be necessary to rip rap the south end of the beach to protect private property. However, this should be paid for by the property owners
- Keep up the good work on planting the sand building grasses. Would like to help plant some of the grasses
- Leave everything as natural as possible, restrict building, repairs as needed

- Leave it alone. Let nature take its course. Reduce our rates by sticking to your core business of Regional infrastructure provision. Fire the environmental fascists who would turn the whole of our coastline, and sea into a reserve
- Like all activity undertaken by EW regional council this will go nowhere. Between the R.M.A and T.C.D.C dithering it would take a lifetime to achieve a result - if it took 12 years for the Whangamata marina to get approval, and the EW Council to rule on these proposals is doomed. My personal opinion on all these surveys is that they function more to keep bureaucratic bludgers employed than for any real purpose. (Last statement a little tongue-in-cheek!)
- Looks to be going well but have not been here long enough to know what it was like in the past
- My main interest lies with the preservation of Paku Bay, across the tombolo from the Ocean Beach. Grahams Creek floodings have deposited great areas of silt in the bay & if the marina goes ahead, this situation will be exacerbated. The ocean beach will survive. The Paku Bay may not
- Need continuing work by both volunteers & paid staff. Keep public informed of long term, middle term & cumulative policies & plans. Priorities as EW sees them need highlighting
- No comments. Thanks
- Only shifted to Tairua permanently 3 weeks ago, still unfamiliar with a lot of the questions. Beautiful beach lets keep it that way as naturally as possible
- Paku was previously an island (I know people who can remember wading to Paku from Tairua beach south end) and will undoubtedly be an island again. Dune areas - sand seafront on ocean beaches are not suited for dwellings. To think we can control the ocean and its natural actions is "over the top-lunacy!"
- Planting of pohutukawa trees would help stabilize the dunes and provide much needed shade for beach users as well as visually improve the area
- Planting on dunes MAY help, but a more aggressive approach is needed. The action taken now will have a deep effect on future generations. The situation now compared to recent years is astronomical, and a complete change of thinking is required
- Protection of properties on hillsides relies on effective management of stormwater runoff and control of future development. At first sign of slippage occurring preventative steps to prevent major problems by retainment in a timely manner is essential
- Regarding Tairua's Ocean Beach, tough controls on future developments, with planting of low sand tolerant shrubs throughout the dune areas. Good coastal management means stopping lifestyle small blocks being allowed to be subdivided & built on
- Rising sea levels will have an effect - the degree uncertain. If property owners have concern then protective works should be allowed within their property - funded by them. There is a case for Regional Government to maintain dune buffers
- Tairua Ocean Beach has poor access for general public - people are concentrated into 5-6 areas. Beach is in good condition now but has there been a challenging NE season of storms since the coastal management program began?
- Thank you for allowing the opportunity for feedback. It is important for the community to have their say, even if not permanently residing here, we come here because we love the place. Erosion management is noticeable here which is a good thing. The need to ensure no further property development along the coastline needs to be enforced strongly

- The biggest problem with Tairua's Ocean Beach is people who do not respect the efforts that have been made to stop the erosion and abuse the work that has been done. Education may be the answer
- The dunes buffer is a good idea, there should be more of them e.g. at Sailors Grave or a seawall be built down there. More plants should be planted in the dunes on Tairua Beach, and property owners should fund the coastal erosion control scheme, property owners who own beach front property. There should be more bins for rubbish and laws enforced like no dogs on the beach, no alcohol on the beach. Signs. Also toilets, changing rooms, maybe BBQ area/seating area in the reserves, which need to be maintained/cleaned. We should put up a sign at the toilets and carparks - please respect this area, put all rubbish in the bin, light no fires, no vandals. I hate seeing rubbish in the carpark, broken beer bottles, rubbish overloaded at the bin and burnt driftwood on the beach, especially over Christmas/New Year period
- The planting programme has been very erratic and no maintenance of the programme has seen a lot of work lost. A lack of signage etc on the beach sees the dunes abused in summer months
- There are two different problems - erosion in Tairua harbour - easily controlled erosion on Tairua beach - not so easily controlled. Remedies for each are different, for example, anti-erosion banks built in the harbour can be helped with sea grass & then native grasses above normal high tide levels. Such stop banks hold well and make attractive harbour front walkways
- This questionnaire seems to assume that there is "erosion" at Tairua Beach - there actually isn't especially in the centre of the beach - our walk to the beach hasn't increased or decreased since mid 1980's - possibly some beach damage of South end during large swells, but apart from that the beach has changed very little if at all in our experience
- This survey should produce positive results
- This survey took ages to complete. Did it need to be so long?
- Treating soil erosion & sand erosion are very different. Sometimes it "is necessary" to build concert stone walls or cabian baskets or piles to stop soil, but with sand the more we move around the more nature seems to alter it. Ocean Beach often has complete removal from either south or north end sand but it is always replaced by another storm from another direction. We just help with dune planting
- We are thankful to all those that give their time and effort to keep Tairua natural. We will be permanent residents in a few years, but would help in future projects
- We have only lived in NZ for 3 years so coastal issues were not an issue to us previously
- We have to respect that things change, any undertaking must be within certain restrictions, i.e. who wants concrete foreshores like the UK
- We think the erosion management works well. If nature takes the tombolo, then so be it. If it were possible all dwellings on the tombolo (Ocean Beach Rd) should be removed
- We will be taking note over the next few years
- We would encourage EW & TCDC to provide more resources to extent the coastal management programme including maintaining beach access ways to Ocean Beach and repairing the estuary side of the Manaia Road stopbank, plus some beach nourishment adjacent to the stormwater outlets

- When sand is washed down to the estuary from river flow and builds up in the harbour - it does no good to be dredged and left in the inner harbour it just adds to the ongoing build up of sand and stops the flow - also the mangroves all need to be removed as it makes the inner harbour stagnant
- Why the duplication of this survey? You've obviously not spending your own money!! Is this not the second time this survey was circulated? What actually is EW trying to achieve? Trying to control the Tairua beach ocean front is farting against thunder. I have been visiting and living in Tairua for over 55 years. No bunch of book taught environmentalists whom only know what someone else told them will ever change the Tairua ocean beach front. Address the Mangrove problem and you might restore some credibility to EW and NIWA.

A1.2 WAIHI COASTAL MANAGEMENT SURVEY RESULTS

Table 39 Q1 - Choose the option that best describes your situation: (tick one option only)

		Count	Column N %
Mailed sample N = 127	Permanent resident, own this property	87	68.5%
	Permanent resident, renting this property	18	14.2%
	Visitor, own this property (e.g. if it is your bach or holiday home)	20	15.7%
	Visitor, don't own this property	0	0.0%
	No answer	2	1.65%
Distributed to interested parties N = 52	Permanent resident, own this property	31	59.6%
	Permanent resident, renting this property	2	3.8%
	Visitor, own this property (e.g. if it is your bach or holiday home)	19	36.5%
	Visitor, don't own this property	0	0.0%
	No answer	0	0%
All respondents N = 179	Permanent resident, own this property	118	66.7%
	Permanent resident, renting this property	20	11.3%
	Visitor, own this property (e.g. if it is your bach or holiday home)	39	22.0%
	Visitor, don't own this property	0	0.0%
	No answer	2	1.1%

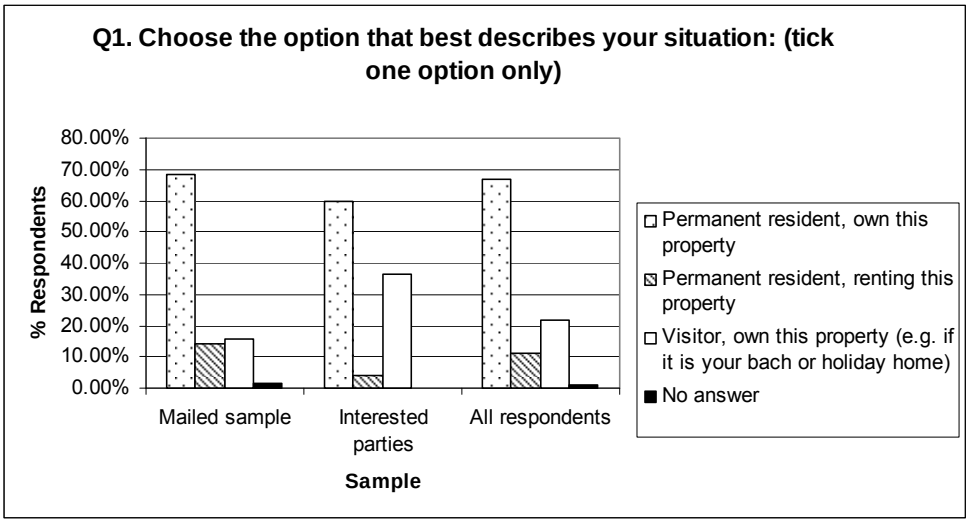


Figure 47 Q1 - Choose the option that best describes your situation: (tick one option only)

Table 40 Q2 - If you own this property, how long ago did you buy it? (tick one option only)

		Count	Column N %
Mailed sample N = 127	Less than 1 year	6	4.7%
	Between 1 year and 5 years	16	12.6%
	Between 5 years and 10 years	22	17.3%
	More than 10 years	64	50.4%
	No answer	19	15.0%
Distributed to interested parties N = 52	Less than 1 year	3	5.8%
	Between 1 year and 5 years	5	9.6%
	Between 5 years and 10 years	12	23.1%
	More than 10 years	30	57.7%
	No answer	2	3.8%
All respondents N = 179	Less than 1 year	9	5.0%
	Between 1 year and 5 years	21	11.7%
	Between 5 years and 10 years	34	19.0%
	More than 10 years	94	52.5%
	No answer	21	11.7%

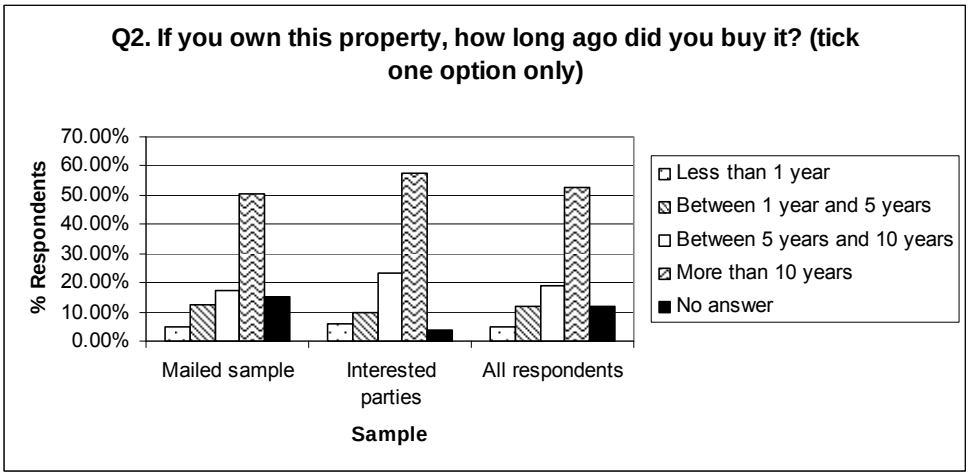


Figure 48 Q2 - If you own this property, how long ago did you buy it? (Tick one option only)

Table 41 Q3 - If you are a visitor, where do you normally live?

		Count
Mailed sample	Auckland	2
	Cambridge	2
	Canada	1
	Hamilton	3
	Katikati	1
	Morrinsville	1
	Mt Maunganui	1
	Tauranga	1
	USA	2
	Waihi	1
	Waikato	1
	Wellington	1
	No answer	3
	Total	20
Distributed to interested parties	Auckland	6
	Bombay	1
	Cambridge	1
	Hamilton	2
	Morrinsville	1
	Pukekohe	1
	Rotorua	1
	USA	2
	Tauranga	1
	Waihi	1
	No answer	2
	Total	19

Table 42 Q4 - Thinking of the past couple of years, which option best describes how often you visit the beach at Waihi Beach? (tick one option only)

		Count	Column N %
Mailed sample N = 116	Once a day or more, year -round	42	36.2%
	Once a day or more, but more in summer than in winter	24	20.7%
	Once a week or so, year-round	22	19.0%
	Once a week or so, but more in summer than in winter	19	16.4%
	Once a month or so	7	6.0%
	Two or three times a year	2	1.7%
	Once a year or less	0	.0%
Distributed to interested parties N = 50	Once a day or more, year -round	12	24.0%
	Once a day or more, but more in summer than in winter	6	12.0%
	Once a week or so, year-round	10	20.0%
	Once a week or so, but more in summer than in winter	11	22.0%
	Once a month or so	9	18.0%
	Two or three times a year	2	4.0%
	Once a year or less	0	.0%
All respondents N = 166	Once a day or more, year -round	54	32.5%
	Once a day or more, but more in summer than in winter	30	18.1%
	Once a week or so, year-round	32	19.3%
	Once a week or so, but more in summer than in winter	30	18.1%
	Once a month or so	16	9.6%
	Two or three times a year	4	2.4%
	Once a year or less	0	.0%

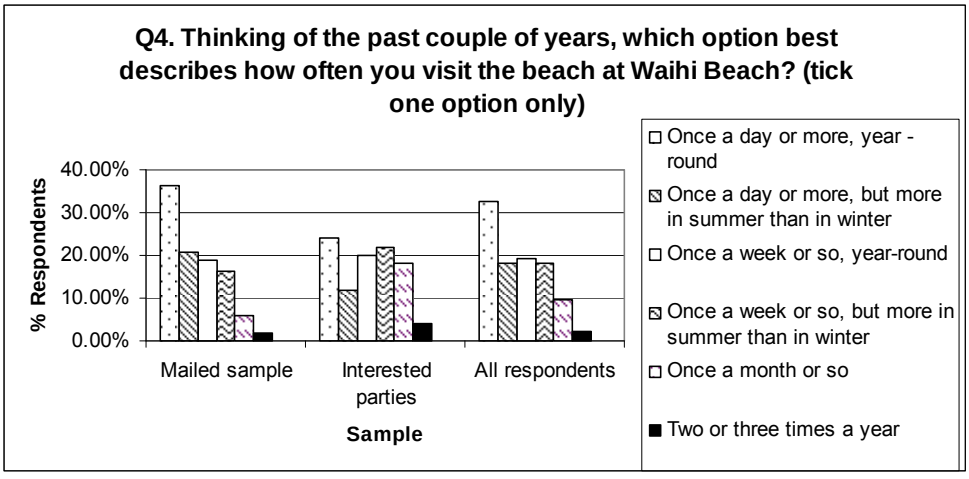


Figure 49 Q4 - Thinking of the past couple of years, which option best describes how often you visit the beach at Waihi Beach? (Tick one option only)

Table 43 Q5 - What do you value about the coast? (Please tick the options in each row that best matches your view)

			Count	Column N %	Mean	Std Deviation
Mailed sample	Appearance of the beach and dunes (whether or not they are natural, etc)	1 Very important	94	77.0%	1.37	.77
		2	18	14.8%		
		3	7	5.7%		
		4	2	1.6%		
		5 Not important	1	.8%		
		Total (N)	122	100.0%		
	Good recreational facilities in general (boat ramps, reserves, etc)	1 Very important	45	37.2%	2.10	1.07
		2	35	28.9%		
		3	31	25.6%		
		4	6	5.0%		
		5 Not important	4	3.3%		
		Total (N)	121	100.0%		
	A dry beach at high tide levels for recreational activities, such as sun bathing	1 Very important	63	52.5%	1.85	1.08
		2	28	23.3%		
		3	17	14.2%		
		4	10	8.3%		
		5 Not important	2	1.7%		
		Total (N)	120	100.0%		
	Easy access onto the beach	1 Very important	85	68.5%	1.47	.82
		2	24	19.4%		
		3	11	8.9%		
		4	3	2.4%		
		5 Not important	1	.8%		
		Total (N)	124	100.0%		
	Walking access along the full length of the beach at high tide	1 Very important	52	42.6%	2.13	1.24
		2	29	23.8%		
		3	25	20.5%		
		4	8	6.6%		
		5 Not important	8	6.6%		
		Total (N)	122	100.0%		
	Protection of iwi/Maori values	1 Very important	17	14.2%	3.12	1.37
		2	27	22.5%		
		3	30	25.0%		
		4	19	15.8%		
		5 Not important	27	22.5%		
		Total (N)	120	100.0%		
	Retaining some undeveloped, natural beaches around the coast	1 Very important	82	67.8%	1.55	.96
		2	23	19.0%		
		3	11	9.1%		
		4	2	1.7%		
		5 Not important	3	2.5%		
		Total (N)	121	100.0%		
	Retaining some undeveloped, natural headlands around the coast	1 Very important	83	68.6%	1.48	.86
		2	26	21.5%		
		3	8	6.6%		
		4	2	1.7%		
		5 Not important	2	1.7%		
		Total (N)	121	100.0%		
	Protection of scenic values when looking out over the beach and toward the sea	1 Very important	81	66.4%	1.47	.76
		2	29	23.8%		
		3	10	8.2%		
		4	1	.8%		
		5 Not important	1	.8%		
		Total (N)	122	100.0%		

	Protection of scenic values when looking inland (e.g. towards houses or the surrounding landscape)	1 Very important 2 3 4 5 Not important Total (N)	47 35 24 10 5 121	38.8% 28.9% 19.8% 8.3% 4.1% 100.0%	2.11	1.13
	The involvement of local people in decision-making about the coast	1 Very important 2 3 4 5 Not important Total (N)	95 19 4 1 2 121	78.5% 15.7% 3.3% .8% 1.7% 100.0%	1.32	.73
	The involvement of people who do not live locally in decision-making about the coast	1 Very important 2 3 4 5 Not important Total (N)	10 22 37 24 29 122	8.2% 18.0% 30.3% 19.7% 23.8% 100.0%	3.32	1.25
	Protecting beachfront property, even if it means losing the sandy beach	Very important 2 3 4 Not important Total (N)	10 9 20 26 56 121	8.3% 7.4% 16.5% 21.5% 46.3% 100.0%	3.89	1.30
	Good fishing and shellfish gathering	1 Very important 2 3 4 5 Not important Total (N)	54 32 27 4 5 122	44.3% 26.2% 22.1% 3.3% 4.1% 100.0%	1.98	1.08
Distributed to interested parties	Appearance of the beach and dunes (whether or not they are natural, etc)	1 Very important 2 3 4 5 Not important Total (N)	34 9 7 1 1 52	66.0% 17.0% 13.2% 1.9% 1.9% 100.0%	1.52	.87
	Good recreational facilities in general (boat ramps, reserves, etc)	1 Very important 2 3 4 5 Not important Total (N)	15 20 13 3 1 52	28.3% 39.6% 24.5% 5.7% 1.9% 100.0%	2.10	.93
	A dry beach at high tide levels for recreational activities, such as sun bathing	1 Very important 2 3 4 5 Not important Total (N)	25 9 7 7 4 52	48.1% 17.3% 13.5% 13.5% 7.7% 100.0%	2.12	1.35
	Easy access onto the beach	1 Very important 2 3 4 5 Not important Total (N)	30 10 8 4 0 52	58.5% 18.9% 15.1% 7.5% .0% 100.0%	1.73	.99
	Walking access along the full length of the beach at high tide	1 Very important 2 3 4 5 Not important Total (N)	24 12 3 6 7 52	46.2% 23.1% 5.8% 11.5% 13.5% 100.0%	2.18	1.44

	Protection of iwi/Maori values	1 Very important	8	16.0%	3.04	1.41
		2	12	24.0%		
		3	10	20.0%		
		4	8	16.0%		
		5 Not important	12	24.0%		
		Total (N)	50	100.0%		
	Retaining some undeveloped, natural beaches around the coast	1 Very important	36	69.8%	1.44	.78
		2	8	15.1%		
		3	6	11.3%		
		4	1	1.9%		
		5 Not important	1	1.9%		
		Total (N)	52	100.0%		
	Retaining some undeveloped, natural headlands around the coast	1 Very important	33	63.5%	1.53	.86
		2	11	21.2%		
		3	6	11.5%		
		4	1	1.9%		
		5 Not important	1	1.9%		
		Total (N)	52	100.0%		
	Protection of scenic values when looking out over the beach and toward the sea	1 Very important	25	49.0%	1.68	.84
		2	18	35.3%		
		3	7	13.7%		
		4	0	.0%		
		5 Not important	1	2.0%		
		Total (N)	51	100.0%		
	Protection of scenic values when looking inland (e.g. towards houses or the surrounding landscape)	1 Very important	14	26.9%	2.35	1.21
		2	18	34.6%		
		3	11	21.2%		
		4	5	9.6%		
		5 Not important	4	7.7%		
		Total (N)	52	100.0%		
	The involvement of local people in decision-making about the coast	1 Very important	34	66.7%	1.50	.81
		2	9	17.6%		
		3	7	13.7%		
		4	1	2.0%		
		5 Not important	0	.0%		
		Total (N)	51	100.0%		
	The involvement of people who do not live locally in decision-making about the coast	1 Very important	6	11.8%	2.92	1.21
		2	14	27.5%		
		3	17	33.3%		
		4	7	13.7%		
		5 Not important	7	13.7%		
		Total (N)	51	100.0%		
	Protecting beachfront property, even if it means losing the sandy beach	1 Very important	8	16.7%	3.77	1.54
		2	4	8.3%		
		3	4	8.3%		
		4	9	18.8%		
		5 Not important	23	47.9%		
		Total (N)	48	100.0%		
	Good fishing and shellfish gathering	1 Very important	19	37.7%	2.08	1.08
		2	14	26.4%		
		3	15	28.3%		
		4	2	3.8%		
		5 Not important	2	3.8%		
		Total (N)	52	100.0%		
	Appearance of the beach and dunes (whether or not they are natural, etc)	1 Very important	129	73.7%	1.41	.80
		2	27	15.4%		
		3	14	8.0%		
		4	3	1.7%		
		5 Not important	2	1.1%		
		Total (N)	175	100.0%		

All respondents	Good recreational facilities in general (boat ramps, reserves, etc)	1 Very important 2 3 4 5 Not important Total (N)	60 56 44 9 5 175	34.5% 32.2% 25.3% 5.2% 2.9% 100.0%	2.10	1.03
	A dry beach at high tide levels for recreational activities, such as sun bathing	1 Very important 2 3 4 5 Not important Total (N)	88 37 24 17 6 172	51.2% 21.5% 14.0% 9.9% 3.5% 100.0%	1.93	1.17
	Easy access onto the beach	1 Very important 2 3 4 5 Not important Total (N)	116 34 19 7 1 177	65.5% 19.2% 10.7% 4.0% .6% 100.0%	1.55	.88
	Walking access along the full length of the beach at high tide	1 Very important 2 3 4 5 Not important Total(N)	76 41 28 14 15 174	43.7% 23.6% 16.1% 8.0% 8.6% 100.0%	2.14	1.30
	Protection of iwi/Maori values	1 Very important 2 3 4 5 Not important Total (N)	25 39 40 27 39 170	14.7% 22.9% 23.5% 15.9% 22.9% 100.0%	3.09	1.38
	Retaining some undeveloped, natural beaches around the coast	1 Very important 2 3 4 5 Not important Total (N)	119 31 17 3 4 174	68.4% 17.8% 9.8% 1.7% 2.3% 100.0%	1.52	.91
	Retaining some undeveloped, natural headlands around the coast	1 Very important 2 3 4 5 Not important Total (N)	116 37 14 3 3 173	67.1% 21.4% 8.1% 1.7% 1.7% 100.0%	1.50	.85
	Protection of scenic values when looking out over the beach and toward the sea	1 Very important 2 3 4 5 Not important Total (N)	106 47 17 1 2 173	61.3% 27.2% 9.8% .6% 1.2% 100.0%	1.53	.79
	Protection of scenic values when looking inland (e.g. towards houses or the surrounding landscape)	1 Very important 2 3 4 5 Not important Total (N)	61 53 35 15 9 173	35.3% 30.6% 20.2% 8.7% 5.2% 100.0%	2.18	1.16
	The involvement of local people in decision-making about the coast	1 Very important 2 3 4 5 Not important Total (N)	129 28 11 2 2 172	75.0% 16.3% 6.4% 1.2% 1.2% 100.0%	1.37	.76

	The involvement of people who do not live locally in decision-making about the coast	1 Very important 2 3 4 5 Not important Total (N)	16 36 54 31 36 173	9.2% 20.8% 31.2% 17.9% 20.8% 100.0%	3.20	1.25
	Protecting beachfront property, even if it means losing the sandy beach	1 Very important 2 3 4 5 Not important Total (N)	18 13 24 35 79 175	10.7% 7.7% 14.2% 20.7% 46.7% 100.0%	3.85	1.37
	Good fishing and shellfish gathering	1 Very important 2 3 4 5 Not important Total (N)	74 46 42 6 7 175	42.3% 26.3% 24.0% 3.4% 4.0% 100.0%	2.01	1.08

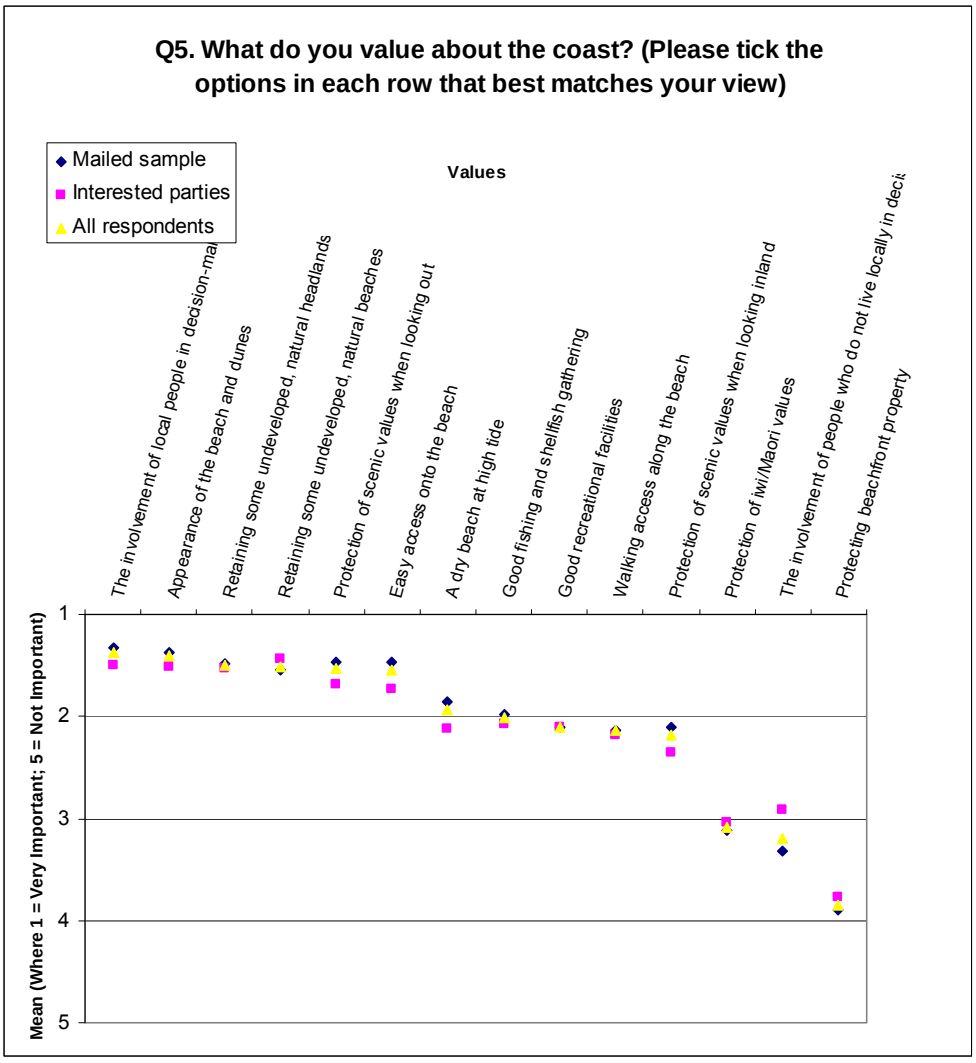


Figure 50 Q5 - What do you value about the coast? (Please tick the options in each row that best matches your view)

Q5. Your suggestions on what you value about the coast…please describe:

- At certain times during the natural cycle of beach dynamics it is not possible to walk along the beach at high tide without damaging the dunes. It is vital that dunes are NATURAL & not created on top of man made/engineered structures. Prefer the emphasis on natural facilities/reserves to protect flora & sand in this environment/ecosystem. Restricted access to only formally marked access onto beach to avoid dune erosion. There are many ill informed, well intentioned people who hold a view ignorant of native flora, fauna & beach dynamics. It is DOC & the various councils responsibility to INFORM the public for an educated/informed view
- Views. Not allowed to develop with high rise buildings
- A beach that has sand in all tides and not a rock wall like Waihi Beach & many UK "beaches"
- A clean beach, no logs, rubbish or dog poo!
- A good clean beach that protects beach front property that the public can enjoy
- A natural as possible environment. Access for public. Protection of natural resources e.g. shellfish, fishing etc. Protection of surfing areas. Undeveloped areas with good public access
- A natural beach
- A wonderful place to live, not too over populated
- Access to beach for all people particularly dry beach at high tide for recreational i.e. walking etc
- Accessibility
- After 70 years of visiting and now residing I still love the best beach in the world
- All no 1's listed above
- Appearance of the beach & dunes. Easy access onto the beach. Good recreational facilities. Good fishing and shell fishing
- As natural as possible, no pollution, no high rise buildings
- At present beach has plenty of sand and doesn't need any interfered with
- Beach and dunes need to be looked after more plantings in dunes
- Beauty and safety on the beach & safety if the beach when in the water (stones from broken baskets have moved out & are a hazard)
- Being able to walk the beach in all tides using the coastal bush tracks
- Biking or walking along beach without having to step over long lines which are increasingly popular
- Clean & uncluttered. Rock wall & barriers not needed
- Clean beach & water e.g. no dogs allowed at all. No glass etc at my doorstep natural looking as nature intended. This has been ruined by fence posts and rope manmade!
- Clean natural beauty without high rose buildings on the dunes. NO ROCK WALLS
- Clean safe beach
- Clean unpolluted sea & beach
- Clean, uncrowded lots ok wildlife & seafood 'unblemished beauty'
- Cleanliness of the water and contributing streams, natural undeveloped look of the beach
- Conservation and respect for natural habitats & environment
- Control of animal pollution
- Dune care and growth, most important. No man made false protection for property that should never been built so close to the shore on the dunes at the high tide mark

- Dunes should be protected - no man made sea walls
- Easy access to all beaches for ALL New Zealanders no matter what race
- For all people to enjoy safely
- Free & unrestricted used beach for recreational use for people
- Freedom of access to beach & views
- Good clean beach front no obstruction for walks e.g. rock wall
- Good surfing, clean unspoiled beach
- Hate man generated rubbish, plastic, broken bottles, household waste, not natural ocean flotsam i.e. logs, wreckage & so on
- Have nature to form own beach
- I am happier when living by the coast and I choose to live by the coast at all times. I value the natural beauty of the coast, the way it changes with the seasons but it all way beautiful
- I value a safe, natural untouched beach, with dry sand at high tide along all of the beach & free from rock groins, seawalls, rockwalls & other dangerous, ugly, man-made structures
- I value the natural environment, whatever the elements bring. The foreshore should be kept naturally & dunes promoted. Natural protection
- I value traditional access to coast by kiwis as its always been and am concerned with the escalating values removing the possibility of kiwis being able to buy along the coast because its such a bargain for foreigners who don't have to finance properties from within our economy
- If a ratepayer
- It is a natural habitat of many species of birds and must be protected from mankind's abusive behaviour
- It is important to us and our family that we have access to a beach that is clean & safe. Some days peaceful and others invigorating
- Keep it the way it is - nice place to live
- Leave the dunes and beaches to nature
- Left undisturbed
- Let the beach handle its own margin. Concentrate on planting native flora. Keep straight check on building permits - by-laws really are by-laws. Forbid planting of large trees within 100m of high tide line
- Lovely beach no rock wall
- Natural aspects sand, sea, vegetation
- Natural beach but not overgrown in mangroves etc
- Natural beauty
- Natural beauty rough & wild as well as calm sheltered areas
- Natural beauty sand dunes, tussock minimal man made ineffectual eye sores
- Natural character (not added by man) amenity values (omitted by council)
- Natural coastline with good accessible natural resources
- Natural dunes not rockwalls or other such eyesores. Access to beach & being able to use beach for recreational purposes
- Natural enhancement of our coast line & protection is top priority
- Natural means to preserve the health of the beach. Planting where required and protection of plantings from visitors to the beach
- Natural, undeveloped

- Nature in control changing moods - sea fishing, swimming, walking, boating, picnicking. A place everybody can freely go. Lack of weeds and litter
- Nice safe beach. Good surf
- No high-rise buildings on coastal beaches
- No over development & low rise building
- No rocks. A concrete wall built with steps down to beach, fill in behind wall for walkways
- No rock walls
- Not having a rock wall, which wall destroy the beach
- Open 'public' space. Recreational utilities - safety - safe beach except where rock will protrudes to deeper sea immediately in front of it
- Preservation of natural dunes - prevention of non-native trees & plants encroaching on dunes & reserves. More council monitoring of contract workers in mowing council strips - removal of unsuitable trees too big for their position - council to take responsibility for slipshod work
- Preservation of the amenity value of the beach is important and this will only occur if properly managed. A properly managed beach, retaining the natural character, is what I value about the coast. The opportunity to go onto the beach and enjoy it is paramount to me
- Preservation of the natural and replaced beach. Preservation of the water qualify
- Protect sand dunes using natural methods
- Protection of beach for all. Freedom for all New Zealanders to enjoy it. Protection of fisheries for New Zealanders. Keeping some coast in. Natural state free of development
- Quiet beauty, safe swimming
- Quiet low use development
- Relatively undeveloped, as natural as possible
- Remain natural as is!
- Restful & beauty
- Retaining a sandy beach with dunes. Absolutely NO rock walls. Keeping beach litter free - stop houses on beach front encroaching onto the beach
- Safe beach easily accessible
- Safe beach, glorious coastal views, coastal walks, ever changing seascape
- Safe swimming, protection of undeveloped sea front land from further subdivision
- Safety for kids & beach walkers
- Should be left in natural state without interference
- Should read on follows "Protecting beachfront properties and retaining sandy beach"
- Sustainability of our coastline rather then private property
- Swimming
- That the beach and dunes are a critical part of the whole seaside environment. Preservation of this natural environment is what both locals and most visitors consider their reasons for being there whatever the season
- That the coast retains its form in the most natural way possible
- That the natural character of the beach is retained - or re-created where previously interfered with (i.e. loss of fore, mid & back dunes for development)
- That there is a foreshore for all to enjoy
- The absence of high rise buildings, medical and shopping facilities
- The beauty - recreational
- The beauty, fresh air, general quietness

- The landscape! The access
- The natural beauty of the beach and sand dunes, taking into account the protection of beach front properties
- The natural beauty of the beach. Free access for all to enjoy the beach
- The people who bought beachfront sections then knocked the dunes, so they could get better sea views, have done a lot of damage
- The re establishment of the foreshore dunes along the length of Waihi Beach
- The view to mayor is, good swimming beaches
- Therapeutic to mental wellbeing, good for physical health though exercise - beautiful & natural - lets keep it that way!
- This does not include the professionals who know about the dunes
- To remain as close in beauty as it is 2 day 09/03/07
- Try to maintain as hear to the natural appearance & quality of seafood
- Undeveloped beach front and access. Good fishing and surfing. Good walks
- Unspoilt "Natural" coast. Dunecare that *promotes regeneration e.g. by planting
- Value the safe beaches, value the surf, value a clean beach
- Very safe beach, easy access for public, not commercialised, not privatised
- We think all ratepayers, whether permanent or holiday homes should have an equal say in decisions regarding the beach

Table 44 Q6 - Which are the two natural hazards you consider most likely to affect Waihi Beach?

		Count	Column N %
Mailed sample N = 127	Ash fall	1	.8%
	Coastal erosion	95	74.8%
	Earthquake	8	6.3%
	Flooding	27	21.3%
	Forest or bush fire	4	3.1%
	Landslide	0	.0%
	Storm or cyclone with high winds	83	65.4%
	Tsunami	36	28.3%
Distributed to interested parties N = 52	Ash fall	0	.0%
	Coastal erosion	30	57.7%
	Earthquake	2	3.8%
	Flooding	17	32.7%
	Forest or bush fire	0	.0%
	Landslide	0	.0%
	Storm or cyclone with high winds	40	76.9%
	Tsunami	16	30.8%
All respondents N = 179	Ash fall	1	.6%
	Coastal erosion	125	69.8%
	Earthquake	10	5.6%
	Flooding	44	24.6%
	Forest or bush fire	4	2.2%
	Landslide	0	.0%
	Storm or cyclone with high winds	123	68.7%
	Tsunami	52	29.1%

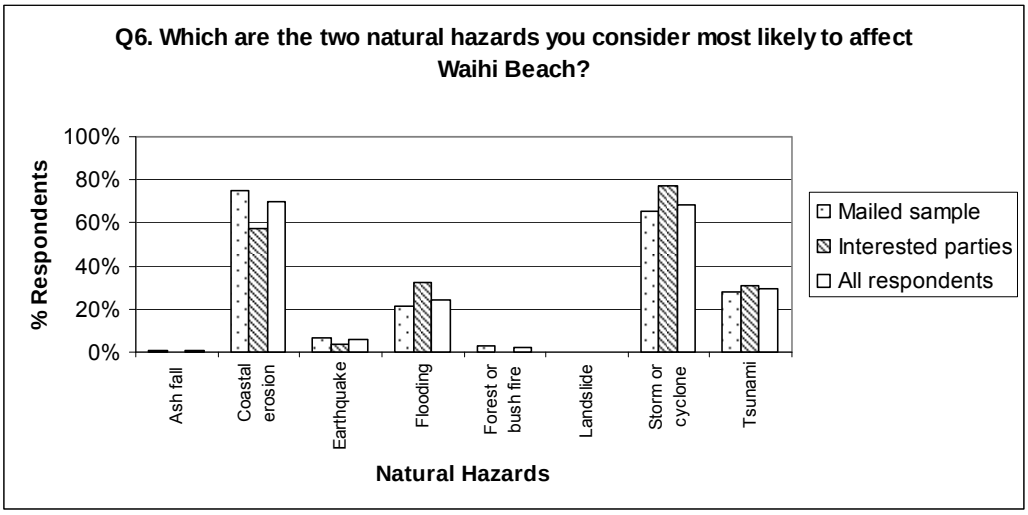


Figure 51 Q6 - Which are the two natural hazards you consider most likely to affect Waihi Beach?

