

Recreational Use of Coast,
Rivers and Lakes in Taranaki
2007-2008

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Executive summary

A postal survey was conducted to ascertain recreational use of and access to Taranaki rivers, lakes and the coast. This provides an indication of the pressures on water resources and what influences where people choose to go and the recreational activities they engage in. Observation counts were undertaken at well known recreational locations to gauge the type and degree of use.

The Taranaki Regional Council is required by the Resource Management Act 1991 to promote sustainable management of Taranaki's water resources. The Council is also required to recognise and provide for the maintenance and enhancement of public access to rivers, lakes and the coast and to have particular regard to the maintenance and enhancement of amenity values, which includes recreational attributes of an area. Information within this report will assist in reporting on the state of the environment in relation to these aspects and will be of use for general water management.

The last recreational survey conducted was reported in 'Recreation : Taranaki Ring Plain Water Resources Survey 1984'. Methods for both the postal questionnaire and the observation counts were modelled on the 1984 project.

Fitzroy beach, Ngamotu beach, Opunake beach and the New Plymouth Coastal Walkway were the most frequently visited locations in the region. These locations were followed by East End, Urenui and Oakura beaches. Opunake Beach has increased in popularity as frequently visited regional destinations, compared with the results in 1984.

A higher proportion of respondents in 2008 had not visited a beach, river or lake in the preceding 12 months than in 1984. The majority that had were unable to visit as often as they would have liked, predominantly due to work, family commitments and cost. On average, men spent more days per year at beach, river and at lake sites.

Walking swimming and relaxing were the most popular activities at beaches and rivers. Walking, relaxing and scenic appreciation were the most popular activities at lakes.

Ninety percent of respondents thought public access to the coast, rivers and lakes was about right. Ninety percent of respondents rated water quality at beaches as good or excellent, 77% rated river water quality and 71% rated lake water quality in Taranaki as good or excellent.

New Plymouth residents visited the greatest range of locations. Stratford residents frequently travelled region wide to get to favoured locations. South Taranaki residents were also willing to travel greater distances more