Table 45 Q7 - Have you ever (a) personally experienced any of the following hazards in the past, and (b) suffered loss or damage as a result? (Tick all that apply)

			Count	Layer N %
Mailed sample N= 131	Have you ever (a) personally experienced flooding in the past?	Yes	31	16.8%
		No	100	54.3%
	Have you ever (b) suffered loss or damage as a result of flooding?	Yes	11	6.0%
		No	120	65.2%
	Have you ever (a) personally experienced a storm or cyclone with high winds in the past?	Yes	60	32.6%
		No	71	38.6%
	Have you ever (b) suffered loss or damage as a result of storm with high winds?	Yes	22	12.0%
		No	109	59.2%
	Have you ever (a) personally experienced a forest or bush fire in the past?	Yes	6	3.3%
		No	125	67.9%
	Have you ever (b) suffered loss or damage as a result of forest or bush fire?	Yes	4	2.2%
		No	127	69.0%
	Have you ever (a) personally experienced an earthquake in the past?	Yes	20	10.9%
		No	111	60.3%
	Have you ever (b) suffered loss or damage as a result of an earthquake?	Yes	9	4.9%
		No	122	66.3%

	Have you ever (a) personally experienced ash fall from a volcanic eruption in the past?	Yes	13	7.1%
		No	118	64.1%
	Have you ever (b) suffered loss or damage as a result of a volcanic eruption?	Yes	6	3.3%
		No	125	68.3%
	Have you ever (a) personally experienced a Tsunami in the past?	Yes	1	.5%
		No	130	70.7%
	Have you ever (b) suffered loss or damage as a result of Tsunami?	Yes	3	1.6%
		No	128	69.6%
	Have you ever (a) personally experienced coastal erosion in the past?	Yes	30	16.3%
		No	101	54.9%
	Have you ever (b) suffered loss or damage as a result of coastal erosion?	Yes	7	3.8%
		No	124	67.4%
	Have you ever (a) personally experienced a landslide in the past?	Yes	3	1.6%
		No	128	69.6%
	Have you ever (b) suffered loss or damage as a result of a landslide?	Yes	5	2.7%
		No	126	68.5%
Distributed to interested parties N = 53	Have you ever (a) personally experienced flooding in the past?	Yes	16	8.7%
		No	37	20.1%
	Have you ever (b) suffered loss or damage as a result of flooding?	Yes	9	4.9%
		No	44	23.9%
	Have you ever (a) personally experienced a storm or cyclone with high winds in the past?	Yes	37	20.1%
		No	16	8.7%
	Have you ever (b) suffered loss or damage as a result of storm or cyclone with high winds?	Yes	12	6.5%
		No	41	22.3%
	Have you ever (a) personally experienced a forest or bush fire in the past?	Yes	1	.5%
		No	52	28.3%
	Have you ever (b) suffered loss or damage as a result of a forest or bush fire?	Yes	0	.0%
		No	53	28.8%

	Have you ever (a) personally experienced an earthquake in the past?	Yes	11	6.0%
		No	42	22.8%
	Have you ever (b) suffered loss or damage as a result of an earthquake?	Yes	3	1.6%
		No	50	27.2%
	Have you ever (a) personally experienced ash fall from a volcanic eruption in the past?	Yes	2	1.1%
		No	51	27.7%
	Have you ever (b) suffered loss or damage as a result of a volcanic eruption?	Yes	0	.0%
		No	52	28.4%
	Have you ever (a) personally experienced a Tsunami in the past?	Yes	4	2.2%
		No	49	26.6%
	Have you ever (b) suffered loss or damage as a result of a Tsunami?	Yes	0	.0%
		No	53	28.8%
	Have you ever (a) personally experienced coastal erosion in the past	Yes	11	6.0%
		No	42	22.8%
	Have you ever (b) suffered loss or damage as a result of coastal erosion?	Yes	2	1.1%
		No	51	27.7%
	Have you ever (a) personally experienced a landslide in the past?	Yes	2	1.1%
		No	51	27.7%
	Have you ever (b) suffered loss or damage as a result of a landslide?	Yes	0	.0%
		No	53	28.8%
All respondents N = 184	Have you ever (a) personally experienced flooding in the past?	Yes	47	25.5%
		No	137	74.5%
	Have you ever (b) suffered loss or damage as a result of flooding?	Yes	20	10.9%
		No	164	89.1%
	Have you ever (a) personally experienced a storm or cyclone with high winds in the past?	Yes	97	52.7%
		No	87	47.3%

	Have you ever (b) suffered loss or damage as a result of storm or cyclone with high winds?	Yes	34	18.5%
		No	150	81.5%
	Have you ever (a) personally experienced a forest or bush fire in the past?	Yes	7	3.8%
		No	177	96.2%
	Have you ever (b) suffered loss or damage as a result of a forest or bush fire?	Yes	4	2.2%
		No	180	97.8%
	Have you ever (a) personally experienced an earthquake in the past?	Yes	31	16.8%
		No	153	83.2%
	Have you ever (b) suffered loss or damage as a result of an earthquake?	Yes	12	6.5%
		No	172	93.5%
	Have you ever (a) personally experienced ash fall from a volcanic eruption in the past?	Yes	15	8.2%
		No	169	91.8%
	Have you ever (b) suffered loss or damage as a result of a volcanic eruption?	Yes	6	3.3%
		No	177	96.7%
	Have you ever (a) personally experienced a Tsunami in the past?	Yes	5	2.7%
		No	179	97.3%
	Have you ever (b) suffered loss or damage as a result of a Tsunami?	Yes	3	1.6%
		No	181	98.4%
	Have you ever (a) personally experienced coastal erosion in the past?	Yes	41	22.3%
		No	143	77.7%
	Have you ever (b) suffered loss or damage as a result of coastal erosion?	Yes	9	4.9%
		No	175	95.1%
	Have you ever (a) personally experienced a landslide in the past?	Yes	5	2.7%
		No	179	97.3%
	Have you ever (b) suffered loss or damage as a result of a landslide?	Yes	5	2.7%
		No	179	97.3%

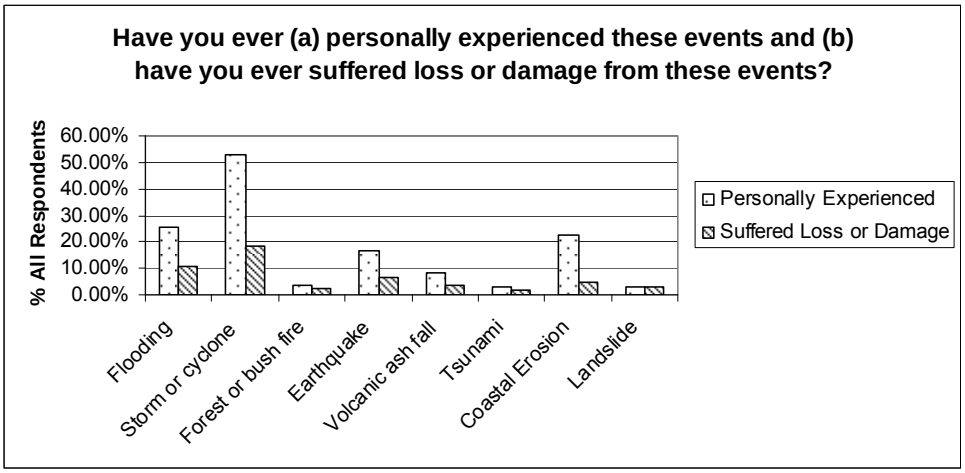


Figure 52 Q7 - Have you ever (a) personally experienced any of the following hazards in the past, and (b) suffered loss or damage as a result? (Tick all that apply)

Q7. Other (please describe):

- 1981 Paeroa flood. 2. Several occasions
- 1981 floods of HDC (Waikino). Cyclones in Australia. Loss of coast whilst living in QLD/NSW on Gold Coast. Coastal erosion (Waihi Beach) from 1970
- 1987 Whakatane Earthquake, various cyclones
- 2002 - Weather bomb
- 90 mph winds at a very young age e.g. 13-14 years
- About 5 years ago the concrete block basement plus the corners of upstairs rooms wall board, suffered cracking. Basement floor partly sunk
- Basement flooded before kerb - channel put in
- Basement flooded whilst living beachfront Shaw Rd, King tide
- Big Wednesday about 10yrs ago @ Ruakaka Surf Beach dunes changed massively & low roads flooded
- Coastal erosion as result of severe storms & cyclones both here at Waihi Beach and Matata living in Kawerau to time of Edgecumbe earthquake
- Coastal erosion or storm cut is worst in front of rock walls. Beach rarely recovers and sand is permanently lost
- Concern of infill housing creating extra stormwater
- Cracks in ceiling & paths plus articles dislodged, fallen over & smashed
- Cyclone Bola 1988? March? 1999 flood Waihi at Xmas time
- Cyclone Bola, bush fires & flooding & earthquakes in Wellington & South Auckland. Ash fall in Waiouru from Ruapehu
- Cyclone Giselle (Wahine) & Bola 50 year flood a few years ago, Ash falls from Ruapehu
- Cyclones from an easterly quarter have the potential to create havoc both not only to property but also to the beach
- Damage to deck screens during storms/high winds
- Damaged fences in U.K
- Disappearance of sand dunes due to coastal erosion
- Easterly storms - come and go 3 mile creek causes massive beach erosion
- Erosion from "Wahine" storm in 1968? Bush fire at North end in early 70s.

- Experienced damage to property during Cyclone Bola
- Experienced earthquake, tsunami & landslides whilst growing up in East Coast area
- Fence & aerial damage due to high winds
- Flooding damage due to low lying section - poor drainage - road run off management
- General ground flooding after heavy sustained rainfall
- General storm, Tsunami from ..... earthquake 1960
- Helping repair erosion along beach front (dune care)
- High tide & wave washing over the front of the property
- High winds damaging property
- High winds storm - winter 2006 - torn shade sail - ripped down by winds
- High winds where feared would lose roof and once of twice in strong easterly windows on east of house let water in damage to garden only
- High winds & storms. Burnt trees front of property from White Island
- I've experienced cyclone around 1996 which washed out Karangahape Gorge Road was stuck at beach
- I can remember as a child bush fires at Bowentown
- I grew up in Taupo so experienced many quakes. Later I was in Reporoa when a big quake destroyed many things
- I have experience all marked above in either NZ, Australia and New Guinea
- I have experienced all of the above in NZ, Australia & New Guinea
- I have witnessed the damage/erosion by the sea at Waihi Beach
- I own a beach resort and have experienced all of the above
- Kauaeranga river around 1980, ash fall from Ruapehu eruption around 1995? not sure of exact date
- Lived in Opotiki when flooding earthquakes occurred
- Lived in Wellington for 40 years where quakes were experienced from time to time
- Living & farming in other parts of the country not Waihi Beach
- Localised flooding only not on property - no lasting adverse effects
- Loss of fencing due to high winds etc
- Loss of sand dunes from in front of house
- Low lying property flooded by high-tide 3x in 50 years
- Mild = high winds, damage trees, fences, screens
- Minor damage. No erosion experience in 35 yrs
- My family and I have suffered infections and ulcers from scrapes from the rocks we have to walk over to the beach
- My land is 1 kilometre from the sea
- No
- No personal experience of any of the above
- None of above (x2)
- None yet. But am approx 200 yards from beach (2nd street back)
- Nothing drastic just some very strong northerlies
- Nov 2006 high winds damage to trees - power lines down. Lots of small quakes on the Peninsula
- On the Hauraki Plains in the 1950's
- Our back yard & garage was under water due 2 storm & high tide coming at the same time

- Our family lived here during the major coastal erosion period of 1967-68 and also both Wahine & Bola cyclone weather events
- Our property gets flooded in heavy rain, as the stormwater drains don't carry away the water effectively
- Our property is beachfront adjacent to a creek - experienced 2 storms in last 5 years
- Our property is one row of houses from those built on the foredunes and consequently cushioned from direct impact
- Our residence though beach front, is sufficiently back from the water so as to escape regular erosion & storms
- Prior to dune protection work, sea would come through at end of Mako Ave, even to junction with Broadway. House below us, on Broadway, would flood in heavy rain & also thirty years ago, before our vegetation grew, two of our Norfolk Pines damaged. (Rain can penetrate sliding doors in storm)
- Property has service water during heavy storms. Ruapehu eruption. Owned property on Shaw Rd, has erosion
- Property regularly floods in storms and when s/w channels are blocked with sand
- Road flooding due to inadequate drainage
- Ruapehu eruption, tidal wave 1960's, local floods 1985-2006, earthquake Edgecumbe
- Significant storm during 70's when waves came over healthy dunes & blew out the dune & took away the road at a weak blow-out point of the beach dune. Dunes erode and are slow to recover without "dune care" when they have been damaged. Dune care has restored significant erosion at different sections of the beach
- Some trees - uprooted and broken branches
- Storm-high winds @ Waihi Beach, Earthquake Tauranga & Wellington, Ash Fall - Ruapehu Eruption
- Storm in early 1980's - damage to house roof & eaves. Headland to Orokawa & also Bowentown burnt frequently in past now overdue
- Storm water pipes blocked flooding low lying sections
- Storms & high tides have taken sand from the dunes but have soon be replaced & plantings help naturally
- Suffered no loss of property
- The above was when I lived at Te Puru (Thames Coast)
- The natural result of nature
- The usual storm at Waihi Beach with rain & strong winds
- Various storms from 1956 onwards
- Very high spring tide 2 years ago
- Wave damage to section and rocks in front of property
- We were living here in 1998 (approx) when we had 2 or 3 cyclones over the summer and experienced the very strong winds. Coastal erosion. We watched 2 mile creek undercut the sand dunes when the creek changed direction and ran along beach front
- Weather bomb
- Weather bomb at Waihi beach broken outdoor table
- Weather bomb weekend - affected Thames Coast worse than us
- When open drains were around. Since new concrete pipes were in, no flooding.

Table 46 Q8 - What do you think is the main cause of coastal erosion? (tick one option only)

		Count	Column N %
Mailed sample N = 127	Changes in the sand supply to the beach	25	19.7%
	Storms	46	36.2%
	Sea-level rise	11	8.7%
	Other cause (please describe)	31	24.4%
	Don't know	3	2.4%
	No answer	11	8.7%
Distributed to interested parties N = 52	Changes in the sand supply to the beach	10	19.2%
	Storms	22	42.3%
	Sea-level rise	1	1.9%
	Other cause (please describe)	18	34.6%
	Don't know	0	.0%
	No answer	1	1.9%
All respondents N = 179	Changes in the sand supply to the beach	35	19.6%
	Storms	68	38.0%
	Sea-level rise	12	6.7%
	Other cause (please describe)	49	27.4%
	Don't know	3	1.7%
	No answer	12	6.7%

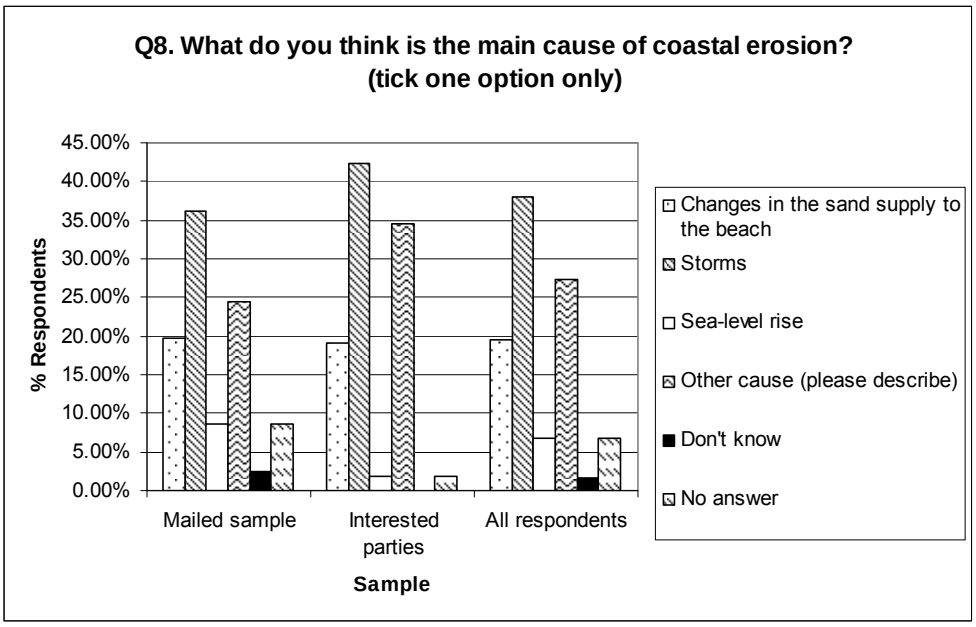


Figure 53 Q8 - What do you think is the main cause of coastal erosion? (Tick one option only)

Q8. Other causes:

- 2 & 3 mile creeks
- 2 and 3 mile creeks cause erosion as can be seen on aerial maps. Creeks should be closed
- 2 mile & 3 mile creeks
- At Waihi Beach 2 & 3 mile creeks are the major cause of erosion. An aerial photo shows how obvious this is
- Building too close to the beach
- C. Erosion is cyclic if the seas action is unimpeded (no building or walls etc on shoreline) the sand will be returned
- Change water course!

- Creeks (2 & 3 mile)
- Damage to sand dunes that form a natural barrier to the sea and create equilibrium
- Discharge of 2 & 3 mile creek onto beach (storm water)
- Disturbance of dune scape inappropriate development
- Estuaries
- Hard man-made structures i.e. Rock walls
- Human activity
- Human impact
- Human impact and natural occurrence
- Human interference
- Human interference & sand dune devegetation
- Human intervention i.e. rock & sea walls, also inappropriate, activity & access over sand dunes, also creeks onto the beach & also housing development in the fore dunes, too close to the high-tide mark
- Human intervention to natural flow e.g. buildings, rockwalls, etc
- Human intervention which then causes a change in natural processes
- Human intervention with the dune system - such as building homes where dunes should be protecting beaches
- Humans
- Illegal rock-dumping
- Man-made streams
- Man altering immediate coastal environment to suit own needs for access, views etc
- Man interference
- Man made alterations such as drainage, wall's etc
- Man made creeks
- Man made creeks entering the beach - causing erosion
- Man made estuary
- Man made estuaries
- Mankind's misuse
- Manmade interference
- Manmade problems - Demolishing dunes, planting wrong dune cover, building too close to sea, clearing native ground cover of plants, storm water run off
- Mans interference in the natural cycle i.e. building too close to the ocean
- Mans interference with the natural ebb and flow of sand dune movement and the redirecting of ground water via drains and creeks onto the beach
- Mans intervention & destruction of dunes & the sand bank reserve within 100 metres of shore line/coastal edge
- Misuse of access paths
- Natural
- Natural rhythms of the sea
- No or ineffective dune control properties to close to foreshore
- Non-compliance with by-laws and neglect by council to insist on their rules being abided by. e.g. Hawkine rock dump "wall"
- Outlet of 2 & 3 mile creek
- Outlets for streams one & two at the beach
- People walking on dunes
- Peoples disregards to the preservation of the coast line for their personal convenience

- Periodic cycles of accretion and degradation
- Property built on sand dunes
- Properties and use of beachfront can prevent retention of the sand supply to beachfront
- River diversion (outlets)
- Rock wall creating drawback & lowering levels
- Rock walls
- Streams diverted to the sea rather than following their original route through the inner harbour (Bowentown)
- Streams lowering the beach level. Resolved at Kohi Beach in Auckland
- The direction of the wind
- Uncontrolled stormwater discharges via drains into the sea
- Wave action.

Table 47 Q9 - For each of the following statements do you agree or disagree? (Please tick the option in each row that best matches your view)

			Count	Column N %	Mean	Standard Deviation
Mailed sample	Inappropriate development in coastal areas can put houses at risk from erosion	Strongly Agree (1)	88	73.3%	1.42	0.85
		Agree (2)	19	15.8%		
		Neither Agree nor Disagree (3)	7	5.8%		
		Disagree (4)	3	2.5%		
		Strongly Disagree (5)	2	1.7%		
		Don't Know	1	.8%		
		Total (N)	120	100.0%		
	We must accept that erosion is a natural process at the coast	Strongly Agree (1)	59	47.6%	1.95	1.14
		Agree (2)	28	22.6%		
		Neither Agree nor Disagree (3)	26	21.0%		
		Disagree (4)	5	4.0%		
		Strongly Disagree (5)	6	4.8%		
		Don't Know	0	.0%		
		Total (N)	124	100.0%		
	There are a range of methods available to stop coastal erosion indefinitely	Strongly Agree (1)	39	31.7%	2.36	1.31
		Agree (2)	28	22.8%		
		Neither Agree nor Disagree (3)	25	20.3%		
		Disagree (4)	11	8.9%		
		Strongly Disagree (5)	11	8.9%		
		Don't Know	9	7.3%		
		Total (N)	123	100.0%		
	The width of the dune changes during the year	Strongly Agree (1)	32	26.2%	2.20	1.01
		Agree (2)	46	37.7%		
		Neither Agree nor Disagree (3)	28	23.0%		
		Disagree (4)	9	7.4%		
		Strongly Disagree (5)	3	2.5%		
		Don't Know	4	3.3%		
		Total (N)	122	100.0%		
	Once a dune is destroyed there's no way to bring it back	Strongly Agree (1)	6	4.9%	4.05	1.21
		Agree (2)	10	8.2%		
		Neither Agree nor Disagree (3)	15	12.3%		
		Disagree (4)	26	21.3%		
		Strongly Disagree (5)	59	48.4%		
		Don't Know	6	4.9%		
		Total (N)	122	100.0%		

Distributed to interested parties	Inappropriate development in coastal areas can put houses at risk from erosion	Strongly Agree (1)	39	75.0%	1.29	0.58
		Agree (2)	9	17.3%		
		Neither Agree nor Disagree (3)	3	5.8%		
		Disagree (4)	0	.0%		
		Strongly Disagree (5)	0	.0%		
		Don't Know	1	1.9%		
		Total (N)	52	100.0%		
	We must accept that erosion is a natural process at the coast	Strongly Agree (1)	23	45.1%	2.19	1.34
		Agree (2)	10	19.6%		
		Neither Agree nor Disagree (3)	9	17.6%		
		Disagree (4)	4	7.8%		
		Strongly Disagree (5)	5	9.8%		
		Don't Know	0	.0%		
		Total (N)	51	100.0%		
	There are a range of methods available to stop coastal erosion indefinitely	Strongly Agree (1)	20	39.2%	2.42	1.47
		Agree (2)	8	15.7%		
		Neither Agree nor Disagree (3)	8	15.7%		
		Disagree (4)	6	11.8%		
		Strongly Disagree (5)	7	13.7%		
		Don't Know	2	3.9%		
		Total (N)	51	100.0%		
	The width of the dune changes during the year	Strongly Agree (1)	20	38.5%	2.08	1.15
		Agree (2)	15	28.8%		
		Neither Agree nor Disagree (3)	8	15.4%		
		Disagree (4)	5	9.6%		
		Strongly Disagree (5)	2	3.8%		
		Don't Know	2	3.8%		
		Total (N)	52	100.0%		
	Once a dune is destroyed there's no way to bring it back	Strongly Agree (1)	3	5.8%	4.06	1.24
		Agree (2)	4	7.7%		
		Neither Agree nor Disagree (3)	7	13.5%		
		Disagree (4)	9	17.3%		
		Strongly Disagree (5)	27	51.9%		
		Don't Know	2	3.8%		
		Total (N)	52	100.0%		
All respond-ents	Inappropriate development in coastal areas can put houses at risk from erosion	Strongly Agree (1)	127	73.8%	1.38	0.78
		Agree (2)	28	16.3%		
		Neither Agree nor Disagree (3)	10	5.8%		
		Disagree (4)	3	1.7%		
		Strongly Disagree (5)	2	1.2%		
		Don't Know	2	1.2%		
		Total (N)	172	100.0%		
	We must accept that erosion is a natural process at the coast	Strongly Agree (1)	82	46.9%	2.02	1.20
		Agree (2)	38	21.7%		
		Neither Agree nor Disagree (3)	35	20.0%		
		Disagree (4)	9	5.1%		
		Strongly Disagree (5)	11	6.3%		
		Don't Know	0	.0%		
		Total (N)	175	100.0%		

	There are a range of methods available to stop coastal erosion indefinitely	Strongly Agree (1) Agree (2) Neither Agree nor Disagree (3) Disagree (4) Strongly Disagree (5) Don't Know Total (N)	59 36 33 17 18 11 174	33.9% 20.7% 19.0% 9.8% 10.3% 6.3% 100.0%	2.38	1.36
	The width of the dune changes during the year	Strongly Agree (1) Agree (2) Neither Agree nor Disagree (3) Disagree (4) Strongly Disagree (5) Don't Know Total (N)	52 61 36 14 5 6 174	29.9% 35.1% 20.7% 8.0% 2.9% 3.4% 100.0%	2.16	1.05
	Once a dune is destroyed there's no way to bring it back	Strongly Agree (1) Agree (2) Neither Agree nor Disagree (3) Disagree (4) Strongly Disagree (5) Don't Know Total (N)	9 14 22 35 86 8 174	5.2% 8.0% 12.6% 20.1% 49.4% 4.6% 100.0%	4.05	1.22

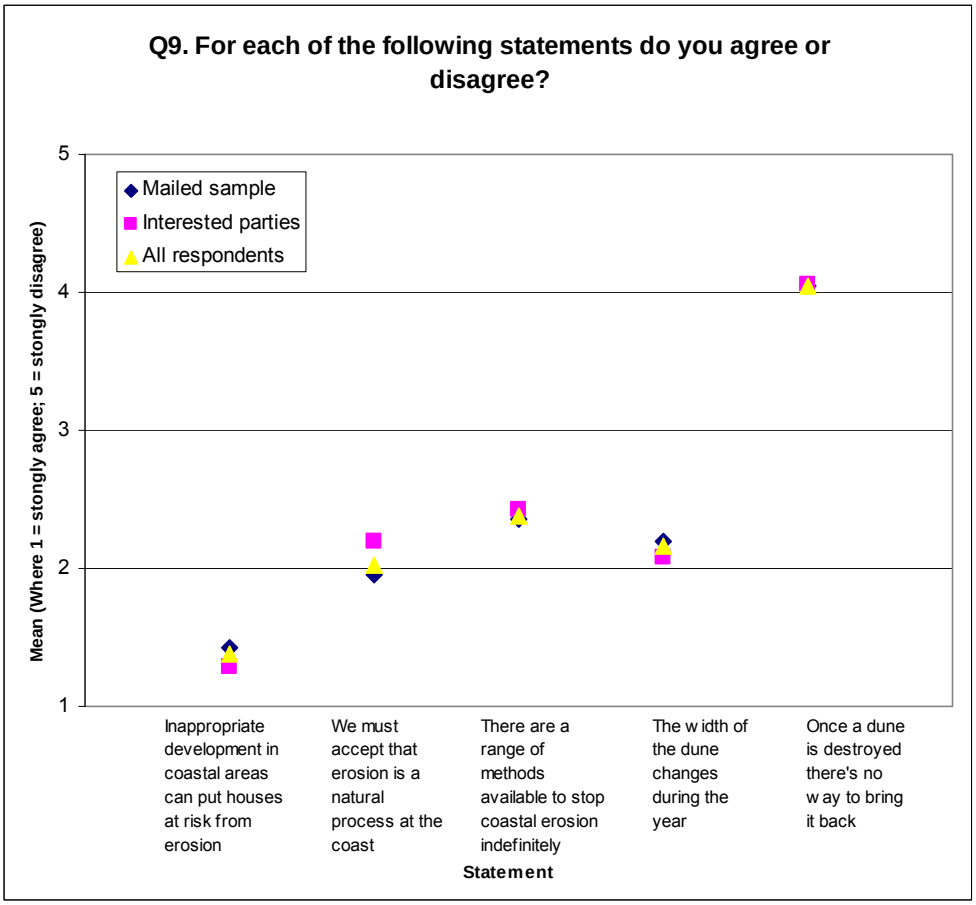


Figure 54 Q9 - For each of the following statements do you agree or disagree? (Please tick the option in each row that best matches your view)

Table 48 Q10 - In general, which forms of coastal erosion management do you approve of? (Tick all that apply)

		Relationship to beach											
		Beach front		Beach 1st row		Beach 2nd row		Other		No answer		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample	Beach nourishment (adding extra sand)	7	36.8%	14	58.3%	5	50.0%	34	46.6%	1	100.0%	61	48.0%
	Construction of seawalls and rock walls	3	15.8%	2	8.3%	2	20.0%	8	11.0%	1	100.0%	16	12.6%
	Dune planting (to restore or maintain a sand dune buffer)	18	94.7%	22	91.7%	10	100.0%	68	93.2%	1	100.0%	119	93.7%
	Moving of buildings back from the beachfront (managed retreat)	7	36.8%	17	70.8%	5	50.0%	42	57.5%	0	.0%	71	55.9%
	Doing nothing (i.e. letting the sea dictate	2	10.5%	3	12.5%	2	20.0%	13	17.8%	0	.0%	20	15.7%
	Other options	2	10.5%	4	16.7%	0	.0%	14	19.2%	1	100.0%	21	16.5%
	Total (N)	19	100.0%	24	100.0%	10	100.0%	73	100.0%	1	100.0%	127	100.0%

Which forms of coastal erosion management do you approve of, continued…

		Beach front		Beach 1st row		Beach 2nd row		Other		No answer		Total (n)	
Distributed to interested parties	Beach nourishment (adding extra sand)	0	.0%	0	.0%	0	.0%	3	30.0%	21	50.0%	24	46.2%
	Construction of seawalls and rock walls	0	.0%	0	.0%	0	.0%	0	.0%	10	23.8%	10	19.2%
	Dune planting (to restore or maintain a sand dune buffer)	0	.0%	0	.0%	0	.0%	9	90.0%	38	90.5%	47	90.4%
	Moving of buildings back from the beachfront (managed retreat)	0	.0%	0	.0%	0	.0%	6	60.0%	23	54.8%	29	55.8%
	Doing nothing (i.e. letting the sea dictate	0	.0%	0	.0%	0	.0%	5	50.0%	10	23.8%	15	28.8%
	Other options	0	.0%	0	.0%	0	.0%	3	30.0%	10	23.8%	13	25.0%
	Total (N)	0	.0%	0	.0%	0	.0%	10	100.0%	42	100.0%	52	100.0%

Which forms of coastal erosion management do you approve of, continued…

		Beach front		Beach 1st row		Beach 2nd row		Other		No answer		Total (n)	
All respondents	Beach nourishment (adding extra sand)	7	36.8%	14	58.3%	5	50.0%	37	44.6%	22	51.2%	85	47.5%
	Construction of seawalls and rock walls	3	15.8%	2	8.3%	2	20.0%	8	9.6%	11	25.6%	26	14.5%
	Dune planting (to restore or maintain a sand dune buffer)	18	94.7%	22	91.7%	10	100.0%	77	92.8%	39	90.7%	166	92.7%
	Moving of buildings back from the beachfront (managed retreat)	7	36.8%	17	70.8%	5	50.0%	48	57.8%	23	53.5%	100	55.9%
	Doing nothing (i.e. letting the sea dictate	2	10.5%	3	12.5%	2	20.0%	18	21.7%	10	23.3%	35	19.6%
	Other options	2	10.5%	4	16.7%	0	.0%	17	20.5%	11	25.6%	34	19.0%
	Total (N)	19	100.0%	24	100.0%	10	100.0%	83	100.0%	43	100.0%	179	100.0%

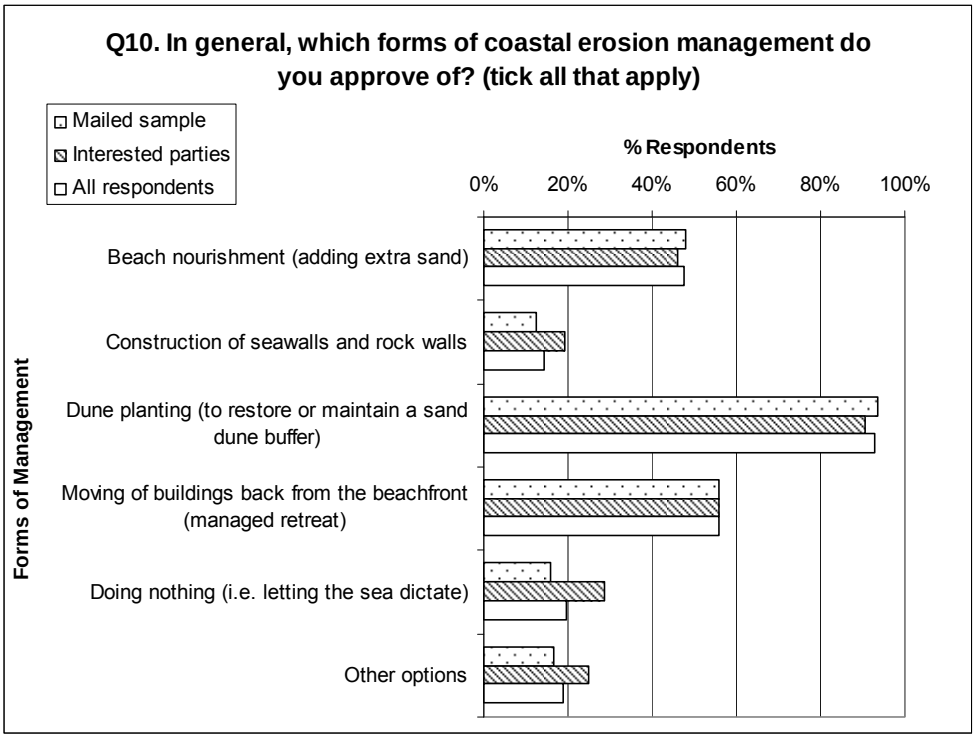


Figure 55 Q10 - In general, which forms of coastal erosion management do you approve of? (Tick all that apply)

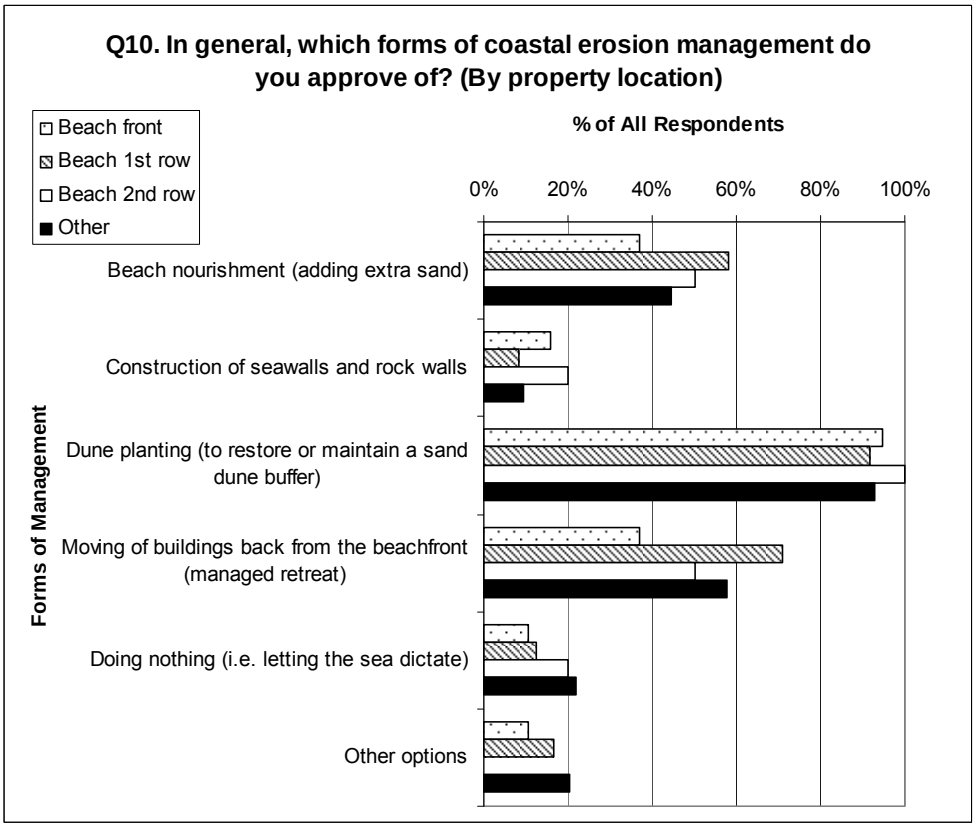


Figure 56 Q10 - In general, which forms of coastal erosion management do you approve of? (By property location)

Q10. Other options, please specify:

- (5) in some instances but when too much damage has been done by poor planting may need to do 1 & 3
- (Not sure what it is) but there was an article in the Waihi Leader - there was a long concrete tube put out at sea, maybe 200/300 metres out - it helped sand come back
- An off-shore reef. Creek retraining, removal of unnatural structures i.e. rocks groyne's, seawalls, rock walls
- Adding groynes out stormwater outfalls
- Artificial reef
- Artificial reefs
- Artificial reefs, re-routing streams into beach
- Artificial reefs
- Artificial reefs, putting back to original natural state
- Backstop walls within existing private property - consideration of offshore reefs
- Close 2 & 3 mile creeks - this will stop beach erosion at Waihi Beach
- Close man made creeks that run into sea - this is starting point of erosion reefs built offshore to create a forebreak - if no rips result
- Close or divert estuaries
- Closing man made estuaries
- Controlling man's movement through dune areas thus allowing natural re-development and controlling the flow of creek water onto the beach
- Divert creeks
- Dune front at end of Hinemoa St, Waihi Beach is growing
- Educate all people about personal responsibility
- Eliminate creeks
- From my observations nature cannot be perverted as seen in world places visited
- Further investigation of other alternatives (i.e. offshore reefs & groynes)
- Getting expert opinions from other countries that have succeeded
- If your house is threatened by the sea
- Keeping houses back from beach front so beach remains natural & property remains safe from erosion
- Learn from past mistakes mainly (wood fences) haphazard rock dumping) & clay fill
- Lifting the stream beds where they cross the beach
- Looking at other protective options i.e. reef
- Lots of other ideas but who is going to pay???
- Man - built reefs off the beach
- Move education for general public on importance of dunes/care & maintenance
- Off-shore reef
- Off shore reefs, training creeks with sand sausages
- Off shore, under water sand by reef/island systems
- Pay attention to current world research
- Perhaps a surf reef if proven to benefit both the beach & surf
- Public education regarding appropriate behaviour
- Putting in wave walls like at Mt Maunganui below low tide levels
- Question 2 wrongly worded. Should read "redevelopment of seawalls" NOT construction
- Reefs offshore assist shore protection of dune/beach growth will result
- Reefs offshore, Holmberg technique - anything but a wall!!

- Removal of man made creeks, and any other man made structures
- Removal of previous inappropriate attempts to step erosion. Insist on compliance with existing building regs
- Remove 2 and 3 mile creeks
- Removing rock walls as they put artificial backwash & suck out pressures on sand in that zone, also high pressure at ends of the walls. Then let natural ebb & flow of sand happen
- Retain the current reserves as they are, and do not develop. Leave it as it's natural self
- Sand entrapment as used elsewhere in world
- Sand sausage/reef
- Sea floor structures to diminish wave power & allow sand to remain closer to the shore
- Sea reef
- Sea/sand buffers or structures (not intrusive to beach area) that dilute the wave impact on the beach
- Stop building on absolute beachfront
- Surf breaks to slow tide drift
- There are a number of other passive options I've heard of such as artificial reefs etc. At Waihi closing 2 and 3 miles creeks would be first priority
- There are various options - some sound very positive - need more information & trials
- Use of sand sausages as they are so versatile can be removed if required - as a backstop protection

Q11. In general, which of the above options do you consider to be the best long term approach for manage erosion (i.e. over the next 50-100 years)?

Totals of preferred options: (1) Dune Planting = 95; (2) Sea wall/rock wall construction = 9; (3) Beach nourishment = 7; (4) Managed retreat = 13; (5) Do nothing = 17; (6) Other = 13

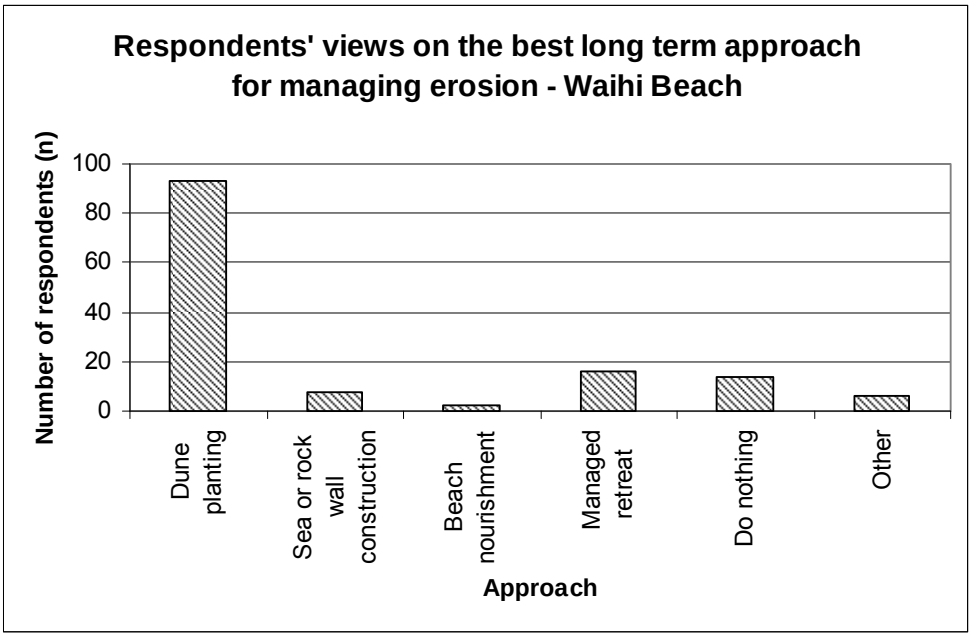


Figure 57 Q11 – Best long term approach for managing erosion (Waihi respondents)

Details of preferred options:

- As I have seen where this has been done at Waihi Beach & how beneficial it has been also how it has stood up to all the elements
- 1 & 2 as we have participated (?) in both of these plans and a big significant gain of dunes is noticeable, over the 8 years
- 1 & 2. Rock treatment followed by dune planting with beach nourishment where needed to protect existing homes with dune planting for remaining areas
- 1 & 3. From previous experience this seems to work really well
- 1 & 4 Apart from 4 or 5 properties in Shaw Road which will need to be moved, beach nourishment and dune mending should address the erosion problem
- 1 + 3 - working with nature not against it
- 1 and 4 - I think erosion is only a problem when you build in its patch. The process is cyclical. Give it room
- 1,3,6 - we cannot prevent natures natural cycles - best to stay back from them (i.e. dunes etc) and not create structures or interferences that will have compounding negative effects
- 1. Am strongly opposed to rockwalls - so any other options taken are preferable
- Assisting nature as our destruction is too fast for nature to recover. 3. Also assisting natures speed up. 4. Buildings want in & dunes were removed for a sea view. 6. Changing the sea's action against beach out at sea
- Dune planting - this has been proven to be the best option
- Dune planting - helps build up sand. Doing nothing - relatively cheap option, fits in with natural character
- Dune planting - if successful as it is not an eyesore
- Dune planting - this option is being used at Waihi Beach and its success is noticeable
- Dune planting
- 2. Dune planting & beach nourishment
- Dune planting & care
- 4. Dune planting & managed retreat
- Dune planting & no more building on beachfront seems to be eroded where properties are on the beach more than where properties are back from the coast a bit
- Dune planting (1), good coastal management
- Dune planting (if successful) seems the least upsetting and costly
- 3. Dune planting and beach nourishment
- Dune planting has been proven effective. It is in areas where buildings are close, that greatest damage has occurred. Dunes where we are, are today as high, or higher than 35 years ago. At north end, largely gone, at south end severely damaged
- Dune planting has encourages the dune along broadway to strengthen & grow larger
- Dune planting is more natural and will fit in with surrounding area.
- Dune planting is the natural way
- I know from personal experience the planting vegetation works. I also know that man made structures tend to fail
- Over the last few years when dune planting has been in operation there are positive signs that dam fencing and planting has enlarged the areas under control by the extended growth of plants outside the fenced areas

- Dune planting to bring back nature natural barrier destroyed by man. It should be a continuous dune with no cuttings for beach access that being achieved by intermittent beach access over dune anchored by weed matting or the like. Big seas - tsunami like a cutting to bowl through & cause damage. Cuttings also allow sand loss through them to cause problems where not wanted
- Dune planting were dunes have been planted & looked after over the years growth has been remarkable e.g. North end Waihi Beach
- Dune planting, I consider it a natural cost efficient means long term
- Dune planting, natural method of preventing erosion
- Dune planting, natural to the environment
- If possible dune planting & ..... building back from beach experts are far more knowledgeable regarding best methods long term. The vagaries of weather however is the unknown factor
- Has to be an environmentally sensitive approach - NOT ROCK WALL. A construction that will assist in the rebuilding of sand/dunes
- 3. I believe a combination of 1 and 3 to be the best long term option for managing erosion. However, man made drains which flow out to the sea should be considered as a contributor to erosion and should be diverted elsewhere
- I really don't know. Would choose 1. A balance heeds to be achieved. Nature will always change the coastline & I believe in minimal measures to manage this but disagree with major moves to manage erosion for the desires of us humans & our lifestyles
- I worked with HELP (by planting & it helps). Restore the dunes. High building cause damage with wind flow, changes sand buildup etc
- Because it works the best. Dunes are natures "seawall". It has a proven record on East Coast. Grow the dunes and more shoreline comes back
- Because we would be working with nature to re-create what humans have helped to destroy
- Dune maintains, house been moved back so dunes can form: at their cost
- Dune planting - holds sand - won't blow away, and traps sand deposits. 6. Other options - more research required
- Dune planting
- Dune planting allows the dune to develop via sand build up. The beach profile changes as a result and stops the sea taking over the land
- Dune planting is recreating what was there before ignorant people destroyed the dunes. 4. Buildings that are close to the high tide mark and on the immediate dune need to be moved back to allow for the dunes to be re-established
- Dune planting is the only long term maintenance
- Dune planting keeps the beach 'like a beach'. Sand comes & goes with storms & settled weather, so having reserves to cater for extremes is less damaging to the beach, also (6) maybe surf reefs can interrupt the seas energy further out to sea and have a less detrimental effect on the beach. But no good if it causes rips or sideways currents that make the beach unsafe
- Dune planting with specific access ways seems to be helping at Waihi Beach i.e.: Main end
- Dune planting, as it has reduced the erosion at the area's that have been planted
- Dunes appear to be the most effective & natural way of protection

- Dunes are a natural birding feature of a beach. 3. Adding sand would seem a excellent option and appears to have been successfully utilized elsewhere such as Kohimaramara. Again the closure of 2 & 3 mile creeks would be best over the longer term
- Effective, low cost, community involvement & ownership, natural, sustainable
- Has already shown its effectiveness in the Coronation Park area
- I have seen it can work
- I live & work beside the beach-recently a buffer zone was put in to stop people walking down the bank-this has replenished the area even thru several high tides - not ever touched
- I prefer the natural look
- I think dune planting has improved the beach front since I have been coming to Waihi Beach
- I think this is nature's way of protecting the beach from erosion. 2. I think there are times when because of severe erosion that seawalls are necessary to protect the foreshore from further erosion
- 3. are the best ways to restore the beach to its natural state where major erosion is not a problem
- 1,3,4,6 Dune planting is extremely important - provide a buffer for sand and winds. Man built reefs is proven to reduce currents which remove the sand from the beaches. SEAWALLS & ROCKWALLS will make the beaches unsafe to swim on in high tides classic example is the way the beach is at the moment when swimming high tide. Due to the build up of sand it creates a undertow of water when swimming at high tide
- On my section of Waihi Beach - remove the rocks & grains & let the dunes reform - where there has been no rock walls, the erosion that occurs occasionally re builds itself - I have concrete evidence of this happening. It has seemed to me that properties on the beach front, get excited about their houses & want rock walls to protect them - to the disadvantage of all beach goers
- 4. Managed retreat is a concept where p. Also refer Jacqueline Simpson submission to hearing committee including noting, Knowles v Manukau City Council: Dec 2004 (decision CIV/2004) NB re implications of unbearable cost & economic problems for ratepayers
- 6. The sea gives & the sea takes away. Don't try & change the landscape
- 1,3 & 4 offer the best long-term. 4. Creates more space to allow far option 1 and of 3 is used to start process, dune development can occur e.g. the reserve area on Seaforth Rd near 2 miles creek has seen marked dune growth. (upwards of several metres) –i.e. buildings back & good plant growth
- Natural environment could be assisted by the planting
- Planting trees and other appropriate vegetation
- Replant dunes in a managed way - controlled natural wave action
- Sand dunes are natural and aesthetically pleasing barriers
- The best long term options are 1 dune planting to keep the dunes healthy and strong. Moving buildings and any other in intrusive unnatural development the above actions are to be positively compared with dune systems on our coastline which a unaffected by any form of development or modification
- It's the most natural way to save the beach
- It is working now
- Lower cost a must in tune with natural cycle of storms

- More natural
- Most natural & probably cost effective. Once planted out they should maintain themselves as the plants multiply naturally (if people stay off the dunes)
- Once done, maintenance is minimal on the whole it can be impossible to stop the sea. Continued building of walls and maintenance of walls is unnecessary and unsustainable. (walls)"once started it is never ending"
- Planting enhances the dunes. 3. Adding extra sand has certainly assisted beaches in Qld Australia plus these at Arua = Taliti French Polynesia which had a terrific storm some 10 years past
- Planting is very good idea. 3. If plants need nourishment good. 4. Would make picnic area. 5. Let nature take is course
- 2. Planting to retain the sand is great but there are areas of concern where property losses could be heavy where seawalls are needed
- Restoring natural make-up of surroundings. 4. Protecting natural boundaries with less construction processes
- Solidification of shoreline in a form that lessens the destruction of shoreline. Solid walls in an open coast environment only aggravate the problems. 4. The presence of buildings in close proximity to shore line exacerbates the destructive forces of the winds on the shoreline
- This has already been shown to be successful on this beach. It must be continued. 3. May be necessary, but if 2 mile & 3 mile creeks were diverted to Tauranga Harbour this would be unnecessary in front of "The Loop: and Glen Isla Place
- This has proved to be successful in some areas. In 1950's the coastal dune between Hinemoa St and 2 mile creek was demolished
- This helps retain sand, also keeps pedestrian & vehicle traffic to assigned accesses
- To restore, maintain & enhance. 4. Buildings built inappropriately, close to sea & combine to be allowed to be consented by WBOPDC
- We have seen the positive results at Waihi Beach
- What has been done has vastly built & improved the beach combined with the removal of the rock groynes, rock walls cause major end scouts
- What has been done so far seems to be successful
- Will incrementally increase the size of sand dunes & heighten the beach profile creating a sacrificial buffer utilising natural forces which requires minimal human intervention
- Helps buildup of sand stops blowing away
- This method has been proved overseas. Not only does it protect beach but helps restore (1) sand (2) sea life
- 2. 4. A combination of 1, 2, 4
- Don't know but probably the dune planting
- I have read about this type of erosion management and success in other countries
- Least invasive long term permanent solution to build up sand and dune level on beaches
- 1. Both redevelopment of seawall as per existing design held by council and dune planting. Adding extra sand will not solve anything as it will continue to move from one end of beach to the other and back again as it always has
- Construction of rock walls - the reason that sand dune care will not stand big seas as we have seen in the past big storms
- 3. 1. Construction of seawalls buried with beach nourishment & dune planting

- 2 & 6 we need to manage cycles of the ocean to protect all of Waihi Beach - not just beach front. An old seawall has been in place at the beach for many years and has worked well
- Sea wall gives most protection
- A seawall built in early 60's is still effective in our beach front location having been maintained solely by myself without any council input!
- For protection of residents in Shaw Rd & The Loop. A seawall is the only option which will protect against a 1:50 year event N.B. Other areas could be maintained by a sand dune buffer
- Man interfered with Waihi Beach years ago (man made creeks exiting ... to beach and erecting a rock timber wall). Development has taken place and new Western Bay District Council has to protect beach front properties & costs suggest option 2 above until creeks can be realigned
- The sea wall in front of Shaw Rd has stopped erosion, where as at Pio shores the dunes are being eroded way
- Keeps natural beauty of beach. 3. If possible
- Adding extra sand would need monitoring to upkeep the 'beach'. 4. Buildings are now seen to have been built to close to the beach front & would be the next possible option in an extreme situation
- Beach nourishment - simple & effective
- Natural way to control erosion. 3. Add extra sand to replace erosion lost sand
- Erosion is a natural process & there is a swing of beach nourishment & erosion. To save the beaches it is best to try to assist the nourishment process in some way
- 1. Dune nourishment and then dune planting. I've have chosen these options as I feel they are the most likely to gain consent from the wider beach community and possibly the most cost effective
- Followed by 3 & 1. More beach sand is required. Properties in the back dune area starve the sand supply from the west. Predominantly Waihi Beach winds are westerly
- If this were done to the distance advised by previous experts, natural ebb=flow of sand would occur
- Managed retreat - one house a year for the next 21 years (I believe 21 original batches could sue the WBOPDC if they fell into the sea)
- Managed retreat essential to correct inappropriate development in some areas - only long term option without seriously affecting overall beach structure
- Move houses back best long term. Stricter permit regulations for seafront sections
- 1. Houses further back, replant dunes
- 4. 1. Moving buildings back from sea front & dune planting
- 4.
- 4. Moving buildings back and redeveloping the dune front
- 4. Moving buildings back. Make solid walkway on top of 1.3metre wall
- 4. Retreat of housing - some of which should not have been permitted. In effect remove human interference and work with natural coastal processes
- 4. The emphasis is placed on the individual landowner to decide his/her fate at his/her cost personally
- 4. This would allow better management of the foreshore and suitable planting
- 4. Natural buffer. 4. Properties encroaching on reserves (beachfront)

- Natural process - I accept this may fail and lead to erosion, but if you buy a beachfront property that is a known risk
- Natural process. 4. Cannot sustain man made structures in beach area
- Natural solution solve natural problems
- 5.
- Beach access opposite Elizabeth St has encroached 15 metres from the wall (put in at that time) over 30 yrs. You can never alter nature
- Doing nothing. No matter what we do people will be disadvantaged in some manner. I do agree with the dune planting that has been done. Also the past efforts leave a lot to be desired as they are now hazards (wire groynes!!)
- 5. I believe doing nothing is probably best because although the sand goes it always returns. The sand sits out at sea and when we have westerly winds the sand returns. The sand can retreat as much as a metre in height during easterly winds and return when the wind changes direction
- 5. In the end nature will do what it will. Landscapes all change overtime and we should accept & appreciate that. Why try to intervene - at a high price & often a benefit to a few
- 5. The sea will do what it wants
- 5. Have been allowed to build to close to sea boundary. 5. Nature looks after itself
- 5. Not allowing building on the foreshore & doing nothing - nature will replenish
- 5. 3. Let the sea dictate, assist at times with extra sand
- 5. If people built so close on/or dunes they must be responsible for their own property. The sea will dictate anyhow eventually. The sea giveth & the sea taketh - ask King Kanute!
- 5. As natural as possible
- 5. Any attempt at stopping erosion artificially will spoil the beach for everyone. Dune planting will not contain long term changes
- 5. Unless huge amounts of money are spent man can do nothing permanently
- 5. In areas where no danger exists (i.e. road subsidence) I believe the coast should be allowed to change with the winds & tide. It is a constant natural process of sand loss & renewal
- stops wave in shore patterns, breaks waves up so sand is not drawn from beach
- 6.
- 6.
- Formal reports since 1993 all concur that man made creek estuaries are the major cause of erosion. Closing creeks protects the most
- All of the formal reports agree that the major cause of erosion is the creek estuaries. In absence of closing creeks the seawall gives the most protection
- Leave beach looking nicer
- The dunes are established where creeks don't exist
- A combination of all
- The worst erosion is around creek, stream & river mouths by adding sand banks in bags to the high tide area this will allow dunes to recover in these areas
- As I have written above
- At Waihi protection is needed now. 6. The only way to start rebuilding the beach is to stop creek erosion. 1&3. Once creeks gone
- Depends on the validity of the climate change/sea level rise/storm intensity debate. If true coastal armouring is needed

- Don't know
- When council dropped large boulders near two mile creek one could not walk part of high tide because sand had eroded away
- In all the above options chosen the outcome will be a grown beach and dune system in the long term - if private property is to be protected the beach itself is the best long term defence
- It's not possible to be categorical about solutions, Its a just, sensible mix. Not a P.C. persist line
- Keep housing development off the dunes and lets clean the mess up along the dunes and if were going to have a rock wall do it right this time!!!
- Other options need to be looked at. Artificial reefs, sand sausages for creeks
- No rock walls they have proved useless over the years and spoil the whole natural aspect of beach
- Dr Healy report stated that sand dunes have been present for over 2700 yrs - there will always be erosion - just how much - latest report suggest closing 2 & 3 mile creek - this will greatly reduce problems
- Close 2 & 3 mile creeks - put beaches to where they were originally - these creeks are man made drains & all water should be diverted to harbour outflow
- My option - saw the before & after photos

Table 49 Q12 - A good cover of plants on dunes…(tick one option only)

		Count	Column N %
Random sample N = 126	Stops the beach eroding because their roots keep the sand from being washed away in storms	26	20.6%
	Helps build up sand reserves by stopping it from blowing away, making a store of sand	87	69.0%
	Won't help with beach erosion as the dunes come and go with the tides and winds	8	6.3%
	Protects buildings built on dunes from erosion	0	.0%
	Unsure	5	4.0%
	No answer	0	.0%
Distributed to interested parties N = 52	Stops the beach eroding because their roots keep the sand from being washed away in storms	5	9.6%
	Helps build up sand reserves by stopping it from blowing away, making a store of sand	41	78.8%
	Won't help with beach erosion as the dunes come and go with the tides and winds	5	9.6%
	Protects buildings built on dunes from erosion	0	.0%
	Unsure	1	1.9%
	No answer	0	.0%
All respondents N = 178	Stops the beach eroding because their roots keep the sand from being washed away in storms	31	17.4%
	Helps build up sand reserves by stopping it from blowing away, making a store of sand	128	71.9%
	Won't help with beach erosion as the dunes come and go with the tides and winds	13	7.3%
	Protects buildings built on dunes from erosion	0	.0%
	Unsure	6	3.4%
	No answer	0	.0%

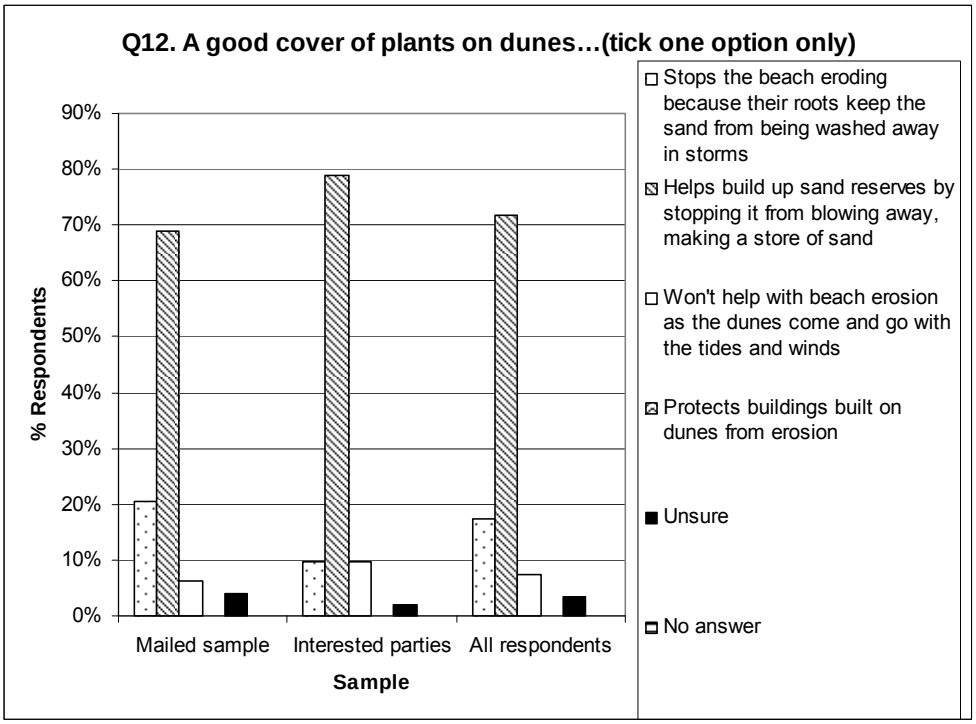


Figure 58 Q12 - A good cover of plants on dunes. (Tick one option only)

Table 50 Q13 - Building a seawall on a sandy beach... (Tick one option only)

		Count	Column N %
Mailed sample N = 127	Protects beach-front properties from erosion indefinitely	7	5.5%
	Only provides limited protection to the properties behind it	89	70.1%
	Provides protection for properties immediately to the sides	2	1.6%
	Protects properties behind it from storm events of any size	5	3.9%
	Unsure	18	14.2%
	No answer	6	4.7%
Distributed to interested parties N = 52	Protects beach-front properties from erosion indefinitely	4	7.7%
	Only provides limited protection to the properties behind it	40	76.9%
	Provides protection for properties immediately to the sides	0	.0%
	Protects properties behind it from storm events of any size	1	1.9%
	Unsure	3	5.8%
	No answer	4	7.7%
All respondents N = 179	Protects beach-front properties from erosion indefinitely	11	6.1%
	Only provides limited protection to the properties behind it	129	72.1%
	Provides protection for properties immediately to the sides	2	1.1%
	Protects properties behind it from storm events of any size	6	3.4%
	Unsure	21	11.7%
	No answer	10	5.6%

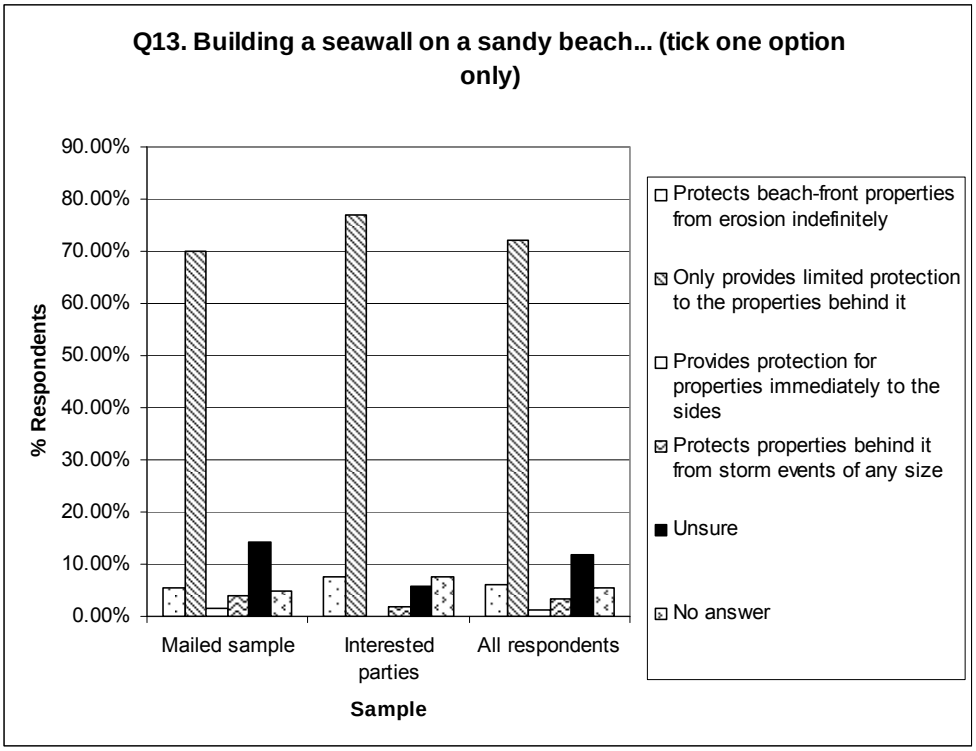


Figure 59 Q13 - Building a seawall on a sandy beach... (Tick one option only)

Table 51 Q14 - The effect a seawall has on the natural behaviour of a sandy beach…

		Count	Column N %
Mailed sample N = 127	Is limited to the beach in front of the seawall	19	15.0%
	Doesn't change the width of the beach	5	3.9%
	Doesn't increase the effects of coastal erosion along other parts of the beach	4	3.1%
	Can increase the effects of coastal erosion along other parts of the beach	70	55.1%
	Unsure	19	15.0%
	No answer	10	7.9%
Distributed to interested parties N = 52	Is limited to the beach in front of the seawall	7	13.5%
	Doesn't change the width of the beach	3	5.8%
	Doesn't increase the effects of coastal erosion along other parts of the beach	3	5.8%
	Can increase the effects of coastal erosion along other parts of the beach	35	67.3%
	Unsure	2	3.8%
	No answer	2	3.8%
All respondents N = 179	Is limited to the beach in front of the seawall	26	14.5%
	Doesn't change the width of the beach	8	4.5%
	Doesn't increase the effects of coastal erosion along other parts of the beach	7	3.9%
	Can increase the effects of coastal erosion along other parts of the beach	105	58.7%
	Unsure	21	11.7%
	No answer	12	6.7%
	Total	179	100.0%

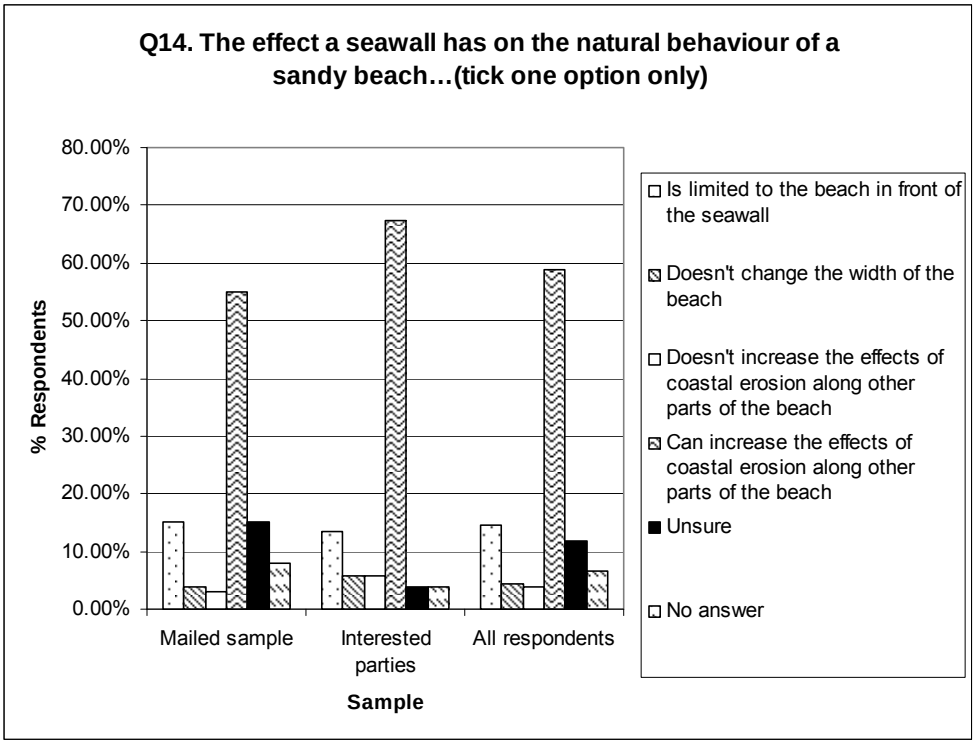


Figure 60 Q14 - The effect a seawall has on the natural behaviour of a sandy beach…

Table 52 Q15 - In general, who do you think should fund coastal erosion control measures where private property is at risk? (Tick all that apply)

		Relationship to beach											
		Beach front		Beach 1st row		Beach 2nd row		Other		No answer		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample	Central government (via taxes)	4	22.2%	2	8.3%	1	10.0%	13	17.8%	0	.0%	20	15.9%
	Regional community (e.g. via Regional Council rates)	7	38.9%	7	29.2%	4	40.0%	13	17.8%	0	.0%	31	24.6%
	District community (e.g. via District Council rates)	4	22.2%	5	20.8%	4	40.0%	20	27.4%	1	100.0%	34	27.0%
	Local communities or towns	1	5.6%	2	8.3%	2	20.0%	9	12.3%	0	.0%	14	11.1%
	Private owners whose property is at risk	10	55.6%	20	83.3%	8	80.0%	65	89.0%	0	.0%	103	81.7%
	Other	3	16.7%	3	12.5%	0	.0%	8	11.0%	0	.0%	14	11.1%
	Total (N)	18	100.0%	24	100.0%	10	100.0%	73	100.0%	1	100.0%	126	100.0%
Distributed to interested parties	Central government (via taxes)	0	.0%	0	.0%	0	.0%	0	.0%	2	4.8%	2	3.9%
	Regional community (e.g. via Regional Council rates)	0	.0%	0	.0%	0	.0%	1	11.1%	11	26.2%	12	23.5%
	District community (e.g. via District Council rates)	0	.0%	0	.0%	0	.0%	1	11.1%	11	26.2%	12	23.5%
	Local communities or towns	0	.0%	0	.0%	0	.0%	0	.0%	7	16.7%	7	13.7%
	Private owners whose property is at risk	0	.0%	0	.0%	0	.0%	7	77.8%	36	85.7%	43	84.3%
	Other	0	.0%	0	.0%	0	.0%	0	.0%	5	11.9%	5	9.8%
	Total (N)	0	.0%	0	.0%	0	.0%	9	100.0%	42	100.0%	51	100.0%
All respondents	Central government (via taxes)	4	22.2%	2	8.3%	1	10.0%	13	15.9%	2	4.7%	22	12.4%
	Regional community (e.g. via Regional Council rates)	7	38.9%	7	29.2%	4	40.0%	14	17.1%	11	25.6%	43	24.3%
	District community (e.g. via District Council rates)	4	22.2%	5	20.8%	4	40.0%	21	25.6%	12	27.9%	46	26.0%
	Local communities or towns	1	5.6%	2	8.3%	2	20.0%	9	11.0%	7	16.3%	21	11.9%
	Private owners whose property is at risk	10	55.6%	20	83.3%	8	80.0%	72	87.8%	36	83.7%	146	82.5%
	Other	3	16.7%	3	12.5%	0	.0%	8	9.8%	5	11.6%	19	10.7%
	Total (N)	18	100.0%	24	100.0%	10	100.0%	82	100.0%	43	100.0%	177	100.0%

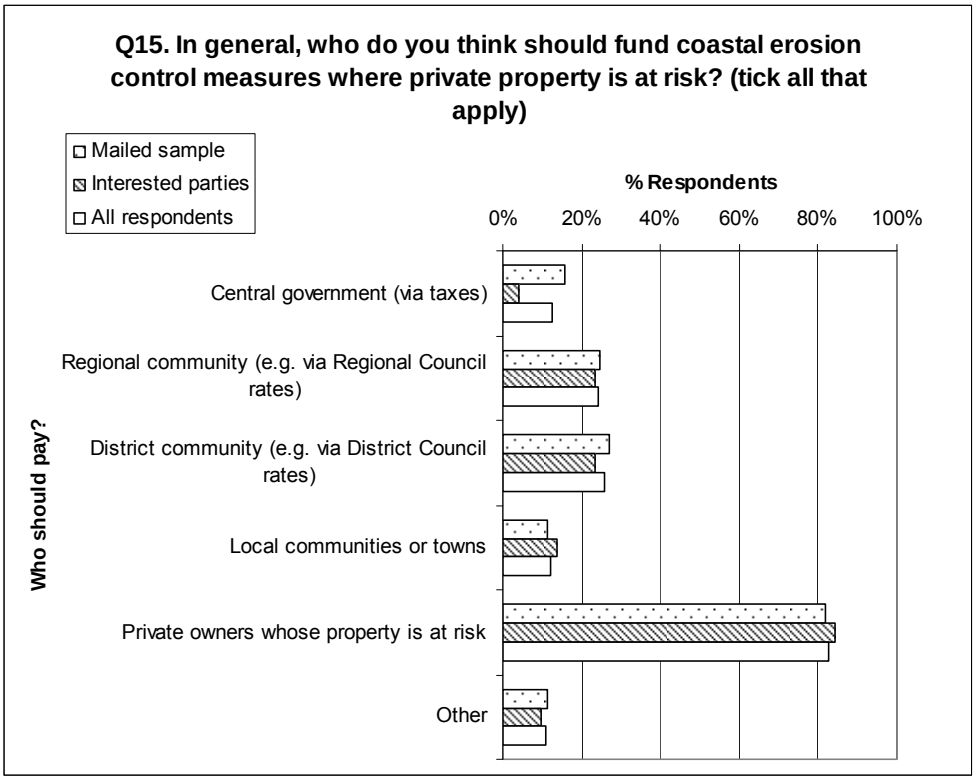


Figure 61 Q15 - In general, who do you think should fund coastal erosion control measures where private property is at risk? (Tick all that apply)

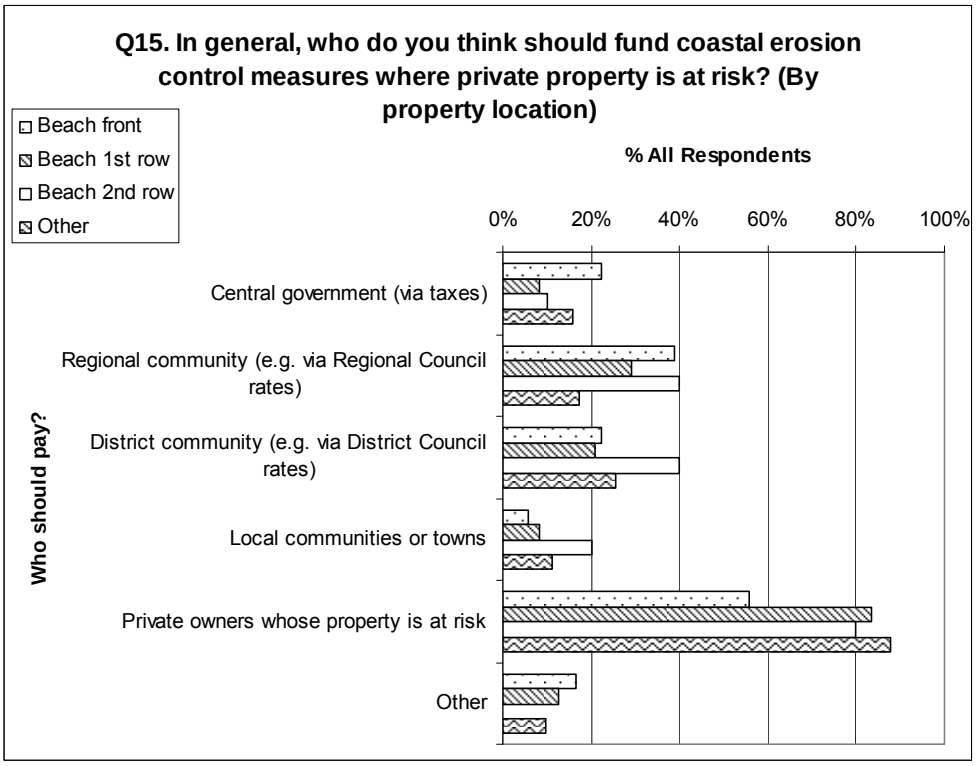


Figure 62 Q15 - In general, who do you think should fund coastal erosion control measures where private property is at risk? (By property location)

Q15. Other methods of funding, please describe:

- A mix of all the above
- Both the owner of property at risk and the District Council
- Central Government if sea levels rising dramatically
- Combination of 1 & 3
- Fund raising etc
- I'm replying to question (1) if it is for dune protection. I'm sure the wider community would consider a range of funding
- I belief funding of private property erosion control should be combined responsibility of all stakeholders - government 50% private 20% etc
- It depends which measures are used. If it was to be a wall then the "benefits" are limited to the property owner. If the option would "grow" the beach then those who would benefit – i.e.: the wider community should pay
- Joint effort with everyone best interests at heart
- My rates for this property are approx $4,000 per year. Considering 3 mile creek is the cause of erosion in front of my property, council should pay for any erosion control. If this is unaffordable for council then Environment B.O.P should fund the balance
- No wall
- Owners & District Community
- Owners responsibility
- Philanthropic funding e.g. sustainable management fund
- Private owners 85% and the community generally 15%
- Private owners who have built or purchased after the risks have been published (mid 1960's) should pay others should be subsidised by central government
- Private property owners with minimal assistance from Central Government professional or Regional Council input
- Property insurance company
- Shared by property owners & council
- Some minor regional council rate construction to ease individual burden
- The beach is a shared resource however those will the highest risk should pay more then others & those in the community of landowners should pay more than those who only visit Elr Beach. Try tax on summer rents?
- The WBPDC should apply some funds - not from rates as we just pay again. They waste money doing things that do not need doing. Huge sums. Use that!
- There should be no funding of control measures to protect private property. Erosion is a well documented dynamic along the coast in NZ. Property owners put themselves at risk
- They know of possible problems when purchasing the property & in many cases they themselves cause the problem by throwing grass cuttings over onto beach roads
- We are currently looking to purchase a property at beach, buy at own risk, would never buy immediate beachfront property!
- Would be nice, but in reality?

Table 53 Q16 - In general, who do you think should fund coastal erosion control measures where public property (e.g. reserves and roads) is at risk? (Tick all that apply)

		Relationship to beach											
		Beach front		Beach 1st row		Beach 2nd row		Other		No answer		Total (n)	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Mailed sample	Central government (via taxes)	7	41.2%	7	29.2%	4	40.0%	32	43.8%	0	.0%	50	40.0%
	Regional community (e.g. via Regional Council rates)	10	58.8%	18	75.0%	4	40.0%	37	50.7%	0	.0%	69	55.2%
	District community (e.g. via District Council rates)	7	41.2%	14	58.3%	7	70.0%	40	54.8%	1	100.0%	69	55.2%
	Local communities or towns	3	17.6%	4	16.7%	2	20.0%	19	26.0%	0	.0%	28	22.4%
	Other	1	5.9%	1	4.2%	0	.0%	4	5.5%	0	.0%	6	4.8%
	Private property owners living nearby	1	5.9%	4	16.7%	2	20.0%	13	17.8%	0	.0%	20	16.0%
	Total (N)	17	100.0%	24	100.0%	10	100.0%	73	100.0%	1	100.0%	125	100.0%
Distributed to interested parties	Central government (via taxes)	0	.0%	0	.0%	0	.0%	3	33.3%	12	28.6%	15	29.4%
	Regional community (e.g. via Regional Council rates)	0	.0%	0	.0%	0	.0%	5	55.6%	18	42.9%	23	45.1%
	District community (e.g. via District Council rates)	0	.0%	0	.0%	0	.0%	5	55.6%	21	50.0%	26	51.0%
	Local communities or towns	0	.0%	0	.0%	0	.0%	2	22.2%	13	31.0%	15	29.4%
	Private property owners living nearby	0	.0%	0	.0%	0	.0%	2	22.2%	9	21.4%	11	21.6%
	Other	0	.0%	0	.0%	0	.0%	0	.0%	2	4.8%	2	3.9%
	Total (N)	0	.0%	0	.0%	0	.0%	9	100.0%	42	100.0%	51	100.0%
All respond-ents	Central government (via taxes)	7	41.2%	7	29.2%	4	40.0%	35	42.7%	12	27.9%	65	36.9%
	Regional community (e.g. via Regional Council rates)	10	58.8%	18	75.0%	4	40.0%	42	51.2%	18	41.9%	92	52.3%
	District community (e.g. via District Council rates)	7	41.2%	14	58.3%	7	70.0%	45	54.9%	22	51.2%	95	54.0%
	Local communities or towns	3	17.6%	4	16.7%	2	20.0%	21	25.6%	13	30.2%	43	24.4%
	Private property owners living nearby	1	5.9%	4	16.7%	2	20.0%	15	18.3%	9	20.9%	31	17.6%
	Other	1	5.9%	1	4.2%	0	.0%	4	4.9%	2	4.7%	8	4.5%
	Total (N)	17	100.0%	24	100.0%	10	100.0%	82	100.0%	43	100.0%	176	100.0%

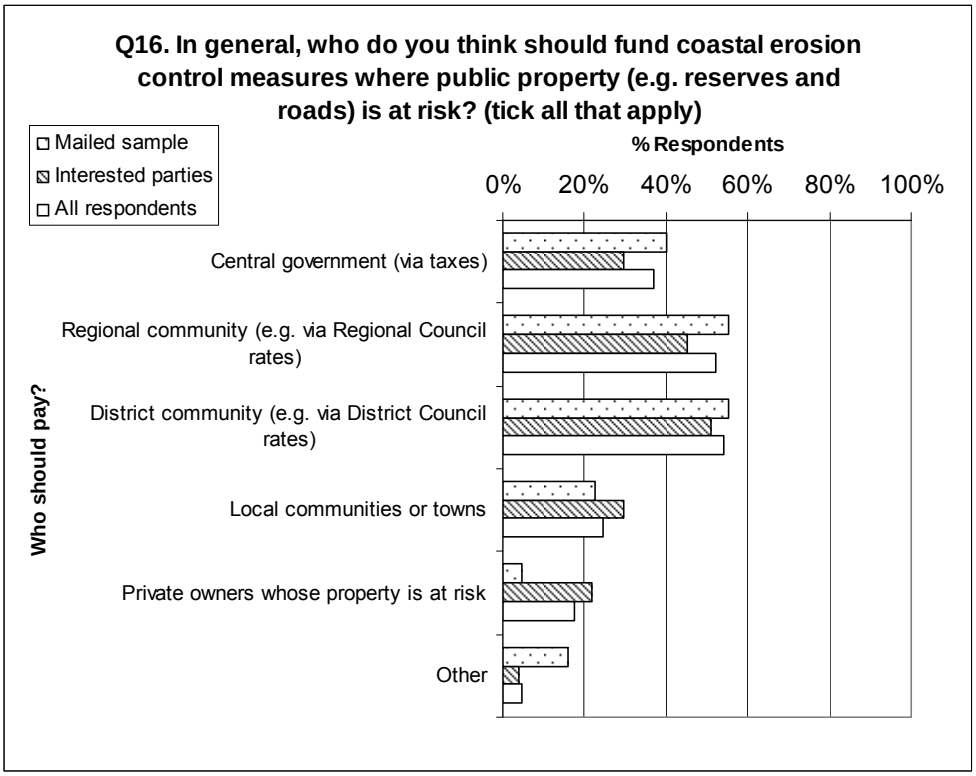


Figure 63 Q16 - In general, who do you think should fund coastal erosion control measures where public property (e.g. reserves and roads) is at risk? (Tick all that apply)

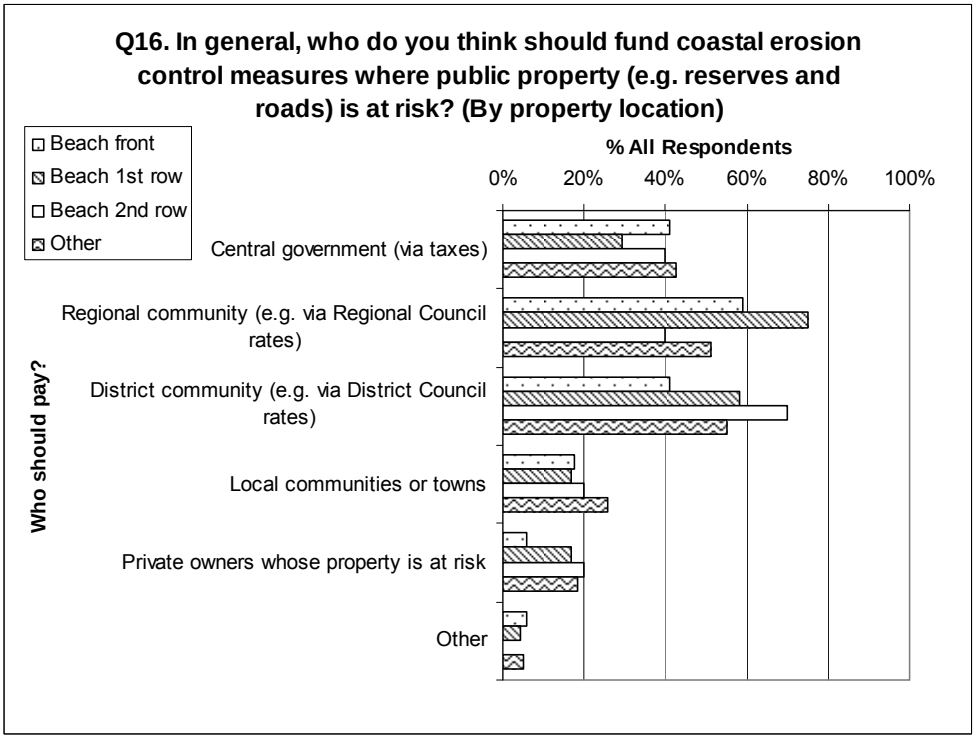


Figure 64 Q16 - In general, who do you think should fund coastal erosion control measures where public property (e.g. reserves and roads) is at risk? (By property location)

Q16. Other sources of funding, please describe:

- All of the above
- As above
- Everyone as there are 4 of us
- It depends on the option chosen
- Let nature deal with it
- Likewise a joint effort
- Managed retreat & reinstatement of natural erosion buffer e.g. dunes
- No wall
- None. Create alternatives
- The roads, reserves are for everybody to enjoy!
- Though such should not generally be protected
- Tolls

Q17. Please tell us any thoughts you have on your choices for questions 15 and 16.

- 15 and measures should only be within their property. 16. If at all. Should be managed retreat or just retreat
- 15. Believe in Caveat Emptor - let buyer beware and also if you build on or demolish dunes or plant wrong things on than you have created own erosion problem so you should fund solution. 16. Coast belongs to all NZ whether SH1 or a city esplanade public should pay for its erosion protection or realignment etc
- 15. If you build or buy you take control measures. 16. Up to Central Government to carry out the task
- 15. If you build so close to sea it's your fault. (16) Central Government should help
- 15. Private property owners that live so close to beach do so at their own risk. 16. People who don't live too close, still like to visit beaches I'm sure so they should help protect too
- 15. The regional council gave permission even though sandhills disappeared in 1950's
- 90% of Waihi Beach residents DO NOT support a wall option and will NOT PAY
- A wall will cause front & end scour, we will look the intertidal zone & bch access. The community should not be expected to pay for something that will destroy what beach they have
- All ratepayers use the beach and should contribute
- All use the beach in one way or an other is the easiest way to obtain funds equally from all
- All users of the coast are affected by erosion to a greater or lesser degree so funding should be apportioned accordingly
- As a public amenity used by many visitors some costs should go back to their areas
- As beachfront owners, we already pay premium rates. Erosion is not only "our" problem
- As noted in 15/6 depends on how big the problem becomes
- As stated owners bring the problems themselves by grass cuttings which kills the plants grass on dunes
- At every beach there should be a 200 metre reserve from high tide to any form of development
- At Waihi Beach, private property owners have built expensive homes on beach front properties where formerly there were baches. This in my opinion, increases the risk of erosion
- Beach front owners should pay 90% of costs

- Beach front properties at risk should have been purchased by Council years back and removed allowing reestablishment of the natural dune
- Beaches are a regional and district asset
- Beaches are for all, from us locals to tourists, so everyone should contribute time or money in helping keep our beach
- Coastal erosion is influenced by nature and wrongly placed man made structure
- Coastal erosion is natural - so no houses should be built close to the sea
- Council has allowed development too close to the sea. Should have left an undeveloped margin between sea and property
- Council has an obligation to provide a level of protection as they approved the subdivision and the owner has an obligation as they purchased the property knowing the sea was there!!
- Council should have barred building on beach frontage property years ago and private parties should have realized there was always a likelihood of risk building on sand hills
- District and Regional Council should pay unless problems are too large then central government should also contribute
- For people who want beachfront sections let them pay for protection
- Funding for seawall should definitely be sourced from affected property owners, as the rest of the community loses an asset (i.e. the sand at high tide)
- I do not think private beachfront property owners should be allowed to alter the foreshore part of beach without consultation no matter who funds it
- I guess we all have a responsibility one way or another for future generations
- I note that people are still building on the coast and they are aware of the erosion situation. Public property is public and unfortunately the public pays
- I think its mainly up to regional council or central government
- I think the owners should pay for buying there in the first place, they must have known the risk. Maybe the council kept it quiet. Would not surprise me
- If I build or buy on the coast it is my responsibility to deal with the protection of my property
- If people want to build right on the beachfront they need to recognise the natural risks and be responsible
- If properties have been built exactly to council rules/by-laws then assistance should be available from council funds
- If you buy property in a flood zone expect flooding if you but property on a beach and then change the eco-system expect problems. You purchase - buyer beware
- If you purchase in an erosion zone you must accept responsibility
- In general, we think the wider community uses the beach and facilities and therefore should contribute to repairs and refurbishment of the existing seawall
- In the case of Waihi the problem is the creeks, so the whole community should pay
- It depends on what solution is proposed as to whether property owners or others should pay more (or not)
- It is a regional community problem
- Let the sea run its natural course and continue dune planting. Investigate reef idea
- Majority of beachfront owners have bought their properties with the knowledge of erosion concerns - they can see it themselves so support is (1)
- Most of the crumble on Shaw Road started by the removal of the fore dunes

- Most of the erosion at Waihi Beach has been created by property owners, any protection measures should therefore be at their cost. Public funds should be used for reserves only
- Must be fair and reasonable
- My rates are too high now
- My thinking is that not only local residents will use the beach but people from the wider district and visitors from other regions and tourists therefore funding should come from other than just local
- Need to create a dune buffer between property and the sea
- Not a local problem, causes can be a wider cause
- Not fair for all to pay to advantage a few
- Owners of beachfront properties know the erosion risk
- People don't get a decrease in rates or taxes, but their house prices are affected
- People owning properties on the beachfront knew the risks and must accept some responsibility. Councils knew the risks too and the community must share
- People who build in extreme zones take the risk. Fund from resource contributions - disproportionate amount collected from Waihi Beach
- People who built along the sea front were given permission to and paid fees for the privilege. The owners now pay huge rates so some of these moneys have to be used for any upkeep
- People who have built too close to the sea are responsible for their own properties - council for things i.e. parks and reserves
- People who live - build in these areas should be prepared to pay to save them its not up to everybody else to pay for them
- People who live there knew the risks when they purchased it
- Private owners either created their problem, or knew about it at purchase. (In most cases they are not poor). Otherwise the coast belongs to the greater community, and protection should be co-ordinated - by an "environmental" body. District council tend to be narrow in their interests, and can be over influenced by small "action" of business groups. (as here "money")
- Private owners have large capital gains in recent years - should therefore fund any protection. Wiser purchasers - those back from beachfront or general community shouldn't fund their gains
- Private owners need to be informed of the best measures possible to keep their property safe if feasible. These rate payers should be supported by DC & RC
- Private owners who build on dunes should carry the risks themselves for #16 good beaches are a resource for the district or regional communities to share they should be funding provider
- Private properties on the beachfront are part responsible for erosion and should be moved back as far as possible at owners expense, one house in particular (used to be used as RSA) should be demolished
- Private properties should be maintained by private owners. Public access should be maintained by the wider community and govt distributing costs
- Private property often brought on their problems - councils should not have allowed building
- Private property owners are aware of the future risk and need to consider this in long term planning
- Property owners on water front should pay - they brought there

- Protection of beaches and not property - property owners have built, even very lately, knowing about erosion and their concerns are thwarting the making of decisions
- Q15. Property owners should have assessed the risk to their property at the time of purchase or building. Q16. Regional Council responsibility
- Q 15. If dune care then its improving the whole beach so could be funded by local community
- RE private property at risk = BUYER BEWARE. Erosion is not new, yet we continue to build on the dunes. Reserves are shared, for benefit of a much wider community
- Rock walls have failed before and will fail again if built
- Seawall redevelopment is to protect both the beach and private property. Therefore cost should be stored by all beach users
- Some property owners have bought unaware of past history - some compensation possibly due
- The beach front owners should pay the bulk of the cost of any improvements. That will impact on their wellbeing and values
- The best solution should be performed - not the cheapest
- The fund for maintaining the OLD seawall
- The majority of ratepayers are opposed to a rock wall therefore should not have to pay for it. The beach is used by many members of our wider region therefore they should help to contribute
- There is always a risk when buying beachfront property of erosion - owners know this but choose to buy anyway. "Known risks need to be funded by risk takers"
- They know the consequence of building close to the sea
- This should be shared cost as beaches benefit the NZ community as a whole
- No large amounts of money should be spent, together with erosion, climate change will have its way
- Trying to control the sea/land interchange is a no-win situation
- Ultimately EVERYONE, benefits - everyone should contribute
- Visitors to the beach should pay some form of tax - perhaps part of the rent would be taken for it
- We are overrated now. Properties are at risk, but owners took that risk when they bought so close
- We want protection and accept that we should contribute but everyone uses the beach so should we really be looking to central govt?
- With regards to areas of W.B. many people don't realize that there are many properties behind beachfront that are lower and should the beachfront wash out they will be flooded too
- You build on beachfront at your own risk. You cannot have capital gain and no risk

Table 54 Q18 - Currently, how much of a threat is coastal erosion to Waihi Beach? (Tick one option only)

		Relationship to beach											
		Beachfront		1st row		2nd row		Other		No answer		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample	A severe threat	5	26.3%	3	12.5%	3	30.0%	7	9.6%	0	.0%	18	14.2%
	A moderate threat	10	52.6%	13	54.2%	2	20.0%	42	57.5%	1	100.0%	68	53.5%
N = 127	A minor threat	4	21.1%	6	25.0%	5	50.0%	16	21.9%	0	.0%	31	24.4%
	Not a threat	0	.0%	2	8.3%	0	.0%	7	9.6%	0	.0%	9	7.1%
	No answer	0	.0%	0	.0%	0	.0%	1	1.4%	0	.0%	1	.8%
Distributed to interested parties	A severe threat	0	.0%	0	.0%	0	.0%	3	30.0%	5	11.9%	8	15.4%
	A moderate threat	0	.0%	0	.0%	0	.0%	4	40.0%	26	61.9%	30	57.7%
	A minor threat	0	.0%	0	.0%	0	.0%	3	30.0%	8	19.0%	11	21.2%
N = 52	Not a threat	0	.0%	0	.0%	0	.0%	0	.0%	3	7.1%	3	5.8%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
All respondents	A severe threat	5	26.3%	3	12.5%	3	30.0%	10	12.0%	5	11.6%	26	14.5%
	A moderate threat	10	52.6%	13	54.2%	2	20.0%	46	55.4%	27	62.8%	98	54.7%
N = 179	A minor threat	4	21.1%	6	25.0%	5	50.0%	19	22.9%	8	18.6%	42	23.5%
	Not a threat	0	.0%	2	8.3%	0	.0%	7	8.4%	3	7.0%	12	6.7%
	No answer	0	.0%	0	.0%	0	.0%	1	1.2%	0	.0%	1	.6%

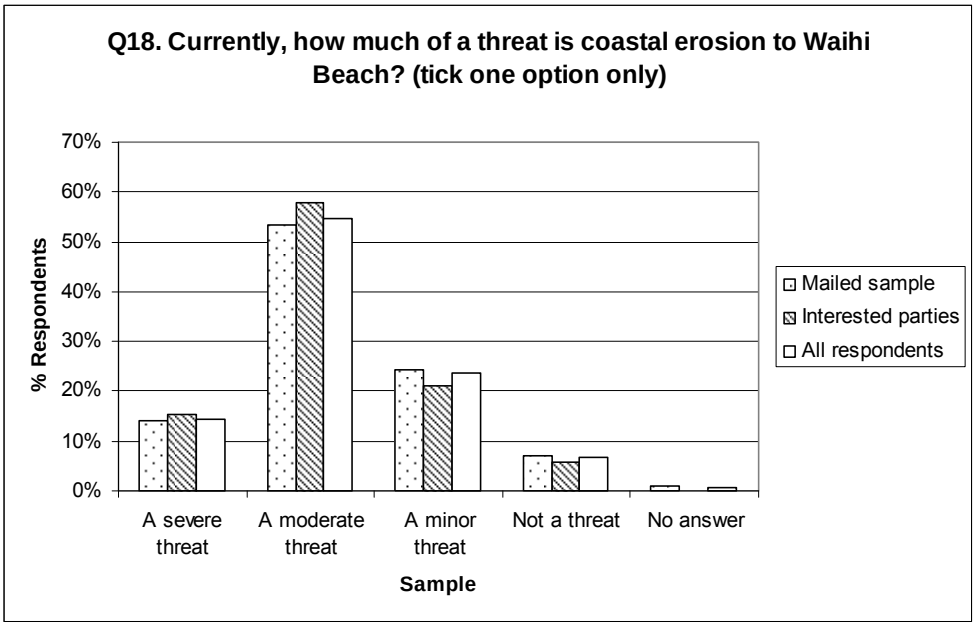


Figure 65 Q18 - Currently, how much of a threat is coastal erosion to Waihi Beach? (Tick one option only)

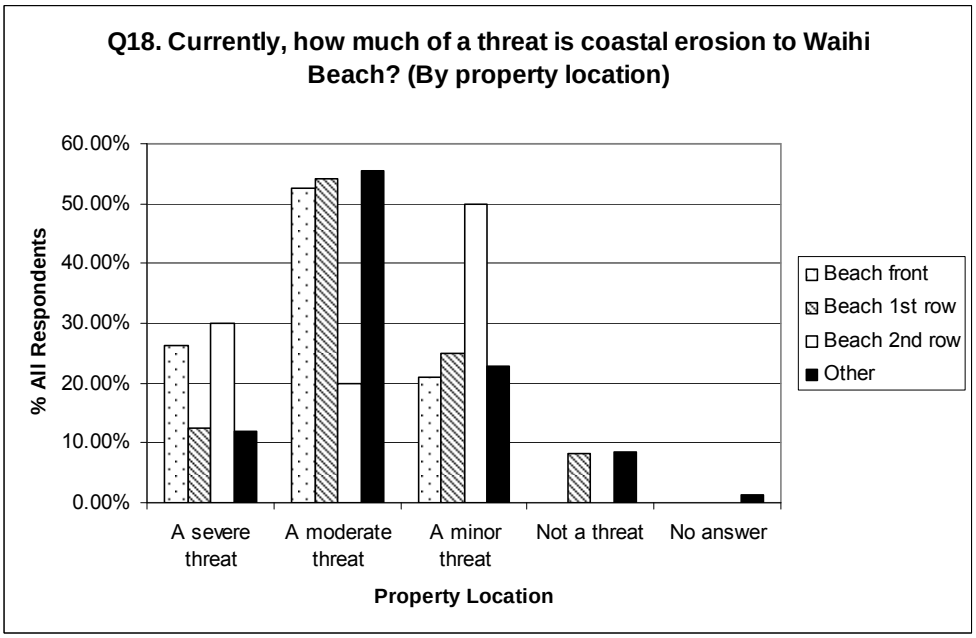


Figure 66 Q18 - Currently, how much of a threat is coastal erosion to Waihi Beach? (By property location)

Table 55 Q19 - Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (Tick one option only)

		Relationship to beach											
		Beachfront		1st row		2nd row		Other		No answer		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N%
Mailed sample	Already affects this property	1	5.3%	1	4.2%	0	.0%	4	5.5%	0	.0%	6	4.7%
N = 127	Likely to affect this property within 10 years	4	21.1%	1	4.2%	0	.0%	4	5.5%	0	.0%	9	7.1%
	Likely to affect this property within 50 years	8	42.1%	9	37.5%	1	10.0%	17	23.3%	0	.0%	35	27.6%
	Unlikely to affect this property within 50 years	6	31.6%	13	54.2%	9	90.0%	48	65.8%	1	100.0%	77	60.6%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
Distributed to interested parties	Already affects this property	0	.0%	0	.0%	0	.0%	0	.0%	9	21.4%	9	17.3%
	Likely to affect this property within 10 years	0	.0%	0	.0%	0	.0%	0	.0%	3	7.1%	3	5.8%
N = 52	Likely to affect this property within 50 years	0	.0%	0	.0%	0	.0%	2	20.0%	10	23.8%	12	23.1%
	Unlikely to affect this property within 50 years	0	.0%	0	.0%	0	.0%	8	80.0%	20	47.6%	28	53.8%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
Total	Already affects this property	1	5.3%	1	4.2%	0	.0%	4	4.8%	9	20.9%	15	8.4%
N = 179	Likely to affect this property within 10 years	4	21.1%	1	4.2%	0	.0%	4	4.8%	3	7.0%	12	6.7%
	Likely to affect this property within 50 years	8	42.1%	9	37.5%	1	10.0%	19	22.9%	10	23.3%	47	26.3%
	Unlikely to affect this property within 50 years	6	31.6%	13	54.2%	9	90.0%	56	67.5%	21	48.8%	105	58.7%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%

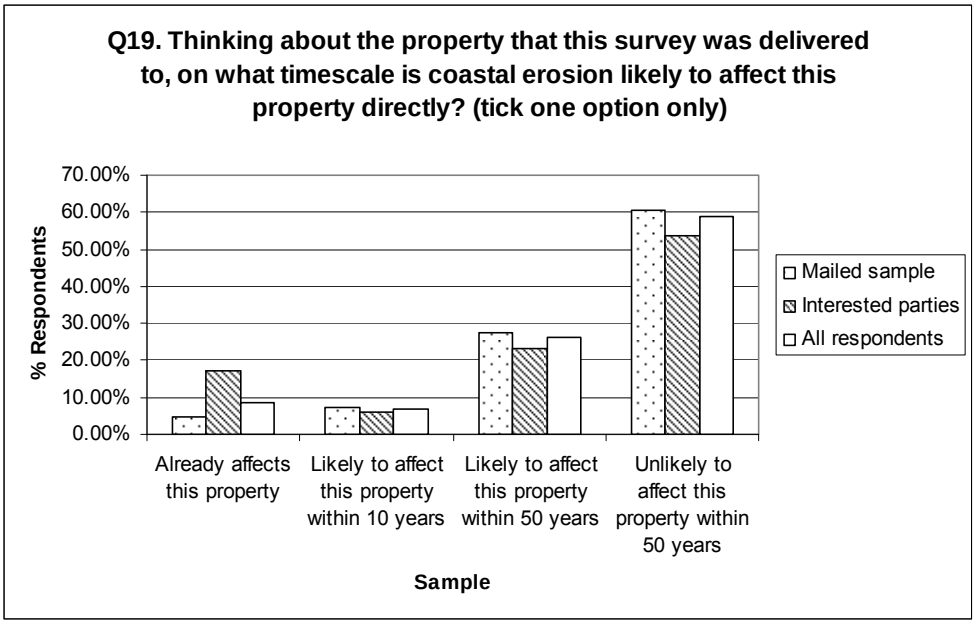


Figure 67 Q19 - Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (Tick one option only)

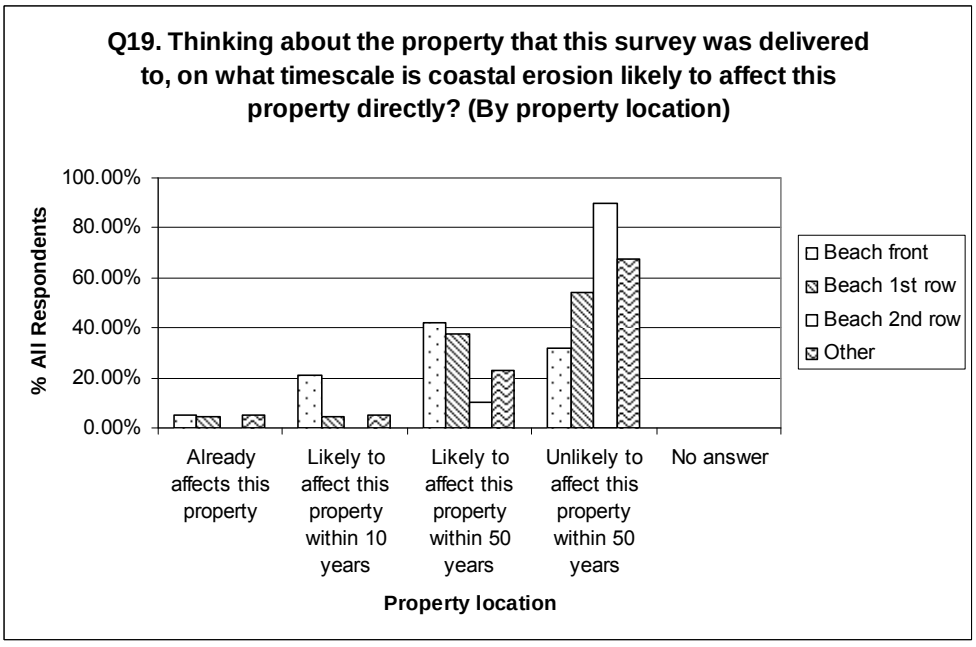


Figure 68 Q19 - Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (By property location)

Q20. What consideration did you give to coastal erosion issues when you bought this property? (Please describe):

- Distance from the beach. 2. Elevation. 3. Erosion areas on the beach
- None - there were no rock walls in front of this property. 2. A rather large toilet has since been built on the reserve and one would hope, years down the track that this is not the cause of erosion!!!
- 70% of property is very close to sea level and this was considered
- A concern for protecting natures creation for our enjoyment etc
- A lot, and I felt it was moderate - low, beyond a major natural disaster – it was worth the risk
- A major consideration I would not buy beach property threatened by erosion and I would not expect anyone else to fund preventative measures if I were in that situation
- A non issue at the time
- A lot - further back from beach but close enough to walk
- A lot
- Am 2 roads back from beach don't think I'll live that long before sea reaches me
- Am not threatened by coastal erosion (some 200' above sea level)
- Beach was beautiful - coastal erosion was not too bad and has not changed a lot in 23 years but 3 mile creek is clearly a cause of coastal erosion
- Beachfront erosion was already a problem, so we chose a property on an elevated section with a view
- Can't remember - possibly fact that not too close to beach but close enough to walk to and enjoy
- Choose not to be on coastal side of road
- Coastal erosion was a minor consideration but in choosing this property we were more than 200 meters from the beach - to buy right on the waters edge is madness can't do it at Pauanui or other places
- Considerable consideration - have owned our house for 9 years, arguably the worse affected property and most at risk street. I have noticed zero erosion in 9 years
- Considered property unlikely to be affected by erosion. Selected property because it was near an area of beach without rock protection walls and had dry beach at high tide. Considered property purchase adjacent to main erosion i.e. Shaw Rd, unwise, likely to incur future costs and adjacent beach undesirable
- Considered, but appears to be unlikely to affect us, given historical photos of sand dune advancement and retreat patterns over last 50 years
- Council assured us that creek estuaries were going to be closed for good
- Council was supposed to close the creeks
- Deliberately bought away from sea front as natural cycle dictates some closer housing should not have been erected there, in other areas the old seawall remains with steel spikes periodically appearing, others capped with ugly concrete tombstone like tops. These form a health and safety risk
- Deliberately chose not to buy seafront though could afford to do so. Solicitor reacted automatically against coastal property acquisition when we consulted him. We love the sea but know of its destructive nature. One does not need to live amongst the dune area to enjoy the sea & coastline
- Did not buy on waterfront. Not silly

- Did not consider coastal erosion, other than to say I would not feel comfortable about owning a beach front property anywhere immediately adjacent the high tide mark on a surf beach
- Distance from high tide mark
- Distance versus convenience
- Don't know as we are not on the beach front
- First concern, contacted WBOPDC, who told me creeks were being diverted
- Flooding from estuary
- Full consideration like anyone buying near the beach. The absolute front row was avoided for being too risky. Others pay big sums for they do not mind the risk
- Having lived at Waihi Beach in the 50's there was no way we would purchase a foreshore property. Baches were being pulled back on sections because of the erosion NO building should have been allowed
- High consideration given to erosion potential
- I accepted there will be risk but considered the risk worth the lifestyle
- I bought this property about 30 years ago and didn't give any consideration to erosion issues
- I built a retaining wall
- I chose not to buy on the waterfront
- I could have bought a beachfront section but I chose not to, instead I bought on higher ground
- I didn't as in report indicated more that it could flood
- I have no problem with coastal erosion
- I was aware of the issues but because of my age will take what comes
- I was aware the property was in an area that could be flooded, but no immediate threat from erosion. Chosen to buy 1 back from beach because of risk and seawall issues
- I was happy to buy my land in 1982 because Ohinenuri Council had put a "building line" restriction on this subdivision, to prevent houses being built too close to foredune. This has proved to be a successful initiative for Glen Isla Place. However, this council and now Western B.O.P council have a condition on the title that indemnifies them from liability from erosion. For this reason I am not prepared to have to pay for a rock wall when council will still not indemnify me from erosion etc
- I would love to be able to afford to purchase a beach front property, but alas have always considered the erosion problem, and would be very careful what property I would select
- If we had a tsunami our property would be either beach front property or actually in the ride, so in other words only a little - if it happens it happens
- In relation to our public amenities and rates loading
- It did not enter into it as in my answer to question 18. When applying to subdivide the section I was asked by WBOP Council to have a report which cost me $1500.00. The report done by Economos = Thames who gave me a 15 page report saying it was very unlikely of any erosion occurring for at least 50+ years
- It is on a hill and therefore more secure
- It was a consideration. The property is not beachfront, but is close. I would not purchase beachfront as those properties are always at risk anywhere in the world
- It wasn't an issue then or now
- It’s been in the family for 40 years and is not directly affected by erosion yet. It may be if a seawall is built though

- Limited
- Looked carefully at the flood zone
- Lots
- Made sure that previous high tides have not reached the property boundaries in past 50 years - came very near once only
- Made sure we were out of the 'hazard' zone
- My property is well back from the beach
- Never gave it a thought I have witnessed the comings and goings of various rocky outcrops and never felt that it was ever anything but nature doing her 'thing'
- Nil but selling previous property on Shaw Rd this was a consideration
- No consideration as we are 400m from sea. If I won lotto I wouldn't by beachfront because of possibility of erosion & inundation during storm events
- None - we are two streets from the beach front
- None - 35 years ago
- None - it is well back
- None - it was 50 years ago when these issues were not part of our thinking. We are well away from the sea other than a Tsunami
- None - not on beach front
- None - we are well above sea level & back from beach
- None - we bought here to be on a flat section - with one storey and close to shops etc
- None
- None as far enough back from beach. Seen erosion as a beachfront issue since then, but we're not beachfront
- None as property is sufficiently back from this shoreline to avoid erosion issues
- None as up high
- None at all
- None at all. Wasn't an issue 9 years ago. Well, that we knew of
- None I bought 30 years ago. The council then was taking measures with rock and timber and iron rails and this has not been effective
- None in relation to this property, however a beachfront property was not considered due to the risk of property erosion created by inappropriate subdivision and building within the dune area
- None, not on seafront
- None really - I bought a house as close to the beach, schools and shops that my finances could allow
- None whatsoever
- None, as am 200 metres from beach and feel confident they will remain. Coast, land over the years will certain amount of come and go. Unless local bodies muck it up with rock walls etc. Nature will always find a way around their meddling
- None, not able to afford an at risk property
- None. At the time no erosion issues were evident (1990)
- NONE. I simply couldn't afford beach front
- None. The beach has been here for centuries
- None. Wasn't an issue then and is well back
- Not a lot as purchased in 1981 then saw shortly after that the damage that dumping of large rocks has done to the front of houses on foreshore has caused the sand and earth to be gouged out behind the rocks and has not allowed sand to replenish

- Not a lot, I live one street back from beach and on a rising section
- Not an issue as property is quite a way back from beach
- Not an issue in those days
- Not an issue for this property
- Not considered at time of purchase
- Our property is 400 metres or more from the beachfront & on a hill, so it shouldn't be affected
- Probably none
- Property brought by Grandparents 1940's. They belonged to WB Beautifying Society and planted many trees. I can remember sea flooding right up Brighton Rd - this does not happen now
- Purchased 26 yrs ago. No consideration given to erosion. In these 26 yrs and previous knowledge of this property, we have seen virtually no change in beachfront other than normal sand movement
- Purchased in 1971 before these matters were of concern, although they did occur. Building platform probably above mean high tide level, 2m above property below (on Broadway)
- Quite a lot, wanted to be at least 1 or 2 streets back from the beach for we could see the problem that houses have caused by being built too close to the beach
- Slight
- That the local district council would manage this via our rates
- The beachfront did require removal of old protection measures, and rocks are a problem
- The front of my property is (protected) by a collapsed rockwall and sand dune reserve. Some 10 metres from front boundary when - if coastal erosion affects my property I will hold the council liable.
- The thought never entered our mind - 25 years ago, we had at least 8 metres more of dunes in front of us, than now the dunes are at least half of what they were 25 years ago
- Thirty years ago we had adequate protection. It was neglected by council and we were told we could do nothing privately (letter from council threatening court action if we did) this around 1990
- Thought it would probably be beachfront in 50 yrs, if not underwater by then due to climate change/global warning
- Unaffected
- Unaware that there was an erosion issue!
- Very little as this property is low risk
- Very little. Other circumstances more important
- Was aware of historical erosion issues and ensured distance and height above sea level of the property
- Was aware of possible erosion but considered benefit outweighed the risk - have owned for 18 yrs
- We are fortunate that we are back from the beach by 80 metres
- We are not affected by coastal erosion and did not consider it
- We are on an estuary location currently protected by a timber sea wall built 20+ years ago. We considered that any threat would be from rising sea level
- We bought inland because we were aware that properties on the beach front were at risk. They were designated hazard zones

- We bought with reserve in front of property as it was patently obvious the risks to those properties without dunes - it was a deliberate choice to avoid Shaw Rd and Loop properties
- We did not wish to buy on the beach as we were aware of the erosion situation. We purchased across the road from the beach
- We did take erosion into account and considered the risk minimal
- We had a protective timber/rock wall in place - installed by Council. We paid a yearly contribution (via rates) to the up keep of the protection - and naturally assumed that protection would be on going!
- We had the option of purchasing own property on a beach front property 7 years ago and opted for ours 2 back from the beach front because the erosion problem. The hazard line is on our front boundary
- We knew about it having seen issues come and go over many years
- We live bordering the flood zone, our closest beach access is on badly effected area of beach, I have been coming here for 30 years off and on
- We purchased outside the extreme coastal zone and were aware of the rock wall issue
- We wanted to be close - walking distance not beach front because of the maintenance involved on the property
- We were told by District Council that the creek estuaries were going to be closed to prevent erosion any further
- When we bought our properties this was maintained by council and didn't mind the additional fee charge on our rates
- Yes - having been associated with the Waihi area all my 70 years I'm aware of the ongoing erosion problem and consequently did not purchase a foreshore property
- Yes, we considered it. We have a buffer of grass and now new dune planting and a sand sausage by the creek next to our land, which is working very well

Table 56 Q21 - Have you seen any hazard maps for coastal erosion at Waihi Beach?

		Relationship to beach											
		Beachfront		1st row		2nd row		Other		No answer		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample N = 127	Yes	12	63.2%	14	58.3%	7	70.0%	37	50.7%	0	.0%	70	55.1%
	No	5	26.3%	9	37.5%	2	20.0%	28	38.4%	1	100.0%	45	35.4%
	No answer	2	10.5%	1	4.2%	1	10.0%	8	11.0%	0	.0%	12	9.4%
Distributed to interested parties N = 52	Yes	0	.0%	0	.0%	0	.0%	3	30.0%	23	54.8%	26	50.0%
	No	0	.0%	0	.0%	0	.0%	5	50.0%	11	26.2%	16	30.8%
	No answer	0	.0%	0	.0%	0	.0%	2	20.0%	8	19.0%	10	19.2%
All respondents N = 179	Yes	12	63.2%	14	58.3%	7	70.0%	40	48.2%	23	53.5%	96	53.6%
	No	5	26.3%	9	37.5%	2	20.0%	33	39.8%	12	27.9%	61	34.1%
	No answer	2	10.5%	1	4.2%	1	10.0%	10	12.0%	8	18.6%	22	12.3%

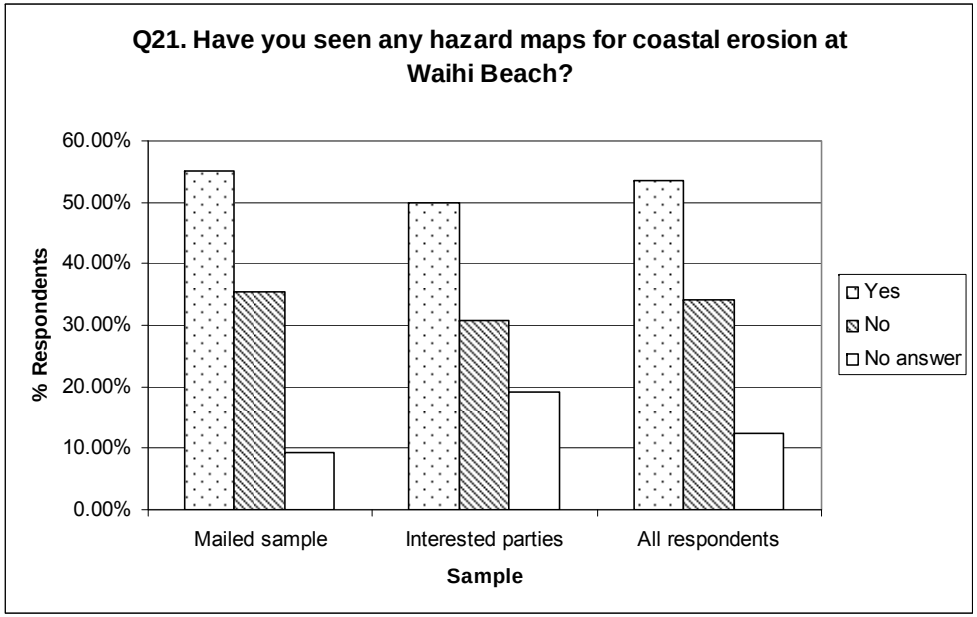


Figure 69 Q21 - Have you seen any hazard maps for coastal erosion at Waihi Beach?

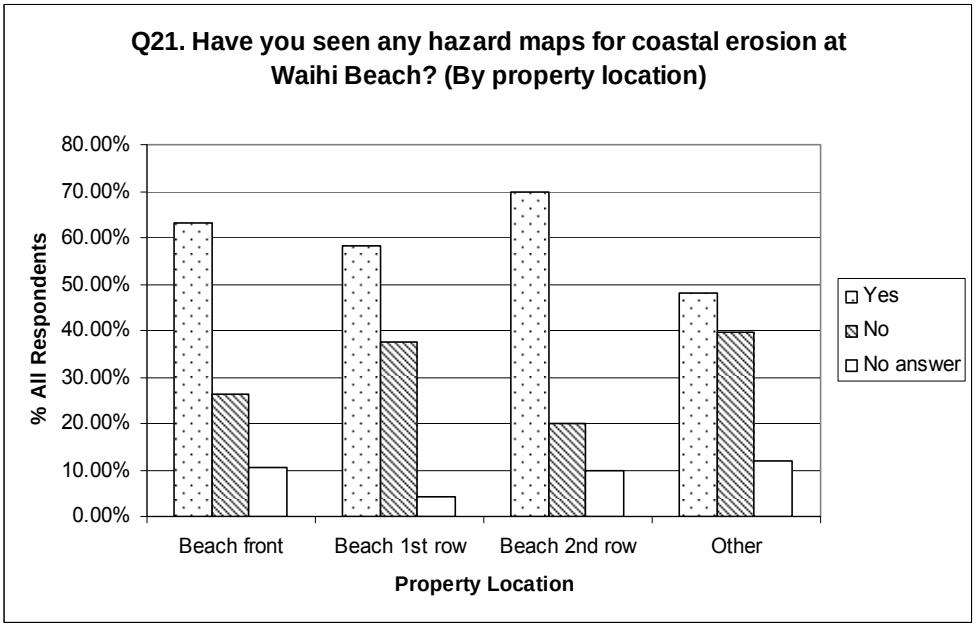


Figure 70 Q21 - Have you seen any hazard maps for coastal erosion at Waihi Beach?

Table 57 Q22 - Please consider each of the following statements and tick the box on each line that best describes your attitude

			Count	Column N %	Mean	Standard Deviation
Mailed sample	I am happy with the 'package' of coastal protection measures used at Waihi Beach	Agree Strongly (1)	11	8.7%	3.23	1.26
			22	17.3%		
			37	29.9%		
			19	15.0%		
		Disagree Strongly (5)	26	20.5%		
		No answer	11	8.7%		
		Total (N)	126	100.0%		
	The current approach to managing coastal erosion at Waihi Beach benefits everyone	Agree Strongly (1)	13	10.2%	3.31	1.34
			20	15.7%		
			35	27.6%		
			16	12.6%		
		Disagree Strongly (5)	33	26.0%		
		No answer	10	7.9%		
		Total (N)	127	100.0%		
	Rock walls are the best long-term approach to protecting beachfront properties at Waihi Beach	Agree Strongly (1)	5	3.9%	4.63	1.09
			6	4.7%		
			8	6.3%		
			23	18.1%		
		Disagree Strongly (5)	76	59.8%		
		No answer	9	7.1%		
		Total (N)	127	100.0%		
	Sand dunes are the best long-term approach to protecting beachfront properties at Waihi Beach	Agree Strongly (1)	75	59.1%	1.57	0.93
			33	26.0%		
			7	5.5%		
			2	1.6%		
		Disagree Strongly (5)	4	3.1%		
		No answer	6	4.7%		
		Total (N)	127	100.0%		

	The rock walls spoil the natural character of Waihi Beach	Agree Strongly (1)	77	61.6%		
			14	11.2%		
			5	4.0%	1.92	1.44
			10	8.0%		
		Disagree Strongly (5)	14	11.2%		
		No answer	5	4.0%		
		Total (N)	125	100.0%		
	There are plenty of public accessways to the beach	Agree Strongly (1)	69	54.3%		
			29	22.8%		
			17	13.4%	1.75	1.03
			6	4.7%		
		Disagree Strongly (5)	3	1.6%		
		No answer	3	2.4%		
		Total (N)	127	100.0%		
	I like the appearance of the sand dune buffer zones at Waihi Beach	Agree Strongly (1)	93	73.2%		
			24	18.9%		
			4	3.1%	1.34	0.70
			2	1.6%		
		Disagree Strongly (5)	1	.8%		
		No answer	3	2.4%		
		Total (N)	127	100.0%		
	I would be happy to see more removal of rock walls and replacement by dune planting programmes at Waihi Beach	Agree Strongly (1)	86	67.7%		
			18	14.2%		
			9	7.1%	1.64	1.16
			4	3.1%		
		Disagree Strongly (5)	8	6.3%		
		No answer	2	1.6%		
		Total (N)	127	100.0%		
	It is unfair to 'let the sea dictate' (i.e. do nothing) when people's properties are at risk	Agree Strongly (1)	24	18.9%		
			24	18.9%		
			32	25.2%	2.91	1.39
			15	11.8%		
		Disagree Strongly (5)	23	18.1%		
		No answer	9	7.1%		
		Total (N)		100.0%		
	Managed retreat- moving of buildings back from the beachfront is the best long- term approach to protecting beachfront residences at Waihi Beach	Agree Strongly (1)	37	29.4%		
			18	14.3%		
			34	27.0%	2.66	1.42
			13	10.3%		
		Disagree Strongly (5)	19	15.1%		
		No answer	5	4.0%		
		Total (N)	126	100.0%		
Distributed to interested parties	I am happy with the 'package' of coastal protection measures used at Waihi Beach	Agree Strongly (1)	5	9.6%		
			6	11.5%		
			14	26.9%	3.38	1.29
			10	19.2%		
		Disagree Strongly (5)	12	23.1%		
		No answer	5	9.6%		
		Total (N)	52	100.0%		
	The current approach to managing coastal erosion at Waihi Beach benefits everyone	Agree Strongly (1)	9	17.6%		
			8	15.7%		
			8	15.7%	3.19	1.50
			9	187.6%		
		Disagree Strongly (5)	13	25.5%		
		No answer	4	7.8%		
		Total (N)	51	100.0%		

	Rock walls are the best long- term approach to protecting beachfront properties at Waihi Beach	Agree Strongly (1)	4	7.7%		
			1	1.9%		
			9	17.3%	4.15	1.24
			7	13.5%		
		Disagree Strongly (5)	31	59.6%		
		No answer	0	.0%		
		Total (N)	52	100.0%		
	Sand dunes are the best long-term approach to protecting beachfront properties at Waihi Beach	Agree Strongly (1)	27	51.9%		
			12	23.1%		
			6	11.5%	1.94	1.26
			3	5.8%		
		Disagree Strongly (5)	4	7.7%		
		No answer	0	.0%		
		Total (N)	52	100.0%		
	The rock walls spoil the natural character of Waihi Beach	Agree Strongly (1)	30	57.7%		
			4	7.7%		
			6	11.5%	2.15	1.55
			4	7.7%		
		Disagree Strongly (5)	8	15.4%		
		No answer		.0%		
		Total (N)	52	100.0%		
	There are plenty of public accessways to the beach	Agree Strongly (1)	28	53.8%		
			16	30.8%		
			5	9.6%	1.63	0.82
			2	3.8%		
		Disagree Strongly (5)	0	.0%		
		No answer	1	1.9%		
		Total (N)	52	100.0%		
	I like the appearance of the sand dune buffer zones at Waihi Beach	Agree Strongly (1)	28	53.8%		
			14	26.9%		
			8	15.4%	1.60	0.76
			0	.0%		
		Disagree Strongly (5)	0	.0%		
		No answer	2	3.8%		
		Total (N)		100.0%		
	I would be happy to see more removal of rock walls and replacement by dune planting programmes at Waihi Beach	Agree Strongly (1)	30	57.7%		
			8	15.4%		
			4	7.7%	2.00	1.48
			1	1.9%		
		Disagree Strongly (5)	9	15.4%		
		No answer	1	1.9%		
		Total (N)	53	100.0%		
	It is unfair to 'let the sea dictate' (i.e. do nothing) when people's properties are at risk	Agree Strongly (1)	17	32.7%		
			8	15.4%		
			5	9.6%	2.88	1.68
			6	11.5%		
		Disagree Strongly (5)	15	28.8%		
		No answer	1	1.9%		
		Total (N)	52	100.0%		

	Managed retreat- moving of buildings back from the beachfront is the best long- term approach to protecting beachfront residences at Waihi Beach	Agree Strongly (1)	20	38.5%		
			9	17.3%		
			8	15.4%	2.53	1.58
			3	5.8%		
		Disagree Strongly (5)	11	22.2%		
		No answer	1	1.9%		
		Total (N)	52	100.0%		
All respond- dents	I am happy with the 'package' of coastal protection measures used at Waihi Beach	Agree Strongly (1)	16	8.9%		
			28	15.6%		
			52	29.1%	3.28	1.27
			29	16.2%		
		Disagree Strongly (5)	38	21.2%		
		No answer	16	8.9		
		Total (N)	179	100.0%		
	The current approach to managing coastal erosion at Waihi Beach benefits everyone	Agree Strongly (1)	22	12.4%		
			28	15.7%		
			43	24.2%	3.27	1.38
			25	14.0%		
		Disagree Strongly (5)	46	25.8%		
		No answer	15	7.9%		
		Total (N)	179	100.0%		
	Rock walls are the best long- term approach to protecting beachfront properties at Waihi Beach	Agree Strongly (1)	9	5.0%		
			7	3.9%		
			17	9.5%	4.29	1.14
			30	16.8%		
		Disagree Strongly (5)	107	59.8%		
		No answer	9	5.0%		
		Total (N)	179	100.0%		
	Sand dunes are the best long-term approach to protecting beachfront properties at Waihi Beach	Agree Strongly (1)	102	57.0%		
			45	25.1%		
			13	7.3%	1.68	1.05
			5	2.8%		
		Disagree Strongly (5)	8	4.5%		
		No answer	6	3.4%		
		Total (N)	179	100.0%		
	The rock walls spoil the natural character of Waihi Beach	Agree Strongly (1)	107	60.5%		
			18	10.2%		
			11	6.2%	1.99	1.47
			14	7.9%		
		Disagree Strongly (5)	22	12.4%		
		No answer	7	2.8%		
		Total (N)	179	100.0%		
	There are plenty of public accessways to the beach	Agree Strongly (1)	97	54.2%		
			45	25.1%		
			22	12.3%	1.71	0.97
			8	4.5%		
		Disagree Strongly (5)	3	1.7%		
		No answer	4	2.2%		
		Total (N)	179	100.0%		
	I like the appearance of the sand dune buffer zones at Waihi Beach	Agree Strongly (1)	121	67.6%		
			38	21.2%		
			12	6.7%	1.41	0.72
			2	1.1%		
		Disagree Strongly (5)	1	.6%		
		No answer	5	2.8%		
		Total (N)	179	100.0%		

	I would be happy to see more removal of rock walls and replacement by dune planting programmes at Waihi Beach	Agree Strongly (1)	116	64.8%		
			26	14.5%		
			13	7.3%	1.74	1.27
			5	2.8%		
		Disagree Strongly (5)	16	8.9%		
		No answer	3	1.7%		
		Total (N)	179	100.0%		
	It is unfair to 'let the sea dictate' (i.e. do nothing) when people's properties are at risk	Agree Strongly (1)	41	22.9%		
			32	17.9%		
			37	20.7%	2.90	1.48
			21	11.7%		
		Disagree Strongly (5)	38	21.2%		
		No answer	10	5.6%		
		Total (N)	179	100.0%		
	Managed retreat- moving of buildings back from the beachfront is the best long- term approach to protecting beachfront residences at Waihi Beach	Agree Strongly (1)	57	32.0%		
			27	15.2%		
			42	23.6%	2.26	1.46
			16	9.0%		
		Disagree Strongly (5)	30	16.9%		
		No answer	7	3.4%		
		Total (N)	179	100.0%		

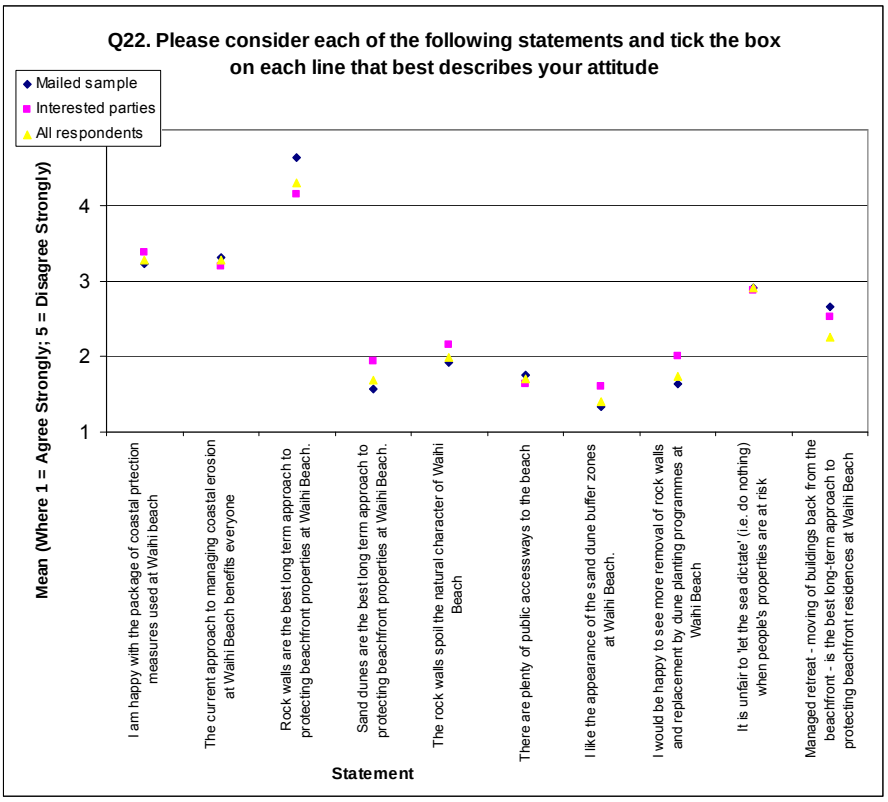


Figure 71 Q22 - Please consider each of the following statements and tick the box on each line that best describes your attitude

Table 58 Q23 - How do you rate the success of dune buffer zones in addressing any current erosion problems at Waihi Beach? (Tick one option only)

		Relationship to beach											
		Beachfront		1st row		2nd row		Other		No answer		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample	Very successful	7	36.8%	14	58.3%	4	40.0%	29	39.7%	0	.0%	54	42.5%
	Quite successful	10	52.6%	8	33.3%	5	50.0%	34	46.6%	1	100.0%	58	45.7%
N = 127	Unsuccessful	1	5.3%	0	.0%	1	10.0%	1	1.4%	0	.0%	3	2.4%
	Don't know	1	5.3%	2	8.3%	0	.0%	9	12.3%	0	.0%	12	9.4%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
Distributed to interested parties	Very successful	0	.0%	0	.0%	0	.0%	5	50.0%	11	26.2%	16	30.8%
	Quite successful	0	.0%	0	.0%	0	.0%	4	40.0%	22	52.4%	26	50.0%
	Unsuccessful	0	.0%	0	.0%	0	.0%	1	10.0%	6	14.3%	7	13.5%
N = 52	Don't know	0	.0%	0	.0%	0	.0%	0	.0%	3	7.1%	3	5.8%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
All Respondents	Very successful	7	36.8%	14	58.3%	4	40.0%	34	41.0%	11	25.6%	70	39.1%
	Quite successful	10	52.6%	8	33.3%	5	50.0%	38	45.8%	23	53.5%	84	46.9%
N = 179	Unsuccessful	1	5.3%	0	.0%	1	10.0%	2	2.4%	6	14.0%	10	5.6%
	Don't know	1	5.3%	2	8.3%	0	.0%	9	10.8%	3	7.0%	15	8.4%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%

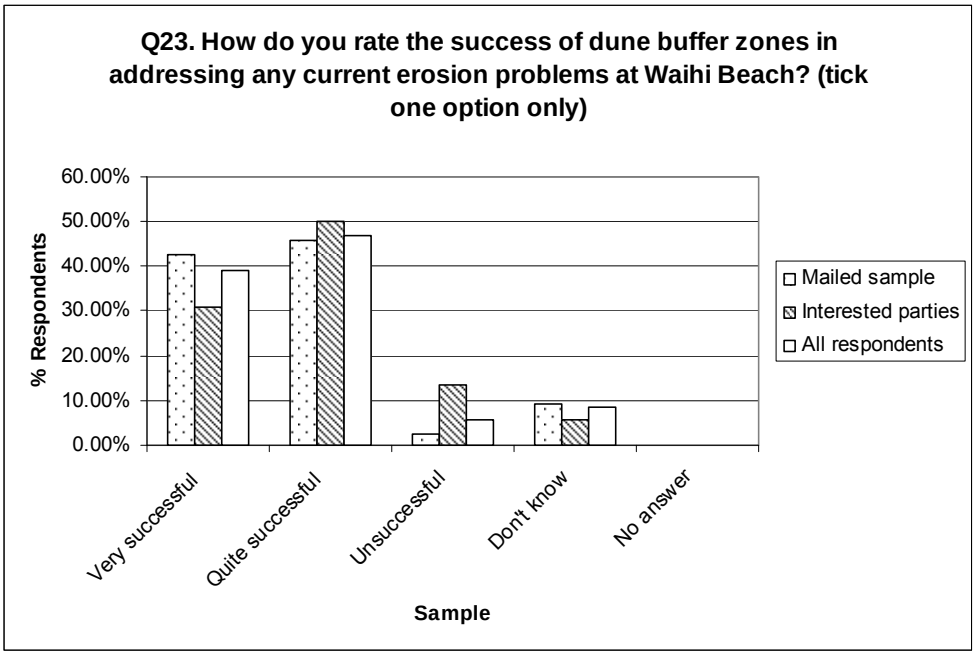


Figure 72 Q23 - How do you rate the success of dune buffer zones in addressing any current erosion problems at Waihi Beach? (Tick one option only)

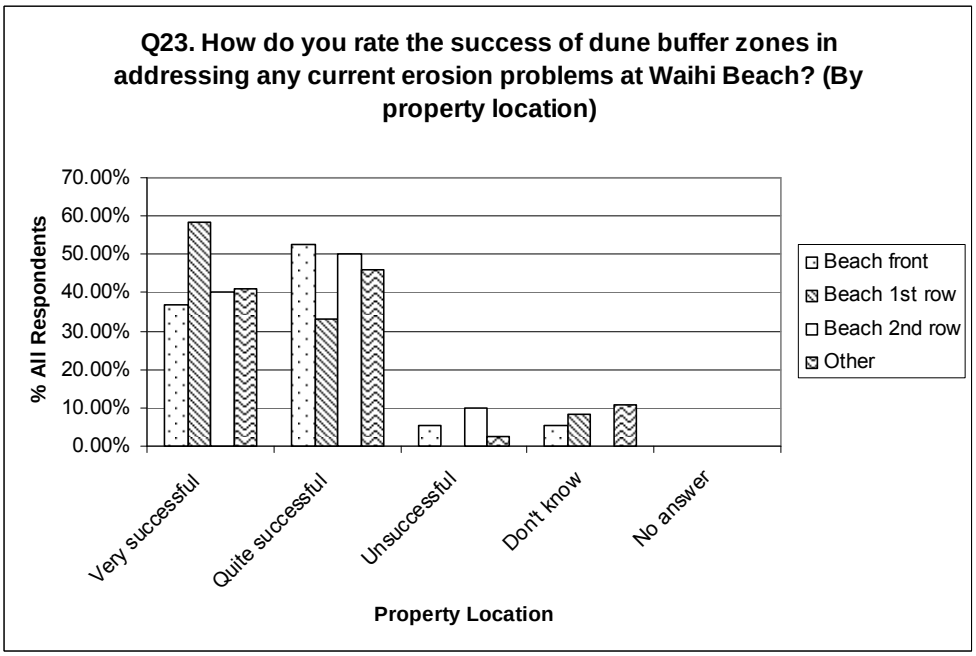


Figure 73 Q23 - How do you rate the success of dune buffer zones in addressing any current erosion problems at Waihi Beach? (By property location)

Table 59 Q24 - How do you rate the success of rock walls in addressing any current erosion problems at Waihi Beach? (Tick one option only)

		Relationship to beach											
		Beach front		Beach 1st row		Beach 2nd row		Other		No answer		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample N = 127	Very successful	1	5.3%	1	4.2%	1	10.0%	3	4.1%	1	100.0%	7	5.5%
	Quite successful	4	21.1%	1	4.2%	2	20.0%	9	12.3%	0	.0%	16	12.6%
	Unsuccessful	14	73.7%	21	87.5%	6	60.0%	52	71.2%	0	.0%	93	73.2%
	Don't know	0	.0%	1	4.2%	1	10.0%	9	12.3%	0	.0%	11	8.7%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
Distributed to interested parties N = 52	Very successful	0	.0%	0	.0%	0	.0%	0	.0%	5	11.9%	5	9.6%
	Quite successful	0	.0%	0	.0%	0	.0%	1	10.0%	10	23.8%	11	21.2%
	Unsuccessful	0	.0%	0	.0%	0	.0%	8	80.0%	26	61.9%	34	65.4%
	Don't know	0	.0%	0	.0%	0	.0%	1	10.0%	1	2.4%	2	3.8%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
All respondents N = 179	Very successful	1	5.3%	1	4.2%	1	10.0%	3	3.6%	6	14.0%	12	6.7%
	Quite successful	4	21.1%	1	4.2%	2	20.0%	10	12.0%	10	23.3%	27	15.1%
	Unsuccessful	14	73.7%	21	87.5%	6	60.0%	60	72.3%	26	60.5%	127	70.9%
	Don't know	0	.0%	1	4.2%	1	10.0%	10	12.0%	1	2.3%	13	7.3%
	No answer	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%

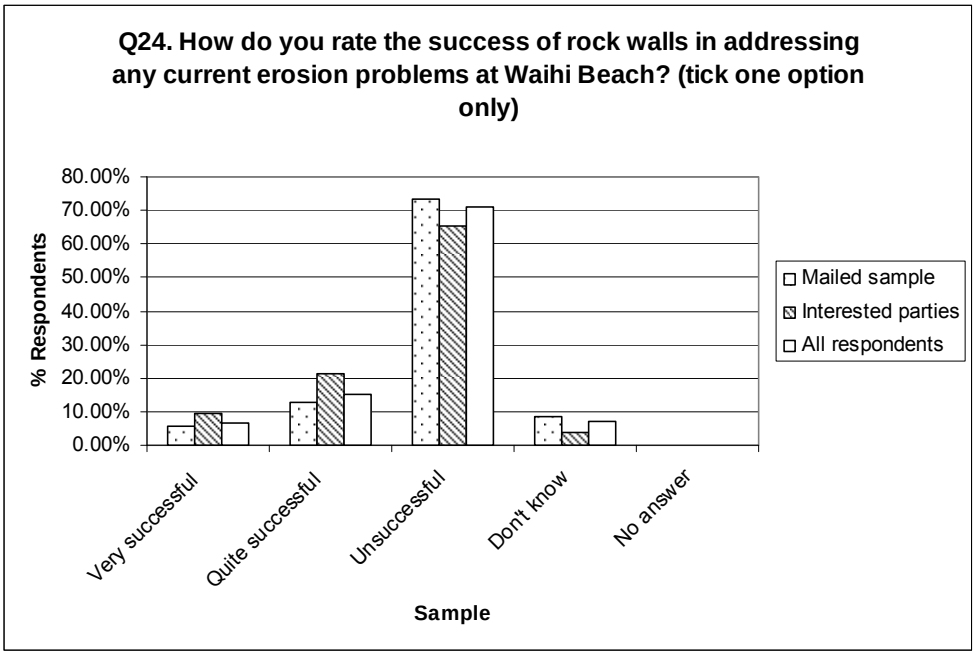


Figure 74 Q24 - How do you rate the success of rock walls in addressing any current erosion problems at Waihi Beach? (Tick one option only)

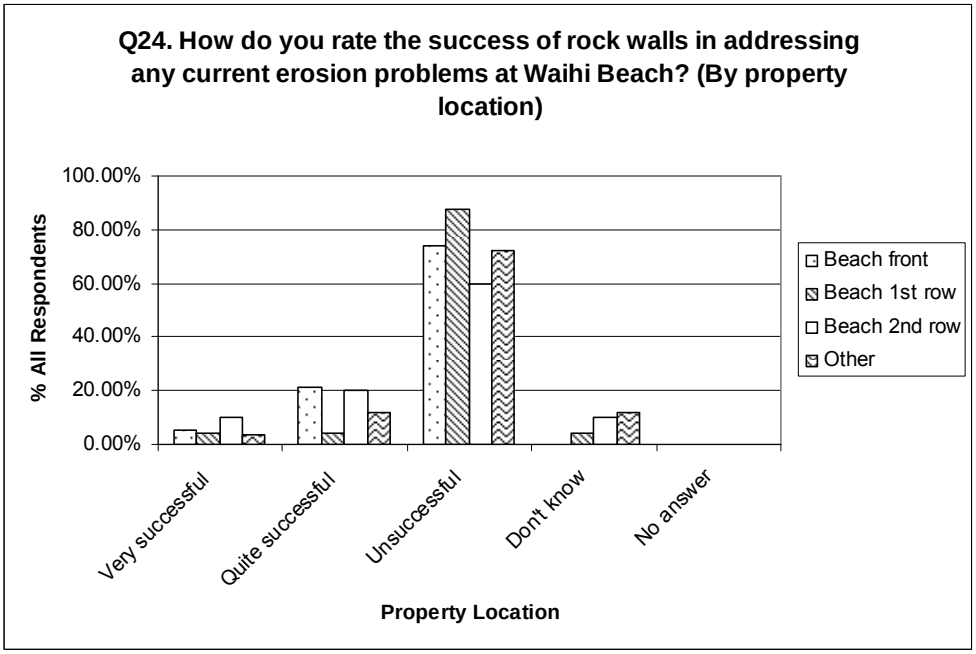


Figure 75 Q24 - How do you rate the success of rock walls in addressing any current erosion problems at Waihi Beach? (By property location)

Table 60 Q25 - Has your usage of the beach been affected by the dune buffer zone?

		Q4. Thinking of the past couple of years, which option best describes how often you visit the beach at Waihi Beach? (tick one option only)															
		Once a day or more, year-round		Once a day or more, but more in summer than in winter		Once a week or so, year-round		Once a week or so, but more in summer than in winter		Once a month or so		Two or three times a year		Once a year or less		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample N = 127	My usage of the beach has been positively affected by the dune buffer zone	17	39.5%	12	50.0%	6	27.3%	6	33.3%	3	42.9%	0	.0%	0	.0%	44	37.9%
	My usage of the beach has been much the same	23	53.5%	11	45.8%	15	68.2%	11	61.1%	4	57.1%	2	100.0%	0	.0%	66	56.9%
	My usage of the beach has been negatively affected by the dune buffer zone	3	7.0%	1	4.2%	1	4.5%	1	5.6%	0	.0%	0	.0%	0	.0%	6	5.2%
	Total	43	100.0%	24	100.0%	22	100.0%	18	100.0%	7	100.0%	2	100.0%	0	.0%	116	100.0%
Distributed to interested parties N = 52	My usage of the beach has been positively affected by the dune buffer zone	3	27.3%	3	50.0%	2	20.0%	4	36.4%	0	.0%	0	.0%	0	.0%	12	24.5%
	My usage of the beach has been much the same	8	72.7%	3	50.0%	5	50.0%	7	63.6%	8	88.9%	2	100.0%	0	.0%	33	67.3%
	My usage of the beach has been negatively affected by the dune buffer zone	0	.0%	0	.0%	3	30.0%	0	.0%	1	11.1%	0	.0%	0	.0%	4	8.2%
	Total	11	100.0%	6	100.0%	10	100.0%	11	100.0%	9	100.0%	2	100.0%	0	.0%	49	100.0%

All respondents N = 179	My usage of the beach has been positively affected by the dune buffer zone	20	37.0 %	15	50.0 %	8	25.0 %	10	34.5 %	3	18.8 %	0	.0%	0	.0%	56	33.9 %
	My usage of the beach has been much the same	31	57.4 %	14	46.7 %	20	62.5 %	18	62.1 %	12	75.0 %	4	100.0 %	0	.0%	99	60.0 %
	My usage of the beach has been negatively affected by the dune buffer zone	3	5.6%	1	3.3%	4	12.5 %	1	3.4%	1	6.3%	0	.0%	0	.0%	10	6.1%
	Total	54	100.0 %	30	100.0 %	32	100.0 %	29	100.0 %	16	100.0 %	4	100.0 %	0	.0%	165	100.0 %

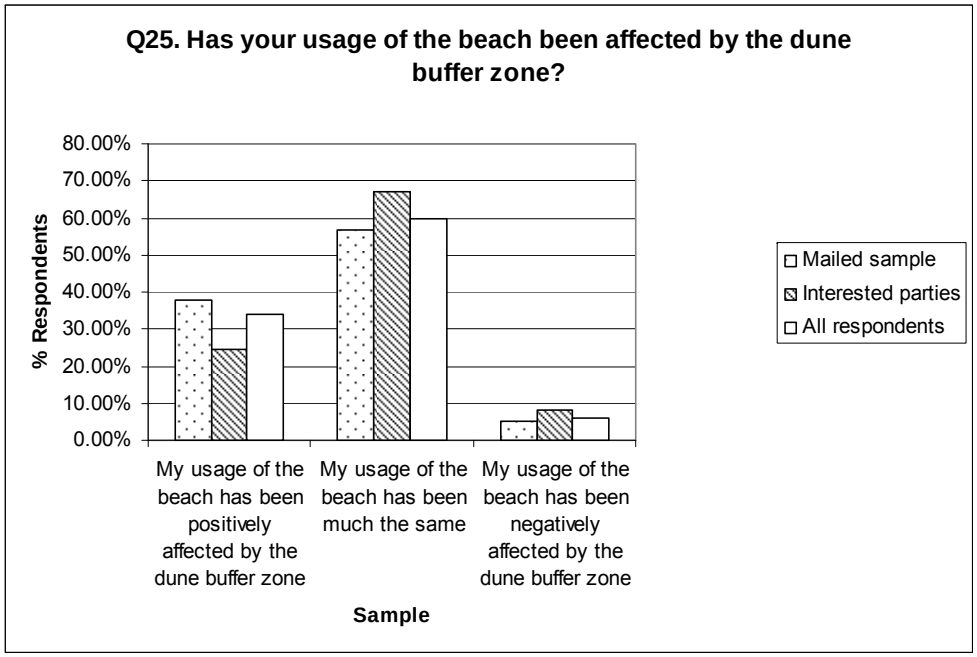


Figure 76 Q25 - Has your usage of the beach been affected by the dune buffer zone?

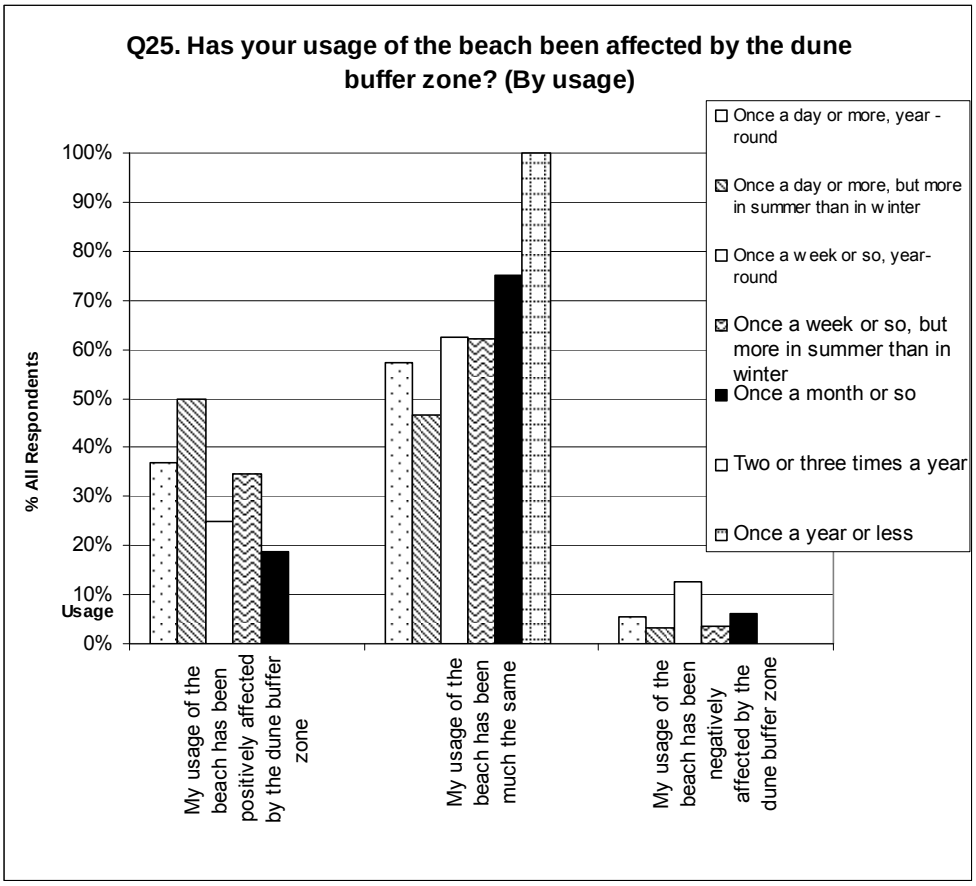


Figure 77 Q25 - Has your usage of the beach been affected by the dune buffer zone?

Q25. How has your usage of the beach been affected by the dune buffer zone?

Positively

- Access easy, & environs safer than rocks
- Always keep to walkways now, proud to be aware and teach my son how to care for environment
- Appearance - access
- Appearance
- Appearance is better
- Beach develops a natural angle. Created a bigger beach with more exposed at high tide
- Beautification
- Better quality beach
- Can walk at high tide on more of the beach
- Can walk and swim in front of them
- Changed the places sand now builds up
- Channelled access - less beach destruction
- Covered some rocks
- Created more dry sand at high tide - walking access improved amenity & aesthetic value
- Decreased the area that was being eroded
- Deeper sand - deeper beach

- Don't have to avoid rocks
- Dry beach at high tide built up
- Ease of access to beach
- Easy access to the water
- Enhanced aesthetics, better/grown beach
- Happy to see protected areas
- Increased pleasure and width of beach
- It is natural
- Less danger from storm surge
- Looks better
- Looks better, better surf, access
- Looks good - more sand around & can use the area
- Looks natural and lovely
- Lots more sand. Safer. Healthier
- Mental health enhanced by natural beauty of landscape
- More attractive beach
- More attractive, safer beach created
- More beachfront area
- More foreshore and safe swimming
- More pleasant surrounding
- More sand to walk on (i.e. less rocks)
- More sand, better appearance
- Much nicer to walk on
- Natural dunes/sand
- Nice natural appearance
- Nicer to look at and room to sit above the high water mark
- No erosion in our area
- Planting has reduced erosion
- Reduction in erosion
- Removal of dangerous spikes from dune area
- Removal of steel shards from walls
- Removal of the very ugly sea wall and boulder traps
- Sandy beach along dune front
- Stops sand blown in to house
- There is more sand
- Visual, stable, dry
- We do not live in the area where the buffer zones are
- We now have a sandy safe beach
- Wind shelter and better high tide walking area

Table 61 Q26 - Has your usage of the beach been affected by the rock walls?

		Q4. Thinking of the past couple of years, which option best describes how often you visit the beach at Waihi Beach? (tick one option only)															
		Once a day or more, year - round		Once a day or more, but more in summer than in winter		Once a week or so, year-round		Once a week or so, but more in summer than in winter		Once a month or so		Two or three times a year		Once a year or less		Total (n)	
		Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Mailed sample	My usage of the beach has been positively affected by the rock walls	5	12.2%	3	13.6%	2	9.1%	3	16.7%	1	14.3%	0	.0%	0	.0%	14	12.5%
N = 127	My usage of the beach has been much the same	11	26.8%	10	45.5%	10	45.5%	4	22.2%	3	42.9%	0	.0%	0	.0%	38	33.9%
	My usage of the beach has been negatively affected by rock walls	25	61.0%	9	40.9%	10	45.5%	11	61.1%	3	42.9%	2	100.0%	0	.0%	60	53.6%
	Total	41	100.0%	22	100.0%	22	100.0%	18	100.0%	7	100.0%	2	100.0%	0	.0%	112	100.0%

Distributed to interested parties	My usage of the beach has been positively affected by the rock walls	2	18.2%	1	16.7%	2	20.0%	0	.0%	0	.0%	0	.0%	0	.0%	5	10.2%
	My usage of the beach has been much the same	4	36.4%	2	33.3%	3	30.0%	5	45.5%	3	33.3%	2	100.0%	0	.0%	19	38.8%
N = 52	My usage of the beach has been negatively affected by the rock walls	5	45.5%	3	50.0%	5	50.0%	6	54.5%	6	66.7%	0	.0%	0	.0%	25	51.0%
	Total	11	100.0%	6	100.0%	10	100.0%	11	100.0%	9	100.0%	2	100.0%	0	.0%	49	100.0%
All respondents	My usage of the beach has been positively affected by the rock walls	7	13.5%	4	14.3%	4	12.5%	3	10.3%	1	6.3%	0	.0%	0	.0%	19	11.8%
	My usage of the beach has been much the same	15	28.8%	12	42.9%	13	40.6%	9	31.0%	6	37.5%	2	50.0%	0	.0%	57	35.4%
N = 179	My usage of the beach has been negatively affected by the rock walls	30	57.7%	12	42.9%	15	46.9%	17	58.6%	9	56.3%	2	50.0%	0	.0%	85	52.8%
	Total	52	100.0%	28	100.0%	32	100.0%	29	100.0%	16	100.0%	4	100.0%	0	.0%	161	100.0%

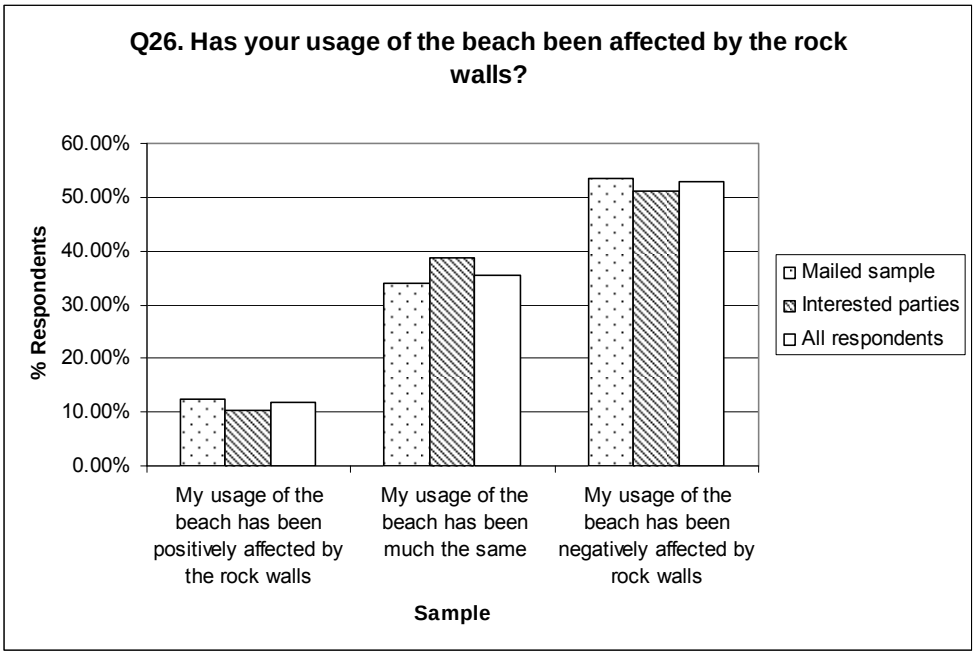


Figure 78 Q26 - Has your usage of the beach been affected by the rock walls?

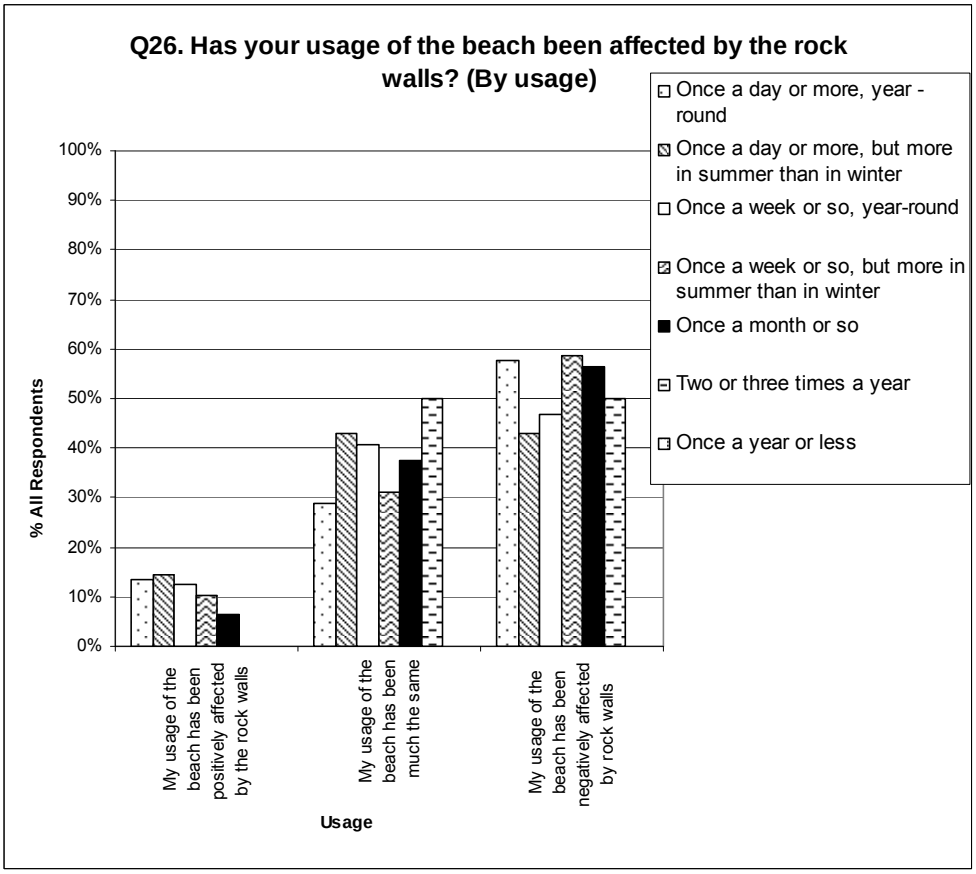


Figure 79 Q26 - Has your usage of the beach been affected by the rock walls? (By usage)

Q26. How has your usage of the beach been affected by the rock walls?

Negatively

- A line of no retreat has been drawn
- Access - can't walk beach at high tide
- Access (off the Loop) is dangerous as rocks are not stable. Small children are incapable of negotiating rock (I have 2)
- Access to beach especially with older parents
- Access, ugly
- Aesthetics, not all tide access, health and safety aspects
- Appearance
- Avoid walking in these areas at high tide
- Barrier to access to beach
- Beach access is limited and restricted at high tide
- Beach is inaccessible at high tide
- Beach walks restricted
- Broken wall dangerous with railway rails protruding with rusty ends - now removed
- Because of scouring of sand you cannot walk the beach at 1/2 tide it is too deep
- Cannot use beach
- Can't access beach or walk safely along at all tides because of gabian baskets and rockwall. Ugly view destroying enjoyment of what should be a natural environment/amenities
- Can't get around at high tide. Looks ugly. Stuffs up the wave pattern e.g. surf
- Can't get passed of high tide
- Can't walk along beach at high tide
- Can't walk as far at all times
- Can't walk past at high tide
- Can't walk/run along beach 3 hours either side
- Can not walk past rock wall except at or near low tide
- Can see so obviously how the rocks cause the erosion
- Cannot walk and run on high tide
- Caused "end wall effect" at Glen Isla Place and The Loop
- Comments by tourists
- Danger in access. Inconvenience
- Dangerous can't walk along beach at high tide
- Dangerous to walk on!
- Decreased access and hazardous environment
- Difficult access
- Difficult to access the beach in that area
- Difficult to climb over hazardous things sticking up iron etc hasn't allowed sand to naturally replenish itself
- Difficult to negotiate at high tide
- Difficult, and dangerous access, and scour of sandy dunes areas. Less light tide walking available
- Difficulty in accessing beach after storm has scoured the sand away
- Difficulty in accessing the beach
- Do not reside near one

- Hard to walk along beach - in fact impossible at high tide
- Hate the look of them
- Have to go through rocks, broken fence and broken wire to get to sea
- Hazard for children
- I use Ayr St and this hasn't been affected
- Increased erosion - less beach
- Iron and wooden posts, rocks buried along beach
- I don't swim with little kids on high tide near rock walls (unsafe)
- Kick your toes on rocks
- Less of sand, especially at high tide. Poor cross access (over boulders)
- Limited usage to low water access only
- Limited access along beach for swimming and walking
- Limits access along the beach
- Loss of beach at high tide
- Makes the beach impossible at high tide look ugly
- Need to be careful of rocks and steel bars when walking and swimming - small rocks get washed into the low tide area
- No access
- No access at high tide, dangerous rusty poles - I have witnessed two accidents on the rocks at high tide
- No access at high tide
- No sand at high tide
- No all tide access
- No beach at high tide in front of rock wall
- No high tide access, no dry beach, affect adjacent beach profiles affected
- No high tide beach in some places
- Not directly in that area
- Not able to walk along beachfront at high tide
- Often not been able to walk along beach at high and even at times, of low tide on a sandy surface as sea hits rocks. Had to clamber over boulders to keep dry
- On high tide you can't walk the length of the beach
- Painful to walk on, rocks are rolled by the water out to sea
- Poor access
- Preventing access and reducing width of beach
- Reduced access at high tide
- Restricted access at high tide. UGLY
- Rock walls spoil beach appearance
- Safety - steel rocks walls - long recreation and shore access
- Still can't use the beach at high tide
- They stop access to the beach
- Tide now goes right up can't walk at high tide
- Trip over the rocks
- Ugly - limits access
- Ugly
- Ugly and dangerous
- Ugly beach - won't swim in these areas - not safe for my young son to climb on
- Ugly, less access, degrades surf

- Ugly, makes access and walking along the beach difficult and in some cases dangerous
- Ugly/dangerous
- Unable to get to beach
- Unable to access area in front if wall relative to sea and sand conditions
- Unable to jog on beach in front of rock wall as tide is usually up to rocks. (no beach left)
- Unattractive and dangerous and unnatural
- Unsafe
- Unsafe Iron everywhere
- Unsafe unsightly and don't work
- Unsightly
- Unsightly and harsh
- Unsightly rocks on beach
- Very unpleasant to get the beach
- We can no longer get down to the beach over the rock walls
- When sea rebounds takes sand with it

Q27. If you have any other comments about coastal protection at Waihi Beach, please write them here:

- A buffer wall below high tide is the best way to stop heavy seas dragging more sand from the "dune" areas
- A combination of rock walls and dune care is the best option, with protection at the s/w discharges
- A combination of dune planting and refurbishment of wall as per councils plans is the best plan to date
- A great job is being done by volunteers
- A rock wall is the only long term solution for the storm affects on Shaw Rd and The Loop
- Any wall is a barrier interfering with nature. Work with nature. The 40+ years of rocks etc has degraded our beach
- Arrogance of authorities to remove previous wall pollution of our beach. Ignoring the dangers of nasty rusty iron
- As previously mentioned the single most desirable action which would have the largest positive affect by far (in my opinion) would be the closure of the creeks
- As stated it has been proven rock walls lasted erosion undermining the road on land beyond the actual wall. This is so in Auckland - Tahiti - Holland and part of Australia
- Beach has been looking great of late in spite of odd storms. Best ever in my six years here. Great example of how nature can do the right thing if allowed to. Those who have illegally put boulders on beach, and should have to remove them. More dune care work then done. Polluted creeks, cleaned up and if necessary trained or piped
- Council appears to be unduly influenced by beachfront property owners and to even consider further interference when we are still living with the disastrous effects of the last wall beggars belief!
- Council will do want they want to
- Councils involved in decision making on there issues must act now by 1. Managed retreat of properties. 2. Division of creeks that are known to cause erosion. 3. Development of natural dunes. These actions despite the cost must happen now before the costs are

even higher in the future
- Current is ugly with a battered rock wall when an increase in dune reestablishment would benefit all
- Don't mind small areas of rock
- Dune planting is working well and is supported by the majority of people at Waihi Beach. The proposed rock wall solution will destroy the existing dune care through increased erosion
- Dune replacement would not work on Shaw Rd as sea to close rock wall okay but no good long term - can't stop the sea
- Dunes have proved to be a good method of protecting the beach and improving amenities for all New Zealanders. Council should wake up and move into the 21st century
- Feel that the rock wall would be ghastly in areas not so badly eroded. Prefer to see dune buffer zones
- Fine - build up natural dunes to make them bigger - DO NOT build dunes i.e. manmade where there never were any. Where I live has had a carpark made by fill - now the beach protection society build dunes. I have photos over 100 yrs ago - no dunes here!
- Having walked on the beach daily for years I see that 2 & 3 mile creek effect erosion and that all the rocks dumped in that area have been a negative for this part of the beach. Dunes are a better option. The end of Ayr Street proves this
- I believe we have a primary issue because of creeks - this is where time and money should be spent - remove these and plant dunes
- I have included a very rough sketch of what I feel could be used at 2 &3 mile creeks and a modified form where the worst rock walls are. I had it priced by a Mt Maunganui pre-casting yard and the budget price was $26,000 + GST + installation
- I strongly disagree with rock walls on a beach
- I support the use of natural measures to address erosion problems and create coastal protection at Waihi Beach
- If 2 and 3 mile creeks were diverted back to flow into Tauranga harbour I firmly believe Waihi Beach would re-nourish itself and I have seen this happen regularly when creeks are blocked
- If council planning had recognised coastal issues there would not be problems. Councils have been warned (as have private owners) for over 40 yrs about the potential problems of living too close to the sea
- It would appear this establishment of new dunes in place of rock walls could be very difficult. The only solution would be a) move the properties back and re establish dunes b) build a reef backing the surf further out to sea
- Leave the beach as is
- Man changes everything - let nature do her thing - tides change sand - let it be
- My personal view is that the rock wall is a very selfish and narrow approach to deal with a situation that catered to a very small area of the beach community. We are saddled with a problem that while minor in area is causing a major problem for the whole community
- No
- No rock wall - we love our beach - dune care is the way to go
- Other alternative methods of coasts protection other than the 'wall' need to be explored
- Over 90% of properties here during the late 1960's were baches on piles – of which many were shifted. The problem was one property on concrete foundations

- People stupid enough to buy in an erosion zone should cut their losses, remove their houses and let the community care for the coast - not their houses
- Planting of dunes will repair all. Some use of sand sausage to train creeks
- Please don't build rock walls. Do everything to encourage the formation of sand dunes, which I have found to be successful - once a storm is over the dunes, if allowed to will reform - as I've said I have seen this happen. I have lived at the beach for 20 years
- Please note the asterisks apply to revetment imperative from 41 - 2 mile creek - we have no protection left at all - nor does Hillary St park
- Please take heed of what people experts from NZ and overseas have to offer - use their expertise and knowledge for the best long term answer
- Protection should aim to produce a "natural" beach unspoiled by human impact
- Rock walls are wrong
- Rock walls were erected because existing dunes did not protect against major erosion by storms creeks etc
- Rock wall seems effective but ugly
- Section purchasers should be made aware they are responsible for own costs of repair - not other ratepayers
- Solid structures appear to increase erosion and take sand away
- Streams are not natural water courses - they should be reverted to natural courses
- Sustainable resource management of land use inland to prevent pollutants such as sewerage and industrial waste poisoning and upsetting the ocean ecology
- The area that is most affected by erosion should have a planted sand dune established to see the outcome in the future. Whatever you decide - do something or this is an ongoing saga of words and paperwork
- The baskets used with rocks which have been used in previous years should now be addressed as they have become very unsafe for youngsters playing within the rocks. After getting hurt by baskets that have become detached in parts and are becoming dangerous
- The consideration of an offshore reef was not looked into diligently enough. The council have had a one tracked mind towards building solid structures on the beach and not considering other options, particularly as these are the wishes of the rich beach front property owners who have plenty of money to help get what they want
- The council should be listening to vast majority who want enhanced dune management
- The dumping of boulders on the beach is costly, ugly and detrimental to peoples enjoyment
- The effect 2 and 3 mile creeks have on coastal erosion needs to be investigated further
- The issue is complex and one that will not be solved easily. It probably needs a combination of measures to be successful. Continuation of the dune care programme is probably the most acceptable solution
- The natural cycle of advance and retreat of the sea is an age old fact now exacerbated by global warning. The sea will have the last word but we should still try protection measures
- The rock wall was first installed because the natural dunes that were existing did little in preventing major erosion
- The rock walls are quite ugly
- The rocks helped prevent erosion that the existing dunes did not
- The sand dune buffer zones only work with normal seasons. In a cyclone, storm etc they

would not survive. Rock walls have to be bigger to last also in these conditions

- There have been several reports by presumably expert people who seem to agree that the creeks contribute greatly to Waihi Beach erosion
- There seems to be a sole focus on rock walls as the only solution to coastal erosion - there are I feel many unexplored options (i.e. reefs, sand savers to train creeks etc)
- This year sand has never been so plentiful. Gentle small waves bring most of the sand on the beach
- Too many plants escape (agapanthus, daisies, karo trees) - Norfolk pines have outlived usefulness and are a problem
- Unable to get a pushchair to the beach front. Also hard for people who are disabled, having to climb over rocks
- W.B.O.P.D.C. have not listened to coastal erosion experts and have not properly considered the other options for coastal protection. See my further comments at end of this questionnaire. Dune planting definitely helps - we have seen the result of this ourselves when scattering urea pellets in front of our place.
- Waves come in and if they hit a solid object (rock wall) the energy is transferred (reflected) back to wards the sea - taking the sand with it. Absorbing the energy before getting to the beach sounds like a better option, or dune care helps with reserves of sand
- WBOPDC seems to give it little priority. They have no staff with any technical expertise in coastal erosion management
- WBOPDC were well aware of research based recommendations, but close to pander to a few property owners, as cheapest "solution"
- We are facing more frequent and stronger storms plus a slow sea level rise. Present measures are not good enough to cope with the 3 stated factors
- We as residents are not getting enough input into council decision to build the rock wall. We don't want it
- We only get one chance at this - a rock wall is the worst option for protecting our beach - will only protect some properties
- Whatever we do, it should be done as naturally as possible. Maybe instead of huge rock walls they could be scattered like at Coronation Park. That seemed to work well
- Whilst I am against rock walls, I admit that they are successful in 2 areas where there is no beach at high tide
- Yes enough talking - lets get on with it before it is to late
- You cannot chance nature. The sea erosion problem has been there for years - anyone on the seafront was aware of the problem
- You have ignored the creeks - why??

Table 62 Q28 - Can you remember back to how the beach looked before the wall was built?

		Count	Column N %
Mailed sample	Yes	37	29.1%
N = 127	No	82	64.6%
	No answer	8	6.3%
Distributed to interested parties	Yes	19	36.5%
N = 52	No	30	57.7%
	No answer	3	5.8%
All respondents	Yes	56	31.3%
N = 179	No	112	62.6%
	No answer	11	6.1%

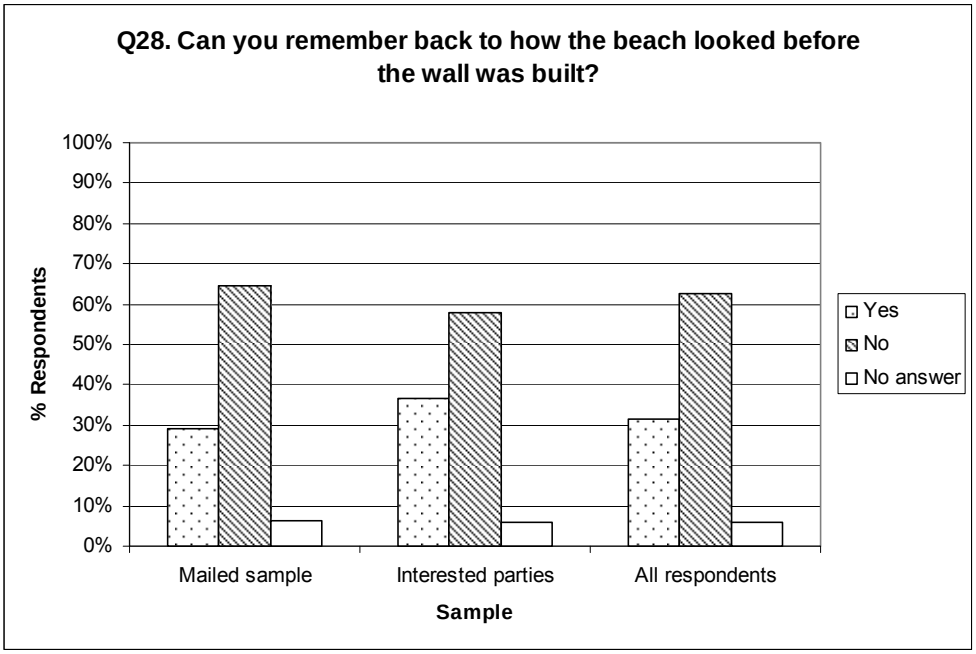


Figure 80 Q28 - Can you remember back to how the beach looked before the wall was built?

Table 63 Q29 - Thinking back to **before** the rock wall was put in place, please indicate how much you agree or disagree with the following statements (Please tick the option in each row that best matches your view). (Of the 56 people who indicated that they remembered what the beach was like before the wall was built)

			Count	Column N %	Mean	Standard Deviation
Mailed sample	I expected the wall to look different to how it looks now	Agree Strongly (1)	12	32.4%	1.93	0.91
			9	24.3%		
			8	21.6%		
			1	2.7%		
		Disagree Strongly (5)	0	.0%		
		No answer	7	18.9%		
		Total (N)	37	100.0%		
	I expected the wall to have less impact on how the beach looks now	Agree Strongly (1)	16	43.2%	2.15	1.28
			3	8.1%		
			8	21.6%		
			5	13.5%		
		Disagree Strongly (5)	1	2.7%		
		No answer	4	10.8%		
		Total (N)	37	100.0%		
	I expected the wall to have less impact on my use of the beach	Agree Strongly (1)	9	24.3%	2.55	1.28
			8	21.6%		
			7	18.9%		
			7	18.9%		
		Disagree Strongly (5)	2	5.4%		
		No answer	4	10.8%		
		Total (N)	37	100.0%		
	I would have liked more opportunities to become involved in decision-making before the wall was put in place	Agree Strongly (1)	16	44.4%	2.03	1.25
			4	11.1%		
			6	16.7%		
			4	11.1%		
		Disagree Strongly (5)	1	2.8%		
		No answer	5	13.9%		
		Total (N)	36	100.0%		
	There was an adequate amount of information available about the proposed wall	Agree Strongly (1)	3	8.3%	3.66	1.41
			5	13.9%		
			5	13.9%		
			6	16.7%		
		Disagree Strongly (5)	13	36.1%		
		No answer	4	11.1%		
		Total (N)	36	100.0%		
	The rock wall hasn't had much effect on the beach in front of it	Agree Strongly (1)	1	2.7%	4.12	1.22
			4	10.8%		
			4	10.8%		
			5	13.5%		
		Disagree Strongly (5)	19	51.4%		
		No answer	4	10.8%		
		Total (N)	37	100.0%		
	It was a good idea to build the rock wall	Agree Strongly (1)	1	2.7%	4.31	1.18
			4	10.8%		
			2	5.4%		
			4	10.8%		
		Disagree Strongly (5)	24	64.9%		
		No answer	2	5.4%		
		Total (N)	37	100.0%		

Distributed to interested parties	I expected the wall to look different to how it looks now	Agree Strongly (1)	4	21.1%		
			3	15.8%		
			6	31.6%	2.76	1.39
			1	5.3%		
		Disagree Strongly (5)	3	15.8%		
		No answer	2	10.5%		
		Total (N)	19	100.0%		
	I expected the wall to have less impact on how the beach looks now	Agree Strongly (1)	5	27.8%		
			2	11.1%		
			5	27.8%	2.75	1.57
			0	.0%		
		Disagree Strongly (5)	4	22.2%		
		No answer	2	11.1%		
		Total (N)	18	100.0%		
	I expected the wall to have less impact on my use of the beach	Agree Strongly (1)	4	21.1%		
			1	5.3%		
			7	36.8%	2.94	1.39
			2	10.5%		
		Disagree Strongly (5)	3	15.8%		
		No answer	2	10.5%		
		Total (N)	19	100.0%		
	I would have liked more opportunities to become involved in decision-making before the wall was put in place	Agree Strongly (1)	6	31.6%		
			4	21.1%		
			4	21.1%	2.25	1.34
			0	.0%		
		Disagree Strongly (5)	2	10.5%		
		No answer	3	15.8%		
		Total (N)	19	100.0%		
	There was an adequate amount of information available about the proposed wall	Agree Strongly (1)	1	5.3%		
			0	.0%		
			4	21.1%	4.22	1.17
			2	10.5%		
		Disagree Strongly (5)	11	57.9%		
		No answer	1	5.3%		
		Total (N)	19	100.0%		
	The rock wall hasn't had much effect on the beach in front of it	Agree Strongly (1)	2	10.5%		
			0	.0%		
			1	5.3%	4.26	1.28
			4	21.1%		
		Disagree Strongly (5)	12	63.2%		
		No answer	0	.0%		
		Total (N)	19	100.0%		
	It was a good idea to build the rock wall	Agree Strongly (1)	2	10.5%		
			0	.0%		
			1	5.3%	4.37	1.30
			2	10.5%		
		Disagree Strongly (5)	14	73.7%		
		No answer	0	.0%		
		Total (N)	19	100.0%		

All respond-ents	I expected the wall to look different to how it looks now	Agree Strongly (1)	16	28.6%		
			12	21.4%		
			14	25.0%	2.23	1.16
			2	3.6%		
		Disagree Strongly (5)	3	5.4%		
		No answer	9	16.1%		
		Total (N)	56	100.0%		
	I expected the wall to have less impact on how the beach looks now	Agree Strongly (1)	21	38.2%		
			5	9.1%		
			13	23.6%	2.35	1.39
			5	9.1%		
		Disagree Strongly (5)	5	9.1%		
		No answer	6	10.9%		
		Total (N)	55	100.0%		
	I expected the wall to have less impact on my use of the beach	Agree Strongly (1)	13	23.2%		
			9	16.1%		
			14	25.0%	2.68	1.32
			9	16.1%		
		Disagree Strongly (5)	5	8.9%		
		No answer	6	10.7%		
		Total (N)	56	100.0%		
	I would have liked more opportunities to become involved in decision-making before the wall was put in place	Agree Strongly (1)	22	40.0%		
			8	14.5%		
			10	18.2%	2.11	1.27
			4	7.3%		
		Disagree Strongly (5)	3	5.5%		
		No answer	8	14.5%		
		Total (N)	55	100.0%		
	There was an adequate amount of information available about the proposed wall	Agree Strongly (1)	4	7.3%		
			5	9.1%		
			9	16.4%	3.86	1.34
			8	14.5%		
		Disagree Strongly (5)	24	43.6%		
		No answer	5	9.1%		
		Total (N)	55	100.0%		
	The rock wall hasn't had much effect on the beach in front of it	Agree Strongly (1)	3	5.4%		
			4	7.1%		
			5	8.9%	4.17	1.23
			9	16.1%		
		Disagree Strongly (5)	31	55.4%		
		No answer	4	7.1%		
		Total (N)	56	100.0%		
	It was a good idea to build the rock wall	Agree Strongly (1)	3	5.4%		
			4	7.1%		
			3	5.4%	4.33	1.21
			6	10.7%		
		Disagree Strongly (5)	38	67.9%		
		No answer	2	3.6%		
		Total (N)	56	100.0%		

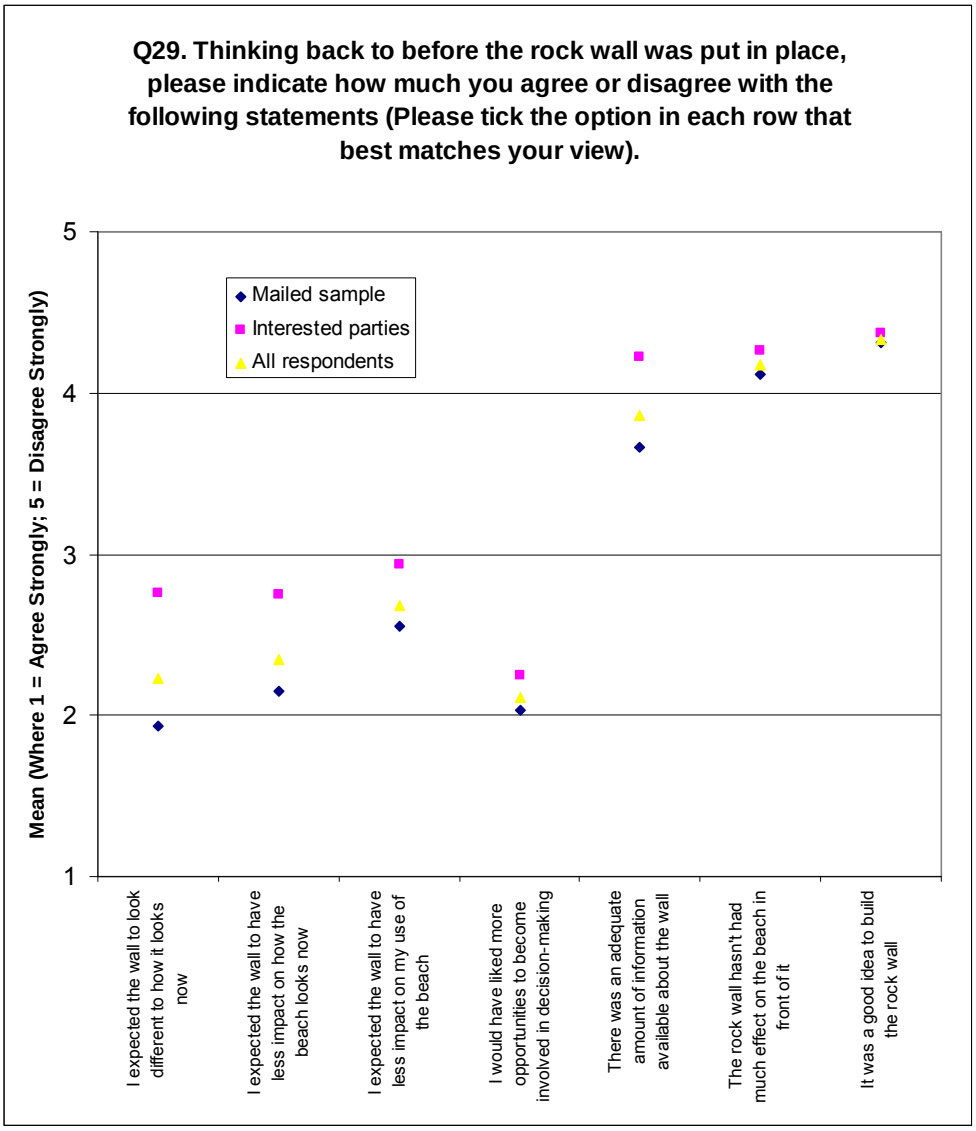


Figure 81 Q29 - Thinking back to before the rock wall was put in place, please indicate how much you agree or disagree with the following statements (Please tick the option in each row that best matches your view). (Of the 56 people who indicated that they remembered what the beach was like before the wall was built)

Table 64 Q30 - Have you participated in any decision-making processes (e.g. public meetings, making a submission) with respect to coastal protection at Waihi Beach?

		Count	Column N %
Mailed sample	No	62	49.6%
	Yes	63	50.4%
	Total (N)	125	100.0%
Distributed to interested parties	No	18	34.6%
	Yes	34	65.4%
	Total (N)	52	100.0%
All respondents	No	80	45.2%
	Yes	97	54.8%
	Total (N)	177	100.0%

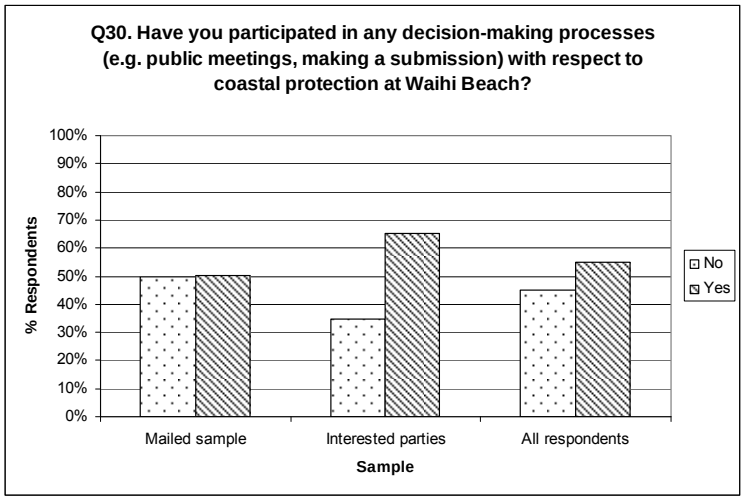


Figure 82 Q30 - Have you participated in any decision-making processes (e.g. public meetings, making a submission) with respect to coastal protection at Waihi Beach?

Table 65 Q31 - Do you think there have been enough opportunities for the public to be involved with options for coastal protection at Waihi Beach?

		Count	Column N %
Mailed sample N = 117	Yes	77	65.8%
	No	40	34.2%
Distributed to interested parties N = 52	Yes	32	61.5%
	No	20	38.5%
All respondents N = 169	Yes	109	64.5%
	No	60	35.5%

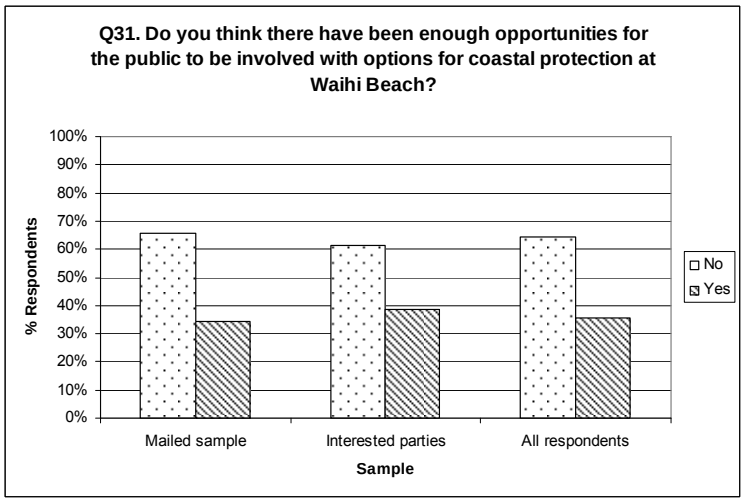


Figure 83 Q31 - Do you think there have been enough opportunities for the public to be involved with options for coastal protection at Waihi Beach?

Q31. Please add here any suggestions you have for increasing public input:

- A proper survey would reveal an overwhelming opinion that too much money has been wasted investigating an issue that should be left to nature
- About 2/3 of ratepayers are absent when meetings take place
- As it is an asset and brings tourists etc, the beach care should be a job for a team of workers
- All avenues have not been looked at. Pressure from some parties seen to be driving the results
- But I don't think all options have been 'heard' - only listened to and then ignored
- But because the majority of property owners are absentee landowners it is difficult to involve and ensure that people are adequately informed
- But council seems not to be listening. They seem to have made their decision and not listening to majority of community
- But nobody listens
- Council are too stubborn to listen
- Council does not listen to other experts on coastal erosion
- Council has own thoughts!
- Council's consultation was a sham. There is no requirement on council to respect the wishes of the community or accept the truth. The system only encourages councils own outcome/Agenda
- Decisions appear to be made solely by WBOPDC, most of whose members have no direct interest. Made on the usual financial grounds, with no thought of the future. Apparently with no referral back to community. (Regional Council might be more responsible)
- Discussion groups consolidate ideas but do not allow the voting power of public to operate. Council reps should not have the power to vote their own opinions - referenda (binding) is the only fair way to get this decision made
- Do you have information available via internet?
- Don't know
- Few opportunities are made for people who own property at the beach who are not fulltime permanent residents
- Full consultation by the council over a 10 year period
- General public only became involved due to RMA & Local Govt Act. Rock wall was decided with affected property owners & WBOPDC. Despite the majority at Waihi Beach being opposed to the 'wall' it is still going ahead with our council going to the Environment Court to extend the term of the consent
- Have all meetings concerning Waihi Beach issues at Waihi Beach. Currently we often only get one chance to attend. Western Bay has often 3 meetings one here, one in Katikati, one in Tauranga? Why should we have to travel etc to have a say on our community
- Having owned a beachfront property in the early 80s it is only within the last 5 - 6 yrs that the property has been affected by erosion. The wall was not maintained during this time
- However, no matter what the public opinion, council have already made up their mind and will do what they want but make it look as though they are giving the public the chance to object. I am utterly disgusted with council's attitude
- I believe the council were stingy with their information and so called 'consultation'

primarily because they had already made their minds up what options they preferred. Open discussion meetings - such as Newmont Waihi Gold & Waihi's 'Waihi Community Vision' forum would be a good example for them to follow

- I feel decisions were already made before public meetings
- I have only recently bought in Waihi Beach, but would welcome an opportunity to debate the question with more information from council
- I think informing the public and conducting surveys with questionnaires like this one
- In recent years there have been great advances in coastal technology and it is now becoming available to public
- Involved but is this window dressing - appears council had made up it's mind years ago
- It seems that council has an agenda – i.e. protection some public property - scared of being sued maybe. It would be good if wider public opinion were taken into account more
- Listen to what the public have to say & respect the percentages
- Main concern (jet skiing along beach to bathers) long liners and general public subjected to this sport - people area and beach access and parking etc important and rules for all to abide by
- More house to house call's
- More meetings during public holiday periods when more people are likely to be in residence. The question is - Is any notice really being taken of ratepayers opinions?
- More opportunities – considered, written, submissions preferred. This questionnaire is a good start
- More small meetings, informal - less threatening for people - people invited by streets!
- More than enough
- Need more publicity for meetings
- Not enough consideration given to other options, other than rock walls
- Not enough open forums, we don't have the money to appeal, as we are only average working people against councils & millionaire beach front owners
- Not sure
- Opportunities for input - ok. However majority opinion/input has been largely ignored in favour of property owners under threat of erosion
- Opportunities yes - but what's the point. No one listens
- Our thoughts are disregarded anyway - there is a definite 'agenda' in local govt about solution - our input seems like lip service!
- Perhaps, mail outs giving email addresses or a website to look at current proposals, and opportunities to post other options (must to constructive though)
- Plenty of consultation, but no notice taken of that input
- Public could have suggested ideas along with my idea
- Questionnaires a good idea
- Rocks were dropped onto and over the wall without consultation and presumably without permission. Public forums
- Should have been a referendum at last election. Should have been all viable option for WB coastline presented to public honestly and thoroughly to get sensible decision. Those with money and power who are prepared to take council to court are the ones listened to and have their wants met
- The council is railroading this issue - decisions are being made by people who do not live here

- The council was trying to bring in the proposed rock wall with a non-notifiable consent. Sharp eyes raised awareness so when we spoke to the mayor Graeme Weld about it he said "It is too late, the decision has been made & it's going ahead". The council has lied all the way through and that is a FACT
- The difficulty is that so many beachfront homes along Shaw Rd are absentee owners who live in various parts of N.Z. This leaves the decision making to some locals who may be promoting their own agenda
- The locals put their point of view across & it is not listened to - bureaucracy at its worst. All with rate payers money too
- The process allows for public input but council seems to have already made its mind up e.g. to build a rock revetment before the public was consulted. They tried to make it a non notifiable consent
- The WB of P District Council listens to the wealthy beachfront owners and themselves chose the "independent" commissioner, also the engineers, Tonkin & Taylor were allowed to review their own scheme - WB of PDC is determined to have a rock wall
- The Western B.O.P District Council seems keen on rock walls but many residents consider their views were not taken into consideration, as there are other options
- There appear to be no alternative strategies to consider
- There are quite a number of options being put forward but council seem set on a rock wall costing millions
- There have been many opportunities, however council don't seem to have listened to the opinions of the WB residents
- This has been going on for 10 yrs - maybe if council acted then interest would be retained
- This issue has been around for years
- This matter has been going on for 9 - 10years - the result is 6 or 7 reports, many meetings and dollars spent. People have had adequate time. It is NOW time for ACTION!
- This questionnaire is the first time my opinion has been sought
- Too many bach owners are involved, we who live here 365 days are not involved enough I think
- Too Many!
- True, but not much notice is ever taken of local opinion
- Unable to drive - postal referendum would suit me and many others. Too much attention is paid to very vocal groups
- Unsure
- WBOPDC has manipulated community awareness and the consultation process to a bias towards support for the beach protection society, including mislaying EBOPS submission to the hearing committee. See Ross Dalton's submission to the hearing commission for a historical account of WBOPDC interference with the process of consultation with the wider community at Waihi Beach
- We have not been heard, council has gone ahead and got consultant after consultant when there are a lot of knowledgeable people in the community who have not been listened to
- We now have less permanent residents - don't know what people with holiday homes want?
- When people attend meetings there is not enough time for all to express ideas - also many too shy anyhow - referendum would be fairer

- When the rock wall was first put forward and adapted by the council, other options were not considered, even though good ideas and strong opposition to the rock wall were of no avail. The county didn't listen to the people (who were admittedly slow to act) who said and I quote "If you can't make a decision we will make it for you"
- Yes - but do you listen to what the public is saying?
- Yes and no - opposition not taken seriously
- Yes, but it seems to make no difference what the community wants

Table 66 Q32 - Are you? (Gender)

		Count	Column N %
Mailed sample N = 127	Male	66	52.0%
	Female	59	46.5%
	No answer	2	1.6%
Distributed to interested Parties N = 52	Male	33	63.5%
	Female	19	36.5%
	No answer	0	.0%
All respondents N = 179	Male	99	55.3%
	Female	78	43.6%
	No answer	2	1.1%

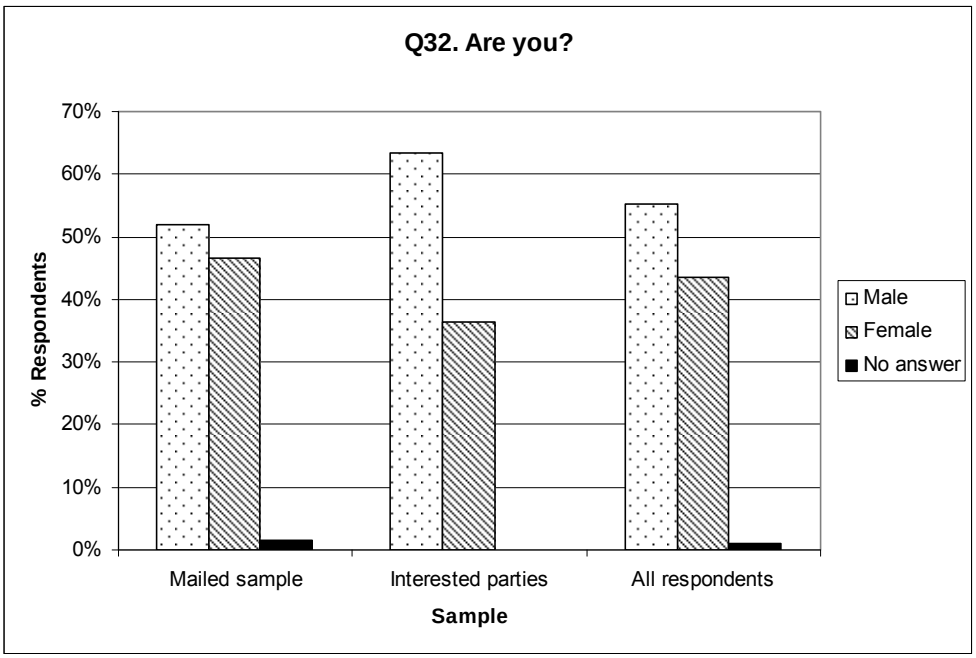


Figure 84 Q32 - Are you? (Gender)

Table 67 Q33 - Which best describes the situation you are living in now? (Tick one option only)

		Count	Column N %
Mailed sample N = 127	Family with children	56	44.1%
	Family without children	37	29.1%
	Alone	23	18.1%
	With non-family	2	1.6%
	Other	7	5.5%
	No answer	2	1.6%
Distributed to interested parties N = 52	Family with children	20	38.5%
	Family without children	19	36.5%
	Alone	6	11.5%
	With non-family	3	5.8%
	Other	3	5.8%
	No answer	1	1.9%
All respondents N = 179	Family with children	76	42.5%
	Family without children	56	31.3%
	Alone	29	16.2%
	With non-family	5	2.8%
	Other	10	5.6%
	No answer	3	1.7%

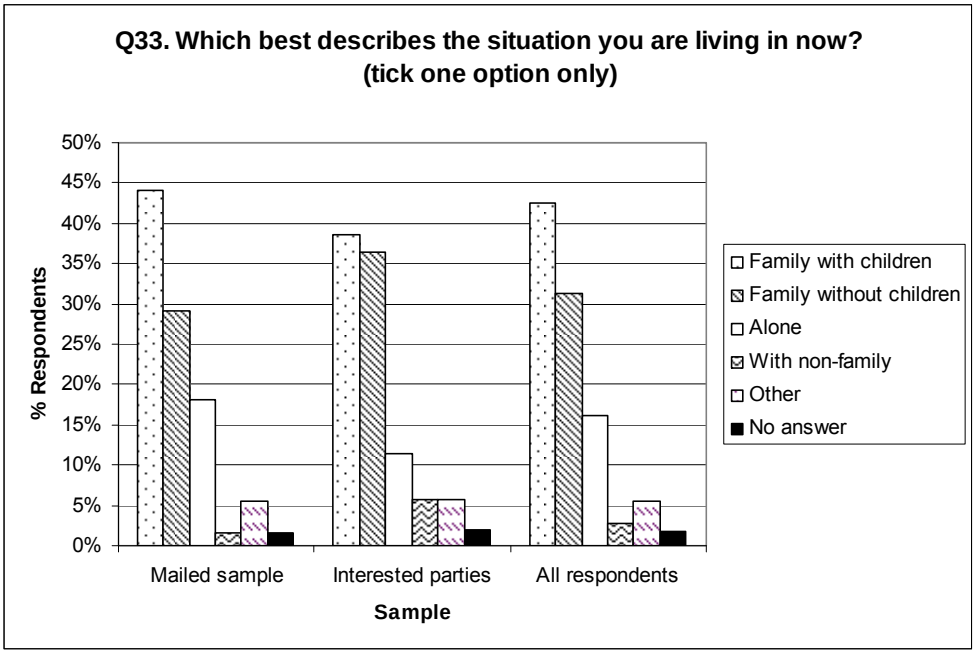


Figure 85 Q33 - Which best describes the situation you are living in now? (Tick one option only)

Table 68 Q34 - Which ethnic group do you belong to? (Tick one option only)

		Count	Column N %
Mailed sample N = 127	New Zealand European	110	86.6%
	Maori	6	4.7%
	Pacific Island	0	.0%
	Chinese	0	.0%
	Indian	0	.0%
	Other	7	5.5%
	No answer	4	3.1%
Distributed to interested parties N = 52	New Zealand European	48	92.3%
	Maori	0	.0%
	Pacific Island	0	.0%
	Chinese	0	.0%
	Indian	0	.0%
	Other	2	3.8%
	No answer	2	3.8%
All respondents N = 179	New Zealand European	158	88.3%
	Maori	6	3.4%
	Pacific Island	0	.0%
	Chinese	0	.0%
	Indian	0	.0%
	Other	9	5.0%
	No answer	6	3.4%

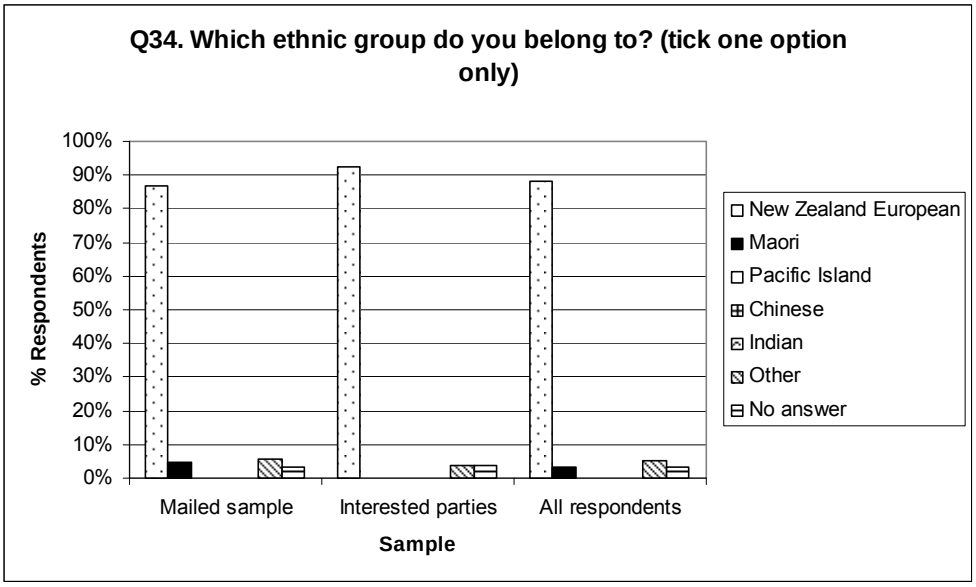


Figure 86 Q34 - Which ethnic group do you belong to? (Tick one option only)

Table 69 Q35 - When were you born?

		Count	Column N %
Mailed sample N = 127	1911-1920	2	1.6%
	1921-1930	11	8.7%
	1931-1940	24	18.9%
	1941-1950	17	13.4%
	1951-1960	31	24.4%
	1961-1970	17	13.4%
	1971-1980	15	11.8%
	1981-1990	1	.8%
	No answer	9	7.1%
Distributed to interested parties N = 52	1911-1920	1	1.9%
	1921-1930	8	15.4%
	1931-1940	10	19.2%
	1941-1950	11	21.2%
	1951-1960	11	21.2%
	1961-1970	4	7.7%
	1971-1980	2	3.8%
	1981-1990	0	.0%
	No answer	5	9.6%
Total N = 179	1911-1920	3	1.7%
	1921-1930	19	10.6%
	1931-1940	34	19.0%
	1941-1950	28	15.6%
	1951-1960	42	23.5%
	1961-1970	21	11.7%
	1971-1980	17	9.5%
	1981-1990	1	.6%
	No answer	14	7.8%

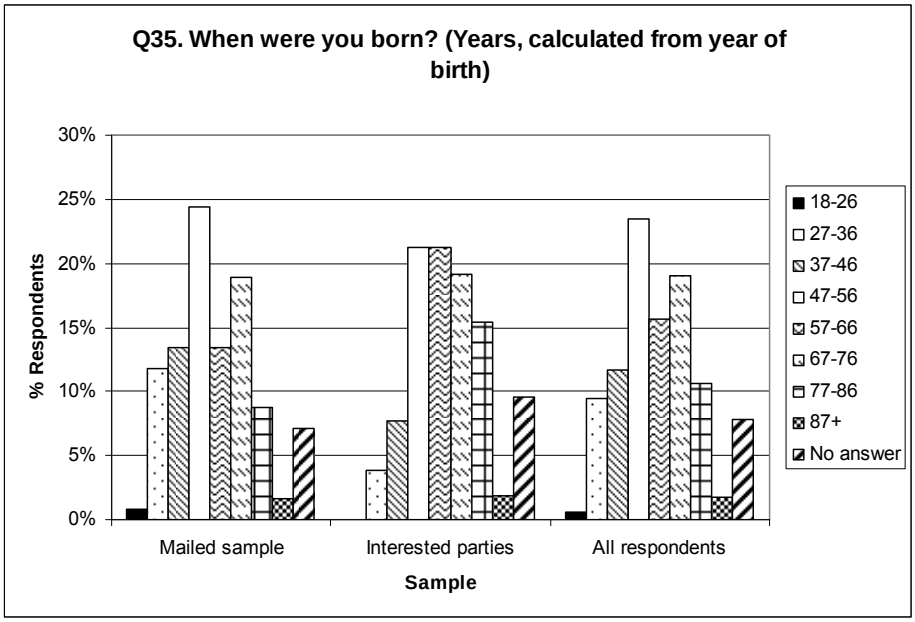


Figure 87 Q35 - When were you born?

Table 70 Q36 - What is your current employment status? (Tick one option only)

		Count	Column N %
Mailed sample N = 127	Employed full-time	39	30.7%
	Employed part-time	20	15.7%
	Not in paid employment (e.g. if you are retired or are at home)	46	36.2%
	Self-employed	21	16.5%
	No answer	1	.8%
Distributed to interested parties N = 52	Employed full-time	10	19.2%
	Employed part-time	3	5.8%
	Not in paid employment (e.g. if you are retired or are at home)	18	34.6%
	Self-employed	19	36.5%
	No answer	2	3.8%
Total N = 179	Employed full-time	49	27.4%
	Employed part-time	23	12.8%
	Not in paid employment (e.g. if you are retired or are at home)	64	35.8%
	Self-employed	40	22.3%
	No answer	3	1.7%

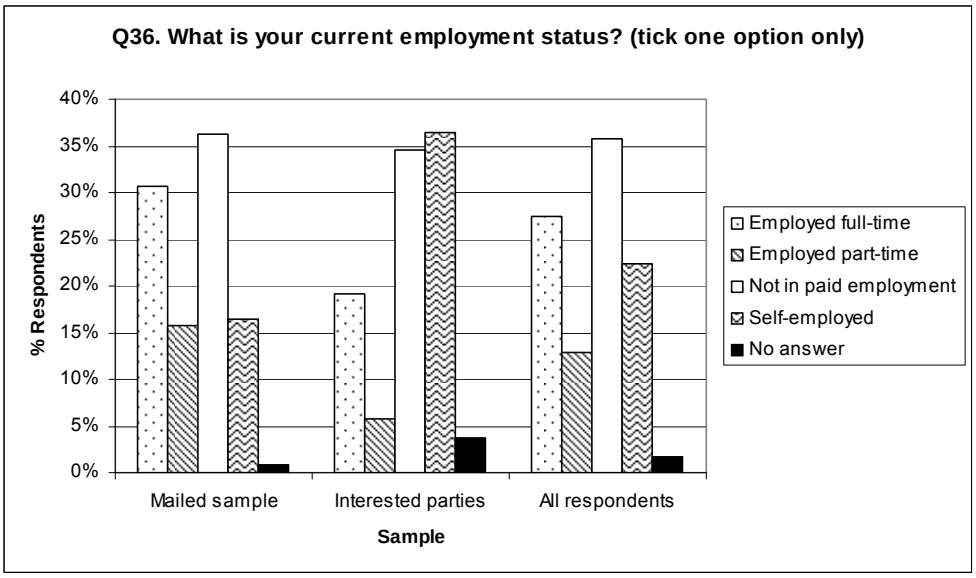


Figure 88 Q36 - What is your current employment status? (Tick one option only)

Table 71 Q37 - What was your gross household income for 2006 before tax is removed?

		Count	Column N %
Mailed sample N = 127	Under $5,000	0	.0%
	$5,000 to $15,000	8	6.3%
	$15,001 to $20,000	15	11.8%
	$20,001 to $30,000	12	9.4%
	$30,001 to $40,000	9	7.1%
	$40,001 to $50,000	15	11.8%
	$50,001 to $60,000	10	7.9%
	$60,001 to $90,000	14	11.0%
	$90,001 to $150,000	16	12.6%
	$150,001 to $200,000	3	2.4%
	Over $200,001	8	6.3%
	No answer	17	13.4%
Distributed to interested parties N = 52	Under $5,000	0	.0%
	$5,000 to $15,000	1	1.9%
	$15,001 to $20,000	3	5.8%
	$20,001 to $30,000	2	3.8%
	$30,001 to $40,000	8	15.4%
	$40,001 to $50,000	2	3.8%
	$50,001 to $60,000	4	7.7%
	$60,001 to $90,000	8	15.4%
	$90,001 to $150,000	7	13.5%
	$150,001 to $200,000	5	9.6%
	Over $200,001	4	7.7%
	No answer	8	15.4%
All respondents N = 179	Under $5,000	0	.0%
	$5,000 to $15,000	9	5.0%
	$15,001 to $20,000	18	10.1%
	$20,001 to $30,000	14	7.8%
	$30,001 to $40,000	17	9.5%
	$40,001 to $50,000	17	9.5%
	$50,001 to $60,000	14	7.8%
	$60,001 to $90,000	22	12.3%
	$90,001 to $150,000	23	12.8%
	$150,001 to $200,000	8	4.5%
	Over $200,001	12	6.7%
	No answer	25	14.0%

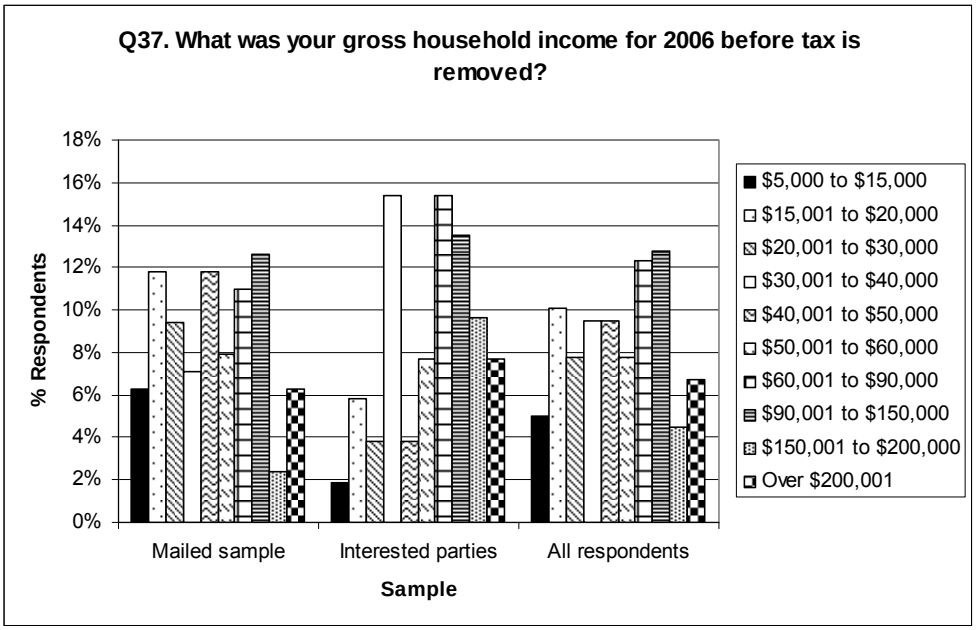


Figure 89 Q37 - What was your gross household income for 2006 before tax is removed?

Table 72 Q38 - What is your highest educational qualification?

		Count	Column N %
Mailed sample N = 127	No school qualifications	11	8.7%
	Secondary school qualifications	36	28.3%
	Trade certificate or professional certificate or diploma	44	34.6%
	University undergraduate degree (such as a diploma or bachelors degree)	22	17.3%
	University postgraduate degree (such as a masters degree or doctorate)	8	6.3%
	No answer	6	4.7%
Distributed to interested parties N = 52	No school qualifications	2	3.8%
	Secondary school qualifications	8	15.4%
	Trade certificate or professional certificate or diploma	18	34.6%
	University undergraduate degree (such as a diploma or bachelors degree)	18	34.6%
	University postgraduate degree (such as a masters degree or doctorate)	4	7.7%
	No answer	2	3.8%
All respondents N = 179	No school qualifications	13	7.3%
	Secondary school qualifications	44	24.6%
	Trade certificate or professional certificate or diploma	62	34.6%
	University undergraduate degree (such as a diploma or bachelors degree)	40	22.3%
	University postgraduate degree (such as a masters degree or doctorate)	12	6.7%
	No answer	8	4.5%

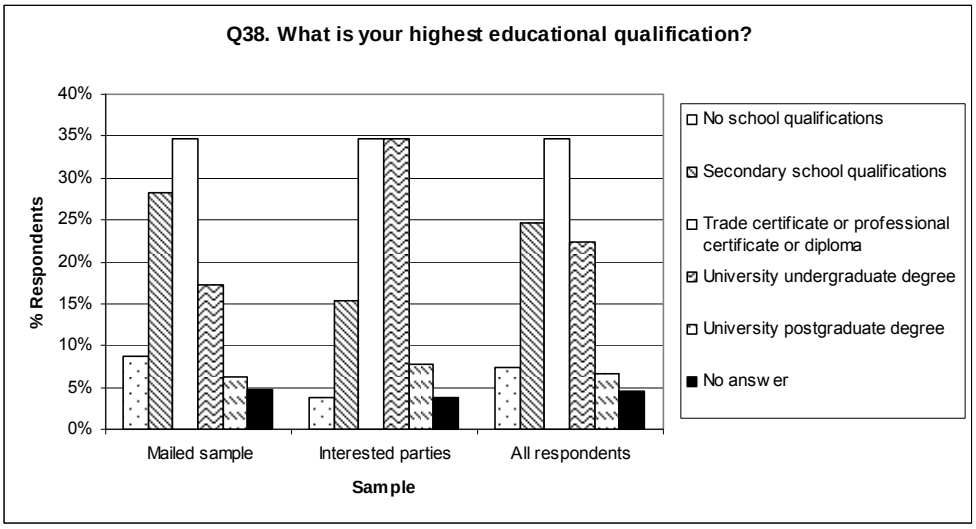


Figure 90 Q38 - What is your highest educational qualification?

Table 73 Q39 - Have you had any experience with environmental matters (e.g. have you been involved in activities, groups or employment related to the environment?

		Count	Column N %
Mailed Sample	Yes	47	37.0%
	No	78	61.4%
N = 127	No answer	2	1.6%
Distributed to interested	Yes	28	53.8%
Parties	No	23	44.2%
N = 52	No answer	1	1.9%
All respondents	Yes	75	41.9%
N = 179	No	101	56.4%
	No answer	3	1.7%

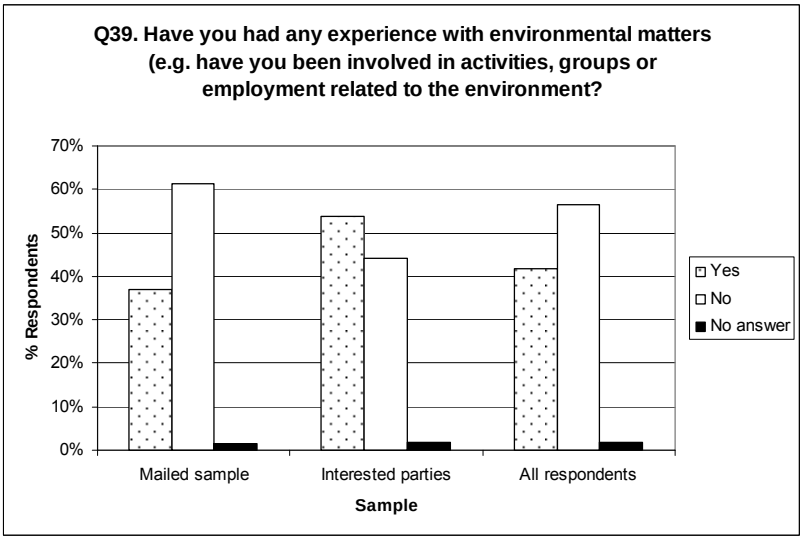


Figure 91 Q39 - Have you had any experience with environmental matters (e.g. have you been involved in activities, groups or employment related to the environment?

Q39. Please describe:

- A daughter doing an Earth Science Masters degree, with papers based on Waihi Beach erosion
- All sorts
- Architect
- As a lawyer & local government adviser
- As a director of my own Export Company
- Beach Beautification Group
- Belong to Friends of the Beach
- Building protective fences: building walkways: planting programmes
- Cambridge Tree Trust, B.O.P Coastal Care, Life Honorary member of Waihi Surf Life Saving Club
- Can recycling
- City Council, Environment Coast hearing with employment
- Clean up of beach & road sides
- Coast care
- Coast Care Member
- Coast care, dune planting, beach beautification, dune education seminars, consultation meetings, member of Friends of the Beach & Waihi Beach Environmental Society
- Coast Care, Friends of the Beach, Waihi Beach Environment Soc Inc
- Coastcare - 5 year trial with dune planting at The Loop which was unsuccessful
- Community Environment Activities Auckland
- Dune Care, Harbour Care
- Dune planting
- Educational for students
- Enviro schools
- Environment Engineer
- Farming
- Forest & Bird
- Forest & Bird Society
- Friends of the Beach
- Friends of the Beach, Waihi Beach Environment Society
- Greenpeace, Waihi Beach Environment Society Inc - treasurer. Several environment clean ups in Waihi Beach - treasurer activities - usually I am the instigator. Daily when here clean up glass, weeds, litter
- Group discussions/private study
- HELP programme
- Honorary Ranger Fisheries & Forest
- I have been promoting sustainable resource management by system using. The ISIS total recycling
- I presented a personal submission at the hearings re the consents issued to council re building revetment etc. Member of Waihi Beach Environment Society
- I was a dairy farmer in the area
- ISIS Total Recycling System for sustainable resource. R.M.A
- Local dune care
- Long professional involvement in many issues

- Made submissions
- Mangrove removal
- Many
- Many years membership Forest, Birds & Greenpeace
- Meals on Wheels
- Member Waihi Beach Environment Soc Inc
- Organic garden & donations voting
- Planning & Implementing process for Recycling in our work place
- Planting reserves
- Protest against rock wall at Waihi Beach
- Seawall at North end & dune care
- Sewage community
- Support local "Save our Beach" organisation
- Very involved with Heritage of Built Environment. Member NZIA, Committee NZHPT, Committee NZSEE (Earthquake)
- Volunteer work, employment related activity
- Waihi Beach Beautification Group - Dune care
- Waihi Beach Environment. Soc. Inc, Royal Forest & Bird Protection Soc
- Was involved with Waihi Beach protection society 4 years ago - not now
- Whanau rubbish collecting along coastal fronts
- Worked DOC
- Worked for parks & reserves
- Written information material

Q40. Please use this space to write any other comments regarding erosion management for Waihi Beach, coastal management in general, or this survey. All remarks will be useful.

- 50 years ago my father, when we built the house said I want a sea view and must be away from the sea front because of erosion. You can not change nature - those front properties affected should pay for any remedial works
- A rock wall will not solve the erosion problems - bring in sand, plant the dunes, use groynes look at the 2 and 3 mile creeks the flow of these effects the land around them they change from week to week and day to day at times
- All I can say is: rock walls are no longer being used overseas to protect beaches. Other working alternatives must seriously be looked out. Huge buffer zones should be kept for sand and dunes to survive building to close is not an option oops too late!
- An issue I have taken little interest in but once word was out that they were looking at more rock walls, have started taking notice. Wholeheartedly approve of the dune buffer zones and rock walls are okay - but only where absolutely necessary
- Any solution should be for the longer term to replenish the beach. Rock walls are not the solution and will cause more erosion, and lessen the use of the beach as the sand/dunes erode even more
- As a beach front dweller, albeit with dunes, I believe strongly that sand and dune enhancement will be the most effective buffer against erosion. No amount of wall will offer longer term sustainable protection
- As a frequent user of beautiful Waihi Beach I have been impressed that WBOPC has an erosion management system in place - I guess I'm quite a passive resident/visitor but if they didn't have a scheme then I may be more proactive in erosion management

- As I have stated we see the revetment wall as short term but at least something. Our property is all risk and it should not be, or at least no more than other beachfront owners. We feel our hands are unfairly tied
- Attached Please see: 1. Photos (3 pages) of Dune Care for the same access way over seven years. 2. Page from Ross Dalton's submission to Hearing Committee on coastal management for Waihi Beach/Shaw Rd/two & three mile creeks. I do not support diversion of the creeks & there is documented evidence of the stream Waiorooro (3 mile creek) in his submission (page attached). 3. My submission to the hearing committee - 2005 offering my view for coastal management (managed retreat) and supporting evidence for this approach as the most sustainable long term including economic survival for the small community of Waihi Beach see. 4. Katikati Advertiser Nov 2003
- Closure of two mile and three mile creeks will greatly assist in any erosion problem. Public must be made aware of new wall design. Many are assuming it to be more of the same which it is not
- Communication has been very good. The dune areas look fantastic
- Council appears to be taking short term view especially financially. Coastal management is forever - small rise in rates for longer time is appropriate - and not just for life of present council
- Council must have had opportunities in the past to purchase or force the moving back of beachfront properties and yet they allow new properties to be built to this day (i.e. Shaw Road). Unbelievable ignorance! Or maybe council rules are not in place to stop this activity. If the rules to stop this are not there now then make new rules
- Despite efforts at 'consultation' by council and 'experts' local people consider the process to have been far from democratic and decisions made contrary to public opinion
- Don't stuff up what we have. It's a great beach, safe, good all water sports. If it ain’t broken then don't try to change it or make it something it's not
- Due to the high tide mark being so close to walls and dunes it will be hard to prevent erosion and protect sea front properties during storms. With increased housing density at beach now erosion will happen
- Expecting Waihi Beach residents to accept that a 'rock wall' is the best option to protect beach front properties is like asking us to believe there is no 'A' in the alphabet. It is an insult to us. Erosion is a natural process. Houses built where sand dunes should be will be subject to erosion. A rock wall will compound the problem. Nature knows best. Put the dunes back - retreat! Thanks for the opportunity to give our opinion
- Good survey
- Greater awareness of the protection of sand dunes particularly by those who use them for access rather than use nearby walkway
- I am aware that there is a large group of local Waihi Beach citizens are concerned that rich property owners from outside will dictate the future of the sandy beach. I hope this doesn't happen
- I am concerned that despite the council looking very carefully at all options they may take the easy option involving fencing out the ocean with a rock wall. The money needs to be spent now to redirect the 2 and 3 mile creeks and continue to redevelop the dunes and the problem at Shaw Road and the Loop would be fixed once and for all
- I believe coastal management is important in the long term and we should not consider short term quick-fix ideas. The ideal is to work with the sea - not against it as the sea is a much greater force than man

- I believe the creeks cause 90% of the erosion at the beach. Remove these and we will see immense improvement. Where houses are built within the dune line - some retaining and dune planting to help protect
- I believe the District Council have played a major part in the problem in allowing development (i.e. collecting high rates and building fees) from properties which it has been obvious for many years have been at risk from erosion. Now we get the beach destroying rock wall option to "save" what should have never been built. Thank you
- I consider that the rock wall area is the most dangerous part of the beach and building a new rock wall will only increase the hazard to young children in particular. A rock wall will effectively be the "privatisation" of this area of beach
- I do not belong to an environmental group, but enjoy caring for the dunes in the general area of our home. I work with Environment B.O.P in picking spinifex seed-heads, keeping weeds at bay and fertilising (with urea supplied by E.B.O.P) twice a year. "Our" dunes are flourishing!! In our time, they have thickened noticeably, and advanced strongly towards the sea - in sprite of high winter storms
- I FOUND this total experience demeaning in that whoever put this questionnaire together deliberately weighted questions towards one line of thinking. We can not always have the ideal solution but ultimately we must adapt to realism and cost effectiveness!
- I have found it very difficult to get information on the council application, the costs of the seawall, and the evidence supporting the application and would welcome an opportunity to get this.
- I have lived close to 3 mile creek for 23 years and whenever an easterly blocks the creek the beach re-nourishes itself naturally and sand builds up all along in front of all properties close to creek - it amazes me that persons in authority are trying to build rock walls when it is the creeks that cause the erosion
- I have owned my property since 1945 - we used to have sand dunes about 2m high until the beach front baches were opened up. At the northern end of the beach sand dunes were way up the cliffs when people planted grass seed on their properties it stopped the sand drift being blown from the dunes
- I really believe building a rock wall is not the solution to the problem
- I think a thorough process has been undertaken to arrive at a decision to construct the sea wall and it must go ahead. I think the use of dune care and planting (in addition to) is also appropriate but not itself in the worst effected areas of the beach
- I think nature has a big part to play, the way the sea has washed away a lot of Matakana Island. Now in places it is coming back again. The same will apply to the beach, what impact does the Bowentown Bar have on water flows at parts of the beach? Some parts of the beach have erosion, other parts have made up
- I think the "experts" - trained experts need to manage the erosion at Waihi Beach, as they are informed and know the long term sustainability, consequences and viability of any proposal. Local people can be too emotionally involved to look at the whole picture.
- I think the original baches were there purely as holiday homes, simple, unassuming, possibly of a temporary nature. I think to build your house upon the ever-moving sand and expect it to stand the test of time is foolish
- I think there is good awareness and lots of opportunity to become involved. I think there are several sub sections of the beach that should continue to be monitored independently because each have different characteristics that 'require' different erosion control techniques

- I understand the rocks were put in front of properties in Shaw Road which started this all happening. Others followed and the side currents created caused the erosion of sand in that area. More rocks were added to minimise the side currents etc - but it was too late. Perhaps the original rocks should have been removed in hindsight
- I would appreciate feedback to my precast "Beach Stream 'bed'" idea
- I would have liked to have seen this survey address more the main reason for the erosion, the creek estuaries. It would have put the situation we are now faced with in proper perspective
- I would like the wooden fence (or what remains of it) removed. The exposed steel posts are dangerous as too are the disintegrating wire groynes. The wire is an accident waiting to happen. As for the rocks - leave them. I do not agree with a wall as a wall has ends and I anticipate problems at the end of the walls
- I would like to be able to walk down the beach without ugly rocks - if houses are at risk - it is their problem - they bought at their discretion and are getting capital gain. I suggest the council move towards dunes and remove houses that are in the danger zone. The sea will have its way in the end
- I would like to know why we are not fencing off dunes along the whole length of the beach. This strategy has been very successful at the north end
- If my property requires protection from the sea I am quite prepared to meet the cost of that protection, which I will personally organise. I neither expect nor require community assistance nor am I prepared to assist others to protect their properties from the sea
- I'm a beachfront owner in a place which has been in family for 27 years. Am all for passive solutions to the problem but am not impressed with radicals who advocate "let them fall into the sea". We have been paying the lions share of rates for many years and have as much right to property rights as anyone else
- It appears to me that the council takes too much notice of some that hold and have bought expensive properties on the foreshore over the last few years. The persons were well aware of the risk of building on sand areas and not should expect other rates payers to prop up their investments. Also one should remember that a number of those on the foreshore only occupy their houses a limited time of the year
- Item 21 – rock walls Waihi Beach - is in front of my property. The sea and wind control the sand dune build-up for example Dec - Jan a sand dune has developed in front of the rock wall with a build up of 9m wide x 1.75m high. A sand bar has built up approx 70-80 metres out to sea. The bar has been there for 2-? yrs. If the sand dune could be contained (by a removable barrier) until the dune has established a planted area. Remove the barrier if successful and repeat along the beach?
- Jet skiing is a real public danger - get some legislation in place before one gets injured or killed. Thank you!!!
- Keep it natural with sand dunes
- Let's have an "election". Pro rock wall to put up a candidate - Anti rock wall.... Managed Retreat..... Artificial Reef..... etc. Let them campaign - have some public debates do the research, convince the people, then put it to the vote. There must be a clear majority (70%)
- Long term approach for coastal protection at W/B should take various forms depending on location. Obviously in areas such as Shaw Road and The Loop, dune planting will not protect the properties in the area where the current rock wall has done so since 1968

- More attention should be paid to world-wide environmental advice. It is overwhelmingly against rock seawalls in our conditions, and will involve council in multi-million dollar lawsuits from all properties at the areas adjoining the ends of the wall. This should be openly considered in financial projections
- More controlled dunes are required. No rock walls. They have not worked - in fact have increased erosion
- My apologies for not making time to complete the first questionnaire you sent. I'm pleased I have taken time to complete this questionnaire. So easy to feel too busy to get involved
- My sister has lived on Papamoa Beach for many years. The dune in front of her house has built up & subsided regularly over that time - once dramatically following a full moon/king tide/storm. However overall there has been no major gain or loss and the beach has been allowed to change and adjust naturally. The beaches in Auckland with rock walls have all been depleted over time and are now needing to be re-sanded at great cost
- Nature with assistance (sand replenish) will repair in time. Dune planting assists sand retention.
- Neither WBOPDC or 'Environment' BOP appear to have any idea on modern coastal management concepts, and bow to pressure from uninformed property owners who think that rock are the only effective method of property protection. Aesthetics, the environment, coastal processes are irrelevant to them. Destroying a beach to protect property is not good coastal management. Over 2000 people are against the proposed 'rock wall' - public consultation is a force - we could do better
- No rock wall - I live near the Loop and see the damage everyday the rocks do. Dune care is the way to go and I don't mind funding such efforts
- Obviously the big issue is cost with the rates at Waihi Beach already high on ..... the recent waste water restriction and processing plant. An option needs to be implemented to address erosion and at the same time it has to be 'affordable'
- Oh if it could just be let be! The eastern area changes over the years - erodes and builds up again. Climate change may alter the cycle but the sea will have its way
- People can belong to more than one ethnic group. Some silly questions need refining Question 1. How long has the beach been here! Question 2. Has it managed to survive i.e. is it still here? Question 3. Why do human beings think they can improve something? A thought - maybe its councils fault for allowing building close to the sea over many years. There in lies the crux of the matter. Council trying to cover its own back.
- People shouldn't really live too close to sea or waterways, we have a big impact on nature, especially if we don't respect it. And also the world has already changed many times over the thousands of years that we know of. If mother nature wants to change she will, we can't stop her. But we can work with her
- Plantings excellent
- Please refer to notes included throughout
- Please refer to Q31 remark. Another example of council is although they gave consent to both permit plus resource to subdivide, they suddenly found they had made an error but no one would advise me of this mistake and kept sending me to other council employees with the pretence that subdividing was possible. This same can be experienced in the sea wall issue. They know what they want to do but lead the public on by meeting after meeting.

- Q 29. As a regular day visitor to Waihi Beach in the late 1960's I remember the natural beauty of the beach. On returning more regularly since 2003 and now renting permanently at the beach I prefer and will go to the areas of beach with natural foreshore most definitely avoiding areas where there are rock walls. Since residing here I am aware of the changes occurring on the foreshore but am not yet in a position to comment on management
- Re creek question - a non issue. Erosion occurred from the positioning of houses (or one permanently fixed house (see q27)) which determined the projection i.e. the seaward position of the wall. Other houses are able to be relocated. If coastal planting had started years earlier the beach would look vastly different. Existing smaller rocks if they cannot be removed especially by Shaw Rd and The Loop could be crushed on site and a dune created on top but over. No dunes should be created/sand deposited on top of existing boulders and irregular rocks as they may be exposed and remain a danger and a nuisance
- Refer Q31 - Although input opportunities have been available and used, submissions by majority have been disregarded in favour of affected property protection. Options for coastal restoration have not been adequately investigated; overall cost and picture of coastal protection has been sidelined, property constructed on foreshores should be at own risk and downstream costs owners responsibility. Sand dunes should not be built on (you should not build your house upon sand!)
- Remove all rocks and replant the dunes. Nothing will happen if we cannot remove Mayor Weld
- Right from the very start, Western Bay of Plenty council (WBOPDC) has been advised that the best long term solution to erosion is to divert both 2 and 3 mile creeks. Almost every coastal engineer/conservationist has recommended this. I live right beside the exit of 3 mile creek. I have argued for years that if this creek (or drain) was diverted, a large dune would build up. It would probably promote build up of a dune in front of "The Loop" so that a "hard" protection option would be unnecessary here. WBOPDC keeps saying this option would be too expensive. But, according to the consent issued to them, this option has to be considered within the next 20 years. This option must be taken now. It was only as a result of my submission at the consent hearings that WBOPDC agreed not to construct the rock revetment in front of Glen Isla Place. The original idea had been to dig up the existing dune with its substantial foliage cover, put in the wall and cover it up with sand. The dune would never have recovered. Except for the original house in this street, all houses have been built behind a designated building line restricted. This has protected the dune with its substantial foliage cover. As mentioned before, my property (and others) has a condition on the title which indemnifies the WBOPDC from liability due to erosion. Thus earthquake war damage commission will not cover erosion damage to my property. Thus my insurance company will not cover me. I have accepted this, but I will not allow WBOPDC to reduce my erosion protection nor will I pay for an unproven method of protection, such as a rock wall. WBOPDC did listen and the wall will not proceed at Glen Isla Place. However a consent has been issued to allow building of a training groyne at the mouth of 3 mile creek. This will be 3 metres high and extend 50 metres towards the water. At anything from 1/2 tide to full tide, there will be no pedestrian access along the beach. This area always has logs being washed up. These are going to block up the couth of the creek and damage the groynes. Thus people will have to either stumble over logs to get around the groynes or detour back up to Seaforth Rd to continue

along the beach. Great amenity!! When WBOPDC originally decided to construct the rock wall a condition was that the "amenity" value of the beach was to be retained. Council staff neutralized early on that amenity value could not be preserved by building a rockwall and training groynes. Some political skull drudgery ensured that "amenity value" was dropped from the motion passed to build the wall. WBOPDC has steadfastly pushed ahead the rock revetment wall option. They do have consent (subject to appeal being considered at present) to build this but have to reconsider other options within 20 yrs. I am extremely disappointed that Environment B.O.D. (EBOP) and Regional Council granted this consent. It seems crazy that EBOP on one hand are promoting dune care and environmental sustainable options and on the other hand are giving consent for a rock revetment against all scientific advice. WBOPDC needs to abandon the present consents and get stuck into getting 2 and 3 mile creeks closed off and or diverted. Once this is done dune enhancement can take place. One argument against creek diversion has been that the local Iwi will oppose polluted creek water going into Tauranga Harbour. But they forget that their marae adjacent to the outlet of Waiau River (into which 3 mile creek would be diverted) is still not on sewerage. The marae is still on septic tanks which leach out into the harbour. Thus they are polluting the harbour already. They should have been legally forced to connect to the sewerage scheme. These are my thoughts - thanks for doing this survey - the questions have been very good

- Rock wall impacts our use of beach - we don't use that part of the beach - I was born and raised here, as was my mother, and son as well. I want a beautiful scenic beach for all visitors - houses should be moved back if possible - dune planting is a great natural look that appears to be working. Thank you for this opportunity
- Rocks are a waste of money and time being placed on the beach frontage
- Sand dune planting. No rock walls
- See question 31
- Shaw Road buildings on the sea side should be moved. Back so as to allow the shore to be restored
- Shaw Road once had high sand dunes, it was subdivided and the sand dunes were bulldozed down - better sea views - also make the sections bigger. I have lived here for 67 years - I do remember what it was like before
- Surely those who have purchased beach front properties know the risk that these properties face, e.g. erosion and storm damage. Why should those few properties at risk (only used 2 weeks a year) and their owners be able to have so much influence on the use and enjoyment of the beach for all other users. It is obvious that a rock wall only destroys a beach. There are other options that must be considered before a wall is erected. A rock wall to me seems the absolute worst option
- Thanks
- The artificial reef option does not seem to have been investigated thoroughly. Dune preservation and planting appears to be working and looks natural and enhances our beach
- The beach front properties should never have been allowed to build houses
- The beaches of Piha, Mt Maunganui, Opito, Whangamata and Whangapoua all have an off shore island, and all show a build up of sand behind the island. This is why I believe in the off shore sand bag under water reef option of Question 10
- The Broadlands block is the flood zone, I believe that waste water coming from Island view etc should go into a lake in this Broadlands block with a weir or gate system to

control flow of water out. For greater use of sand, replenishment and dunes replanting is necessary. I can remember big dunes running along beach, they were removed for the view of the ocean - take the time and information to get it right

- The building of the sea wall is the most sensitive area of concern at the moment. The rates are very high and naturally ratepayers do not wish to be burdened with costs to benefit only a few properties selfish as it may seem
- The council needs to LISTEN to what the LOCAL community has to say - not holiday bach owners who are only here for a short time of the year. We have to live with their decisions
- The creeks are a source of pollution and erosion. To deal with the beach means to deal with the creeks. It's a waste of time and money to avoid this issue
- The current "rock wall" may be effective but it is ugly and affects beach preservation etc. The approved combination of rock revetment and dune creation/protection is a sensible compromise. We would all love only sand dunes but on parts of the beach that is clearly unmanageable at present
- The dune management system in place at present is helping the beach. We need more dune work and extension of existing dune fences on the beach front as the toe is well forward of present fencing
- The existing rockwall at Shaw Road (south) erodes the beach - check it out please don't repeat the exercise 38 years later. Please go surfing during storm surf and high tide and check sand movement in front of this wall. It is not staying on the beach!
- The greatest erosion occurs at each end of Waihi Beach, where there is the heaviest foot traffic. It will not decrease, but sensitive development of the presumably undeveloped reserves along the beach would assist in spreading the load. Our property was completely undeveloped in 1971. After a battle with the weather and extensive planting, we are now protected, and the effects of damage are no longer a problem. More planting on reserves is recommended. Particularly undeveloped reserves (this will also assist programme to counter Global Warning). Obviously natives such as Pohutukawa, but some must be quick growing e.g. Pittosporum (plant them now and water them). (There is also concern that the quantity of shells on Waihi Beach has reduced by perhaps 80-90% over our 35 years - human pollution? Unnoticed problem? Shellfish dying/)
- The houses on the immediate foreshore have been built on dunes, so they will always be at some risk but in the 11 years I have lived here there has been very little erosion in the high risk areas. I do not believe humans should alter our most important asset - the beach and foreshore for their personal benefit. The people living in these houses should be happy to be able to stay there as long as nature allows. They will be gone well before the beach is. This questionnaire also has not addressed the changes that will occur to sea life etc that unnatural seawalls must surely bring. If a natural solution can be found to assist dune-care planting & increase foreshore then this should be investigated and the public made aware of it. Keep awareness of the importance of dunes to the foreshore high through various media. I believe these statements apply to all NZ sandy beaches. Keep all foreshores, where possible, as reserves, and coastal erosion will be much less of an issue
- The natural slope of a beach is the best protection. The sand supply is important. The beach protects the dune - the dune protects the land. Storm cut (erosion) is a natural event. Rock walls create turbulence and degradation and erosion follows. Sand is lost but property owners apparently don't care!

- The original rock wall has served the beach well. No, to the new proposal
- The problem at Waihi Beach would be solved with comprehensive dune care programme along the length of the beach plus creek retaining. Where that doesn't work it could be assisted with off-shore reefs and educating beach front owners, making them responsible to their own areas (they are still throwing their garden waste & non-dune friendly plants on the beach) and making unnatural structures for their own access onto the beach & council is turning a blind eye to it
- The reason for objecting to the rocks is, if watching the sea in stormy weather each surge around the rocks drags more sand away leaving the level of sand greatly diminished.
- The rock walls are only a start, if the creeks are closed or returned to their natural outlets then dune enhancement & replenishment will quickly return the beach dunes, example pictures pg 9 - the rocks didn't need to be removed for dunes to grow, but as long as the creeks are there dunes will be eroded - never building to cope with a storm event
- The survey should zero in on the real reason for erosion - the creek estuaries
- The W.B.O.P.D.C made the wrong decision on applying for the rock revetment wall and that has made it difficult to now get what the people need. Whereas the beach people were at odds of what to do for the best, it is now, except for a few beach properties, fully behind methods, 'except the rock wall' and had the county given the beach more time and help, we wouldn't now be having to go to the Environment Count to block a disastrous rockwall. Thank you for sending this questionnaire and I hope some good will come out of it. I first came to Waihi Beach as a boy in 1928
- There have been many ideas put forward about this over the past 5-10 years. No solution is going to please everyone so the paid councillors/experts should make a decision and act on it now. Continued procrastination is just adding to the capital costs of every option except the "do nothing" option. No problem mate! OK
- There is no ONE solution but a package of solutions. Some useful short term, others long term. There tends to be too much P.C thinking i.e.: Rock walls are bad. Dunes are good. There is a place for these and other management tools depending on the specifics of each situation including fairness and justice for those affected. Apologies for late delivery. We have not visited our beach cottage since before Xmas
- There needed to be more questions regarding the main reason for erosion - the CREEK ESTUARIES. I also thought the questions were worded in a fashion that favoured a certain outcome
- This summer we have had a build up of sand along the Loop Road area. I am not sure if this is due to the sand build up from the rock wall or not. I have had the privilege of living near beaches for 30 years. In Raglan along Ocean Beach the council put huge tyres along the dunes then covered them with sand then planted - this method was very effective on retaining the wind blown sand dunes
- To succeed in sustainable resource management. We must learn to work with natural processes/laws. We do not need to become exceptionally smart. We just need to stop being arrogantly stupid!
- Waihi Beach is still a relatively untouched, lovely beach much admired and appreciated by overseas visitors - they love it! Wonderfully served by 'the village' we are very fortunate
- Waihi Beach used to have a lot of black sand - now nice white sand - erosion is being controlled by dune care - sand sausages laid out into the sea will help revert the creeks (2 mile and 3 mile) to flow out into the harbour. No rock walls

- WBOPDC EBOP have not listened honesty to public concerns re: rock wall. They have decided to build a wall and then set out to find "experts" and faults to back the proposal. There is very strong public and external opposition against it. Council ignores this at there peril
- We fully support dune planting and restoration and consider the rock wall an unviable option for Waihi Beach long term
- We have planted and fertilised dune grasses and have seen the start it new dunes, up to 5 metres outside the protective wire fence. We believe the fence should now be moved seaward to keep people off these new dunes so they can grow
- We think a rock wall is useless, but actual rocks (large) as in the natural coastline of NZ are best to protect the properties that are at immediate risk i.e. Shaw Rd properties where the big boulders are. If you go to all this trouble (questionnaire) then for 'god sake' listen to what the people say
- When I look at an aerial photograph of Waihi Beach I see so much green area between high tide and 200 or so metres in land. It had to be council that allowed buildings along The Loop and Shaw Rd, council made this mistake, council should fix it. Manage a retreat, turn the land into a reserve and plant it in trees
- With careful management and working with nature over the next 50 to 100 years, despite the occasional set back, the foreshore dunes could be restored to pre European times. However, for this to occur, beach access must be controlled. Property owners on the immediate foreshore need to use public walkways or build elevated walkways over the re-establishing dunes in front of their properties-A QUICK FIX TO THE PROBLEMS WE HAVE CREATED IS DOOMED TO FAIL
- Work with nature, should be National Coastal Management Policy - current, volunteers overseen or assisted by Local Body or National Body. More use of PD and such like workers. Get rid of exotics and plant natives except where a "foreign" plant can do it better. More CM education - see people - adults and children ignoring dune care signs and running through newly planted areas. TV documentary and adverts on caring of NZ. Have seen such things overseas. Thanks for putting this together and giving those who care another opportunity to express themselves over our CM.

APPENDIX 2 TAIRUA QUESTIONNAIRE

Managing our coast

Questionnaire
January 2007

Coastal management questionnaire

We are interested in your views on how we manage our coasts. This information is part of a national project conducted by GNS Science and NIWA to help agencies with responsibilities for coastal management better understand the views and values of communities.

The first set of questions concerns the property that this questionnaire was delivered to.

1. Choose the option that best describes your situation: (tick one option only)

   ☐ 1 Permanent resident, own this property
   ☐ 2 Permanent resident, renting this property
   ☐ 3 Visitor, own this property (e.g. if it is your bach or holiday home)
   ☐ 4 Visitor, don't own this property
   ☐ 5 Other (please describe) _____

2. If you **own** this property, how long ago did you buy it? (Tick one option only)

   ☐ 1 Less than 1 year
   ☐ 2 Between 1 year and 5 years
   ☐ 3 Between 5 years and 10 years
   ☐ 4 More than 10 years

3. If you are a **visitor**, where do you normally live? _____

4. Thinking of the past couple of years, which option best describes how often you visit **Tairua's ocean beach**? (Tick one option only)

   ☐ 1 Once a day or more, year-round
   ☐ 2 Once a day or more, but more in summer than in winter
   ☐ 3 Once a week or so, year-round
   ☐ 4 Once a week or so, but more in summer than in winter
   ☐ 5 Once a month or so
   ☐ 6 Two or three times a year
   ☐ 7 Once a year or less

5. What do you value about the coast? (Please tick the option in each row that best matches your view)

	Very important (1) ◄——► Not Important (5)				
Appearance of the beach and dunes (whether or not they are natural, etc)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Good recreational facilities in general (e.g. boat ramps, reserves, etc)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
A dry beach at high tide levels for recreational activities, such as sun bathing and sports	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Easy access onto the beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Walking access along the full length of the beach at high tide	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protection of iwi / Māori values	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Retaining some undeveloped, natural beaches around the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Retaining some undeveloped, natural headlands around the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protection of scenic values when looking out over the beach and toward the sea	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protection of scenic values when looking inland (e.g. towards houses or the surrounding landscape)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The involvement of local people in decision-making about the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The involvement of people who do not live locally in decision-making about the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protecting beachfront property, even if it means losing the sandy beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Good fishing and shellfish gathering	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Your suggestions on what you value about the coast…please describe.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

The next set of questions asks about your awareness and experience of natural hazards in general.

6. Which are the **two** natural hazards you consider most likely to affect Tairua?

- ☐ 1 Flooding (river or sea)
- ☐ 2 Storm or cyclone with high winds
- ☐ 3 Forest or bush fire
- ☐ 4 Earthquake **Tick two only.**
- ☐ 5 Ash fall from a volcanic eruption
- ☐ 6 Tsunami
- ☐ 7 Coastal erosion
- ☐ 8 Landslide

7. Have you ever (a) personally experienced any of the following hazards in the past, and (b) suffered loss or damage as a result? (Tick all that apply)

	I've had personal experience of:	**I've experienced loss/damage due to:**
Flooding (river or sea)	☐ 1	☐ 1
Storm or cyclone with high winds	☐ 2	☐ 2
Forest or bush fire	☐ 3	☐ 3
Earthquake	☐ 4	☐ 4
Ash fall from a volcanic eruption	☐ 5	☐ 5
Tsunami	☐ 6	☐ 6
Coastal erosion	☐ 7	☐ 7
Landslide	☐ 8	☐ 8

Please give details here: _____

_____

The questionnaire now moves on to coastal erosion and its management. Coastal erosion is common around New Zealand's coastline, but is most noticeable and causes problems when property is threatened. This can include public assets such as roads and parks, and also private property.

8. What do you think is the main cause of coastal erosion? (tick one option only)

- ☐ 1 Changes in the sand supply to the beach
- ☐ 2 Storms
- ☐ 3 Sea-level rise
- ☐ 4 Other cause (please describe) _____
- ☐ 5 Don't know

9. For each of the following statements do you agree or disagree? (please tick one option in each row)

	Strongly Agree (1) ⟷ Strongly Disagree (5)					Don't Know
Inappropriate development in coastal areas can put houses at risk from erosion	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
We must accept that erosion is a natural process at the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
There are a range of methods available to stop coastal erosion indefinitely	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
The width of the dune changes during the year	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
Once a dune is destroyed there's no way to bring it back	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

The next few questions are about managing erosion.

10. **In general**, which forms of coastal erosion management do you approve of? (tick all that apply)

☐ 1 Dune planting (to restore or maintain an adequate buffer zone)
☐ 2 Construction of seawalls and rock walls
☐ 3 Beach nourishment (adding extra sand)
☐ 4 Moving of buildings back from the beachfront (managed retreat)
☐ 5 Doing nothing (i.e. letting the sea dictate)
☐ 6 Other options (please describe) _____

11. In general, which of the above options do you consider to be the best **long term** approach for managing erosion (i.e. over the next 50 -100 years)? Please write the option number from above and briefly state the reasons why you chose this option.

_____

_____

_____

_____

With respect to managing erosion, please tick the statement you think best follows on from the starting sentence.

12. A good cover of plants on dunes… (tick one option only)

- ☐ 1 Stops the beach eroding because their roots keep the sand from being washed away in storms
- ☐ 2 Helps build up sand reserves by stopping it from blowing away, making a store of sand
- ☐ 3 Won't help with beach erosion as the dunes come and go with the tides and winds
- ☐ 4 Protects buildings built on dunes from erosion
- ☐ 5 Unsure

13. Building a seawall on a sandy beach… (tick one option only)

- ☐ 1 Protects beach-front properties from erosion indefinitely
- ☐ 2 Only provides limited protection to the properties behind it
- ☐ 3 Provides protection for properties immediately to the sides of the seawall
- ☐ 4 Protects properties behind it from storm events of any size
- ☐ 5 Unsure

14. The effect a seawall has on the natural behaviour of a sandy beach… (tick one option)

- ☐ 1 Is limited to the beach in front of the seawall
- ☐ 2 Doesn't change the width of the beach
- ☐ 3 Doesn't increase the effects of coastal erosion along other parts of the beach
- ☐ 4 Can increase the effects of coastal erosion along other parts of the beach
- ☐ 5 Unsure

15. **In general**, who do you think should fund coastal erosion control measures where **private property** is at risk? (tick all that apply)

- ☐ 1 Private owners whose property is at risk
- ☐ 2 Local communities or towns
- ☐ 3 District community (e.g. via District Council rates)
- ☐ 4 Regional community (e.g. via Regional Council rates)
- ☐ 5 Central government (via taxes)
- ☐ 6 Other (please describe) _____

16. **In general**, who do you think should fund coastal erosion control measures where **public property** (e.g. reserves and roads) is at risk? (tick all that apply)

- ☐ 1 Private property owners living nearby (e.g. at risk of losing road access)
- ☐ 2 Local communities or towns
- ☐ 3 District community (e.g. via District Council rates)
- ☐ 4 Regional community (e.g. via Regional Council rates)
- ☐ 5 Central government (via taxes)
- ☐ 6 Other (please describe) _____

17. Please tell us any thoughts you have on your choices for questions 15 and 16:

_____

_____

18. Currently, how much of a threat is coastal erosion to **Tairua's ocean beach**? (tick one option only)

- ☐ 1 A severe threat
- ☐ 2 A moderate threat
- ☐ 3 A minor threat
- ☐ 4 Not a threat

19. Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (tick one option only)

- ☐ 1 Already affects this property
- ☐ 2 Likely to affect this property within 10 years
- ☐ 3 Likely to affect this property within 50 years
- ☐ 4 Unlikely to affect this property within 50 years

Only respondents who own the property where the questionnaire was delivered should answer questions 20 and 21. All others please skip to question 22.

20. What consideration did you give to coastal erosion issues when you bought this property? (please describe)

_____

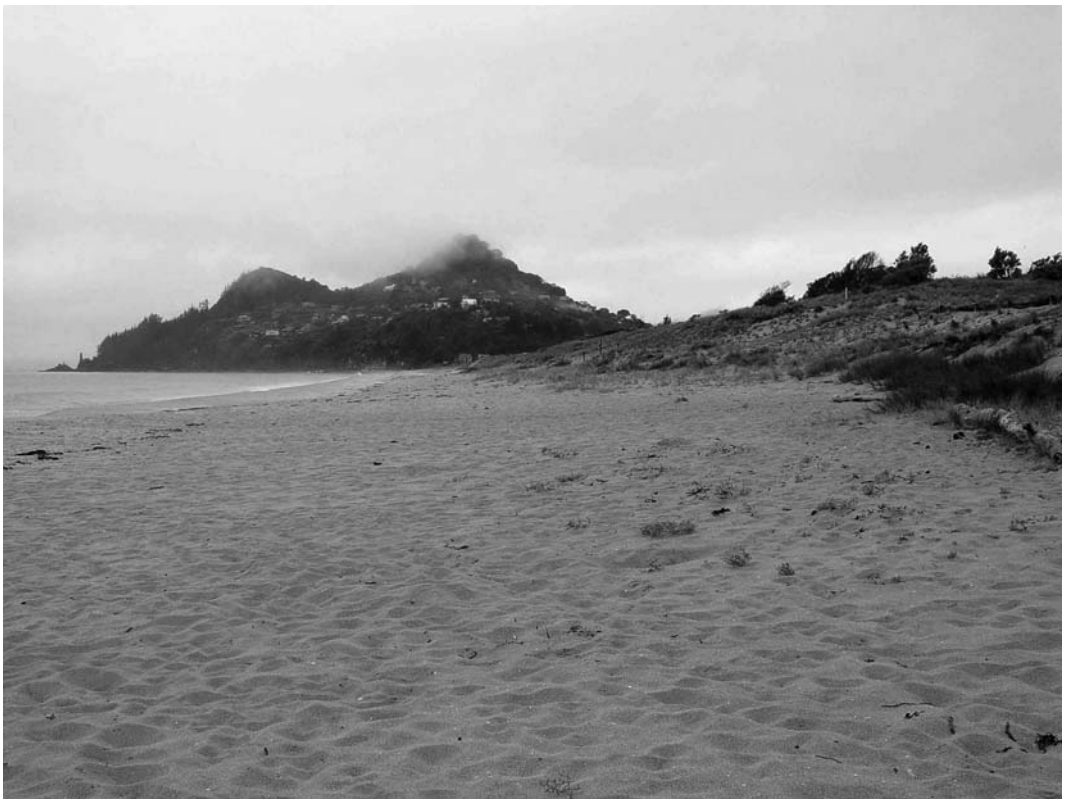
_____

_____

21. Have you seen a map of development setback lines for Tairua's ocean beach?

☐ 1 Yes
☐ 2 No

The next set of questions (22 to 31) are concerned with the management of coastal erosion at Tairua's ocean beach.



At Tairua's ocean beach, local people together with assistance from the district and regional councils have worked to maintain a sand dune buffer by planting sand-binding grasses and creating well-defined access-ways (see the photograph above).

22. Are you familiar with the dune buffer at Tairua's ocean beach?

☐ 1 Yes
☐ 2 No

If you answered 'no' to question 22, please skip ahead to question 32 (demographic information). Otherwise please continue.

23. How do you rate the success of this approach in addressing the current erosion problems at Tairua's ocean beach? (tick one option only)

☐ 1 Very successful
☐ 2 Quite successful
☐ 3 Not very successful
☐ 4 Don't know

24. Do you think that the dune buffer approach is a good long-term solution for coastal erosion at Tairua's ocean beach? (tick one option only)

☐ 1 Yes
☐ 2 Unsure/too soon to tell
☐ 3 No

25. Do you think a different management approach would have worked better?

☐ 1 Yes
☐ 2 No (go to question 27)

26. If you answered 'yes' to question 25, what do you think would have been a better approach?

_____

_____

27. What do you think are the main advantages and disadvantages of Tairua's erosion management approach (dune buffer)? (list up to three of each)

Advantages:

1._____
2._____
3._____

Disadvantages:

1. _____
2. _____
3. _____

28. With respect to the dune buffer approach to erosion control at Tairua's ocean beach, please consider the following statements and tick the box on each line that best describes your attitude:

	(1) Agree strongly ←				→ Disagree strongly (5)
This approach is visually attractive	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The beach's natural character has been adversely affected by this approach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The approach is a good solution to Tairua's erosion problems	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I feel positive towards the approach taken toward erosion management at Tairua's ocean beach.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The approach will help protect my property	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
It is unfair to 'let the sea dictate' (ie do nothing) when people's properties are at risk	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

29. Has your usage of the beach been affected by the dune buffer zone?

☐ 1 Positively affected (how?) _____
☐ 2 Much the same as before
☐ 3 Negative affected (how?) _____

The following questions concern the extent to which local people were involved with the decision-making process for the current erosion control approach.

30. Thinking back to **before** the current planting and dune buffer maintenance programme began, did you personally… (tick all that apply)

☐ 1 Attend any public meetings about the proposed approach
☐ 2 Participate in any focus groups or interviews
☐ 3 Complete a survey (e.g. a questionnaire or phone survey)
☐ 4 Make submissions about the proposed approach (e.g. to council)
☐ 5 Receive any information about the approach (e.g. flyers, newspapers, articles etc.). If yes, please describe _____
_____
☐ 6 Actively seek information about the approach. If yes, please describe ____
_____
☐ 7 Other (please describe) _____
☐ 8 I was aware the approach was being proposed, but wasn't involved in any way
☐ 9 I was not aware the approach was being proposed (if so, skip to question 32)

31. Once again, think back to **before** the current planting and dune buffer maintenance programme began. Please indicate how much you agree or disagree with the following statements (tick one for each line).

	(1) Agree strongly ←				→ Disagree strongly (5)
I expected the scheme to look different to how it looks now	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I expected the scheme to have less impact on how the beach looks now	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I expected the scheme to have less impact on my use of the beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I was well aware of the impacts of the scheme	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I would have liked more opportunities to become involved in decision making before the scheme was put in place	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
There was an adequate amount of information available about the proposed scheme	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I was not interested in the scheme before it was implemented	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

The final set of questions concerns information about yourself. This information will be treated with complete confidence, and we will only report on general trends. We need this information to determine how representative our sample is of the general population in Tairua.

32. Are you?

- ☐ 1 Male
- ☐ 2 Female

33. Which best describes the situation you are living in now? (tick one option only)

- ☐ 1 Family with children
- ☐ 2 Family without children
- ☐ 3 Alone
- ☐ 4 With non-family
- ☐ 5 Other (please specify) _____

34. Which ethnic group do you belong to? (tick one option only)

- ☐ 1 New Zealand European
- ☐ 2 Māori
- ☐ 3 Pacific Island
- ☐ 4 Chinese
- ☐ 5 Indian
- ☐ 6 Other (please state) _____

35. In what year were you born? _____

36. What is your current employment status? (tick one option only)

- ☐ 1 Employed full-time
- ☐ 2 Employed part-time
- ☐ 3 Not in paid employment (e.g. if you are retired or an at-home parent)
- ☐ 4 Self-employed

37. What was your gross household income for 2006 before tax is removed?

- ☐ 1 Under $5,000
- ☐ 2 $5,000 to $15,000
- ☐ 3 $15,001 to $20,000
- ☐ 4 $20,001 to $30,000
- ☐ 5 $30,001 to $40,000
- ☐ 6 $40,001 to $50,000
- ☐ 7 $50,001 to $60,000
- ☐ 8 $60,001 to $90,000
- ☐ 9 $90,001 to $150,000
- ☐ 10 $150,001 to $200,000
- ☐ 11 Over $200,001

38. What is your highest educational qualification?

☐ 1 No school qualifications
☐ 2 Secondary school qualifications
☐ 3 Trade certificate or professional certificate or diploma
☐ 4 University undergraduate degree (such as a diploma or bachelors degree)
☐ 5 University postgraduate degree (such as a masters degree or doctorate)

39. Have you had any experience with environmental matters (e.g. have you been involved in activities, groups or employment related to the environment)?

☐ 1 Yes (please describe) _____
☐ 2 No

40. Please use this space to write any other comments regarding erosion management for Tairua's ocean beach, coastal management in general, or this survey. All remarks will be useful.

_____

_____

_____

_____

_____

_____

_____

Thank you for taking the time to complete this questionnaire.

Please post the questionnaire in the envelope provided.

APPENDIX 3 WAIHI BEACH QUESTIONNAIRE

Managing our coast

Questionnaire
January 2007

Coastal management questionnaire

We are interested in your views on how the coast is managed, as part of a national project conducted by GNS Science and NIWA. Information from this project will be used by agencies with responsibilities for coastal management.

The first set of questions concerns the property that this questionnaire was delivered to.

1. Choose the option that best describes your situation: (tick one option only)

   ☐ 1 Permanent resident, own this property
   ☐ 2 Permanent resident, renting this property
   ☐ 3 Visitor, own this property (e.g. if it is your bach or holiday home)
   ☐ 4 Visitor, don't own this property
   ☐ 5 Other (please describe) _____

2. If you **own** this property, how long ago did you buy it? (Tick one option only)

   ☐ 1 Less than 1 year
   ☐ 2 Between 1 year and 5 years
   ☐ 3 Between 5 years and 10 years
   ☐ 4 More than 10 years

3. If you are a **visitor**, where do you normally live? _____

4. Thinking of the past couple of years, which option best describes how often you visit **the beach** at Waihi Beach? (Tick one option only)

   ☐ 1 Once a day or more, year-round
   ☐ 2 Once a day or more, but more in summer than in winter
   ☐ 3 Once a week or so, year-round
   ☐ 4 Once a week or so, but more in summer than in winter
   ☐ 5 Once a month or so
   ☐ 6 Two or three times a year
   ☐ 7 Once a year or less

6. What do you value about the coast? (Please tick the option in each row that best matches your view)

	Very important (1) ◄——► Not Important (5)				
Appearance of the beach and dunes (whether or not they are natural, etc)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Good recreational facilities in general (boat ramps, reserves, etc)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
A dry beach at high tide levels for recreational activities, such as sun bathing and sports	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Easy access onto the beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Walking access along the full length of the beach at high tide	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protection of iwi / Māori values	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Retaining some undeveloped, natural beaches around the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Retaining some undeveloped, natural headlands around the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protection of scenic values when looking out over the beach and toward the sea	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protection of scenic values when looking inland (e.g. towards houses or the surrounding landscape)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The involvement of local people in decision-making about the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The involvement of people who do not live locally in decision-making about the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Protecting beachfront property, even if it means losing the sandy beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Good fishing and shellfish gathering	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Your suggestions on what you value about the coast…please describe.	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

The next set of questions asks about your awareness and experience of natural hazards in general.

6. Which are the **two** natural hazards you consider most likely to affect Waihi Beach?

- ☐ 1 Flooding (river or sea)
- ☐ 2 Storm or cyclone with high winds
- ☐ 3 Forest or bush fire
- ☐ 4 Earthquake
- ☐ 5 Ash fall from a volcanic eruption
- ☐ 6 Tsunami
- ☐ 7 Coastal erosion
- ☐ 8 Landslide

Tick two only.

7. Have you ever (a) personally experienced any of the following hazards in the past, and (b) suffered loss or damage as a result? (Tick all that apply)

	I've had personal experience of:	**I've experienced loss/damage due to:**
Flooding (river or sea)	☐ 1	☐ 1
Storm or cyclone with high winds	☐ 2	☐ 2
Forest or bush fire	☐ 3	☐ 3
Earthquake	☐ 4	☐ 4
Ash fall from a volcanic eruption	☐ 5	☐ 5
Tsunami	☐ 6	☐ 6
Coastal erosion	☐ 7	☐ 7
Landslide	☐ 8	☐ 8

Please give details here: _____

_____

The questionnaire now moves on to coastal erosion and its management. Coastal erosion is common around New Zealand's coastline, but is most noticeable and causes problems when property is threatened. This can include public assets such as roads and parks, and also private property.

8. What do you think is the main cause of coastal erosion? (tick one option only)

- ☐ 1 Changes in the sand supply to the beach
- ☐ 2 Storms
- ☐ 3 Sea-level rise
- ☐ 4 Other cause (please describe) _____
- ☐ 5 Don't know

9. For each of the following statements do you agree or disagree? (Please tick the option in each row that best matches your view)

	Strongly Agree (1) ⟷ Strongly Disagree (5)					Don't Know
Inappropriate development in coastal areas can put houses at risk from erosion	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
We must accept that erosion is a natural process at the coast	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
There are a range of methods available to stop coastal erosion indefinitely	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
The width of the dune changes during the year	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
Once a dune is destroyed there's no way to bring it back	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

The next few questions are about managing erosion.

10. **In general**, which forms of coastal erosion management do you approve of? (tick all that apply)

☐ 1 Dune planting (to restore or maintain a sand dune buffer)
☐ 2 Construction of seawalls and rock walls
☐ 3 Beach nourishment (adding extra sand)
☐ 4 Moving of buildings back from the beachfront (managed retreat)
☐ 5 Doing nothing (i.e. letting the sea dictate)
☐ 6 Other options (please describe) _____

11. **In general**, which of the above options do you consider to be the best **long term** approach for managing erosion (i.e. over the next 50 -100 years)? Please write the option number from above and briefly state the reasons why you chose this option.

_____

_____

_____

_____

With respect to managing erosion, please tick the statement you think best follows on from the starting sentence.

12. A good cover of plants on dunes… (tick one option only)

- ☐ 1 Stops the beach eroding because their roots keep the sand from being washed away in storms
- ☐ 2 Helps build up sand reserves by stopping it from blowing away, making a store of sand
- ☐ 3 Won't help with beach erosion as the dunes come and go with the tides and winds
- ☐ 4 Protects buildings built on dunes from erosion
- ☐ 5 Unsure

13. Building a seawall on a sandy beach… (tick one option only)

- ☐ 1 Protects beach-front properties from erosion indefinitely
- ☐ 2 Only provides limited protection to the properties behind it
- ☐ 3 Provides protection for properties immediately to the sides of the seawall
- ☐ 4 Protects properties behind it from storm events of any size
- ☐ 5 Unsure

14. The effect a seawall has on the natural behaviour of a sandy beach… (tick one option only)

- ☐ 1 Is limited to the beach in front of the seawall
- ☐ 2 Doesn't change the width of the beach
- ☐ 3 Doesn't increase the effects of coastal erosion along other parts of the beach
- ☐ 4 Can increase the effects of coastal erosion along other parts of the beach
- ☐ 5 Unsure

15. **In general**, who do you think should fund coastal erosion control measures where **private property** is at risk? (tick all that apply)

- ☐ 1 Private owners whose property is at risk
- ☐ 2 Local communities or towns
- ☐ 3 District community (e.g. via District Council rates)
- ☐ 4 Regional community (e.g. via Regional Council rates)
- ☐ 5 Central government (via taxes)
- ☐ 6 Other (please describe) _____

16. **In general**, who do you think should fund coastal erosion control measures where **public property** (e.g. reserves and roads) is at risk? (tick all that apply)

- ☐ 1 Private property owners living nearby (e.g. at risk of losing road access)
- ☐ 2 Local communities or towns
- ☐ 3 District community (e.g. via District Council rates)
- ☐ 4 Regional community (e.g. via Regional Council rates)
- ☐ 5 Central government (via taxes)
- ☐ 6 Other (please describe) _____

17. Please tell us any thoughts you have on your choices for questions 15 and 16:

_____

_____

18. Currently, how much of a threat is coastal erosion to **Waihi Beach**? (tick one option only)

- ☐ 1 A severe threat
- ☐ 2 A moderate threat
- ☐ 3 A minor threat
- ☐ 4 Not a threat

19. Thinking about the property that this survey was delivered to, on what timescale is coastal erosion likely to affect this property directly? (tick one option only)

- ☐ 1 Already affects this property
- ☐ 2 Likely to affect this property within 10 years
- ☐ 3 Likely to affect this property within 50 years
- ☐ 4 Unlikely to affect this property within 50 years

Only respondents who own the property where the questionnaire was delivered should answer questions 20 and 21. All others please skip to question 22.

20. What consideration did you give to coastal erosion issues when you bought this property? (please describe)

_____

_____

_____

21. Have you seen any hazard maps for coastal erosion at Waihi Beach?

☐ 1 Yes
☐ 2 No

The next set of questions (22 to 31) are concerned with the management of coastal erosion at Waihi Beach.

Rock wall, Waihi Beach

Currently, a combination of different approaches is used for coastal protection at Waihi Beach. Rock walls (such as the one shown in the photo above) have been placed in front of beachfront properties along Shaw Rd and the Loop.

In other areas, seawalls have been removed and replanted with native dune plants to help build up sand dunes.

An example of this programme in Coronation Park is shown on the next page.

Coronation Park, Waihi Beach (Photographs: Coastcare, Environment Bay of Plenty)

July 2000
Sea wall removed, and planting undertaken in winter 2003.
Rocks were left on the beach.

October 2006
Rocks are now buried by the accreted white sand, raising
the beach profile and improving dune resilience.

22. Please consider each of the following statements and tick the box on each line that best describes your attitude:

	(1) Agree strongly ←				→ Disagree strongly (5)
I am happy with the 'package' of coastal protection measures used at Waihi Beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The current approach to managing coastal erosion at Waihi Beach benefits everyone	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Rock walls are the best long-term approach to protecting beachfront properties at Waihi Beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Sand dunes are the best long-term approach to protecting beachfront properties at Waihi Beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The rock walls spoil the natural character of Waihi Beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
There are plenty of public accessways to the beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I like the appearance of the sand dune buffer zones at Waihi Beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

	(1) Agree strongly ← → Disagree strongly (5)				
I would be happy to see more removal of rock walls and replacement by dune planting programmes at Waihi Beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
It is unfair to 'let the sea dictate' (i.e. do nothing) when people's properties are at risk	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
Managed retreat - moving of buildings back from the beachfront is the best long-term approach to protecting beachfront residences at Waihi Beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

23. How do you rate the success of dune buffer zones in addressing any current erosion problems at Waihi Beach? (tick one option only)

☐ 1 Very successful
☐ 2 Quite successful
☐ 3 Unsuccessful
☐ 4 Don't know

24. How do you rate the success of rock walls in addressing any current erosion problems at Waihi Beach? (tick one option only)

☐ 1 Very successful
☐ 2 Quite successful
☐ 3 Unsuccessful
☐ 4 Don't know

25. Has your usage of the beach been affected by the dune buffer zones?

☐ 1 Positively affected (how?) _____
☐ 2 Much the same as before
☐ 3 Negatively affected (how?) _____

26. Has your usage of the beach been affected by the rock walls?

☐ 1 Positively affected (how?) _____
☐ 2 Much the same as before
☐ 3 Negatively affected (how?) _____

27. If you have any other comments about coastal protection at Waihi Beach, please write them here:

_____

_____

_____

28. This question refers specifically to the rock wall along the Shaw Rd beachfront. This wall was originally built in 1968, and rebuilt during the 1970s. Since then, more large boulders have been added to the wall.
Can you remember back to how the beach looked **before** the wall was built?

☐ 1 Yes (please answer question 29)
☐ 2 No (please skip to question 30)

29. Thinking back to **before** the rock wall was put in place, please indicate how much you agree or disagree with the following statements (Please tick the option in each row that best matches your view).

	(1) Agree strongly ←				→ Disagree strongly (5)
I expected the wall to look different to how it looks now	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I expected the wall to have less impact on how the beach looks now	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I expected the wall to have less impact on my use of the beach	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
I would have liked more opportunities to become involved in decision-making before the wall was put in place	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
There was an adequate amount of information available about the proposed wall	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
The rock wall hasn't had much effect on the beach in front of it	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
It was a good idea to build the rock wall	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

30. Have you participated in any decision-making processes (e.g. public meetings, making a submission) with respect to coastal protection at Waihi Beach?

☐ 1 Yes (please describe) _____
☐ 2 No

31. Do you think there have been enough opportunities for the public to be involved with options for coastal protection at Waihi Beach?

☐ 1 Yes
☐ 2 No (please add here any suggestions you have for increasing public input)

_____

_____

The final set of questions concerns information about yourself. This information will be treated with complete confidence, and we will only report on general trends. We need this information to determine how representative our sample is of the general population in Waihi Beach.

32. Are you?

☐ 1 Male
☐ 2 Female

33. Which best describes the situation you are living in now? (tick one option only)

☐ 1 Family with children
☐ 2 Family without children
☐ 3 Alone
☐ 4 With non-family
☐ 5 Other (please specify) _____

34. Which ethnic group do you belong to? (tick one option only)

☐ 1 New Zealand European
☐ 2 Māori
☐ 3 Pacific Island
☐ 4 Chinese
☐ 5 Indian
☐ 6 Other (please state) _____

35. In what year were you born? _____

36. What is your current employment status? (tick one option only)

☐ 1 Employed full-time
☐ 2 Employed part-time
☐ 3 Not in paid employment (e.g. if you are retired or an at-home parent)
☐ 4 Self-employed

37. What was your gross household income for 2006 before tax is removed?

☐ 1 Under $5,000
☐ 2 $5,000 to $15,000
☐ 3 $15,001 to $20,000
☐ 4 $20,001 to $30,000
☐ 5 $30,001 to $40,000
☐ 6 $40,001 to $50,000
☐ 7 $50,001 to $60,000
☐ 8 $60,001 to $90,000
☐ 9 $90,001 to $150,000
☐ 10 $150,001 to $200,000
☐ 11 Over $200,001

38. What is your highest educational qualification?

- ☐ 1 No school qualifications
- ☐ 2 Secondary school qualifications
- ☐ 3 Trade certificate or professional certificate or diploma
- ☐ 4 University undergraduate degree (such as a diploma or bachelors degree)
- ☐ 5 University postgraduate degree (such as a masters degree or doctorate)

39. Have you had any experience with environmental matters (e.g. have you been involved in activities, groups or employment related to the environment)?

- ☐ 1 Yes (please describe) _____
- ☐ 2 No

40. Please use this space to write any other comments regarding erosion management for Waihi Beach, coastal management in general, or this survey. All remarks will be useful.

_____

_____

_____

_____

_____

_____

_____

Thank you for taking the time to complete this questionnaire.

Please post the questionnaire in the envelope provided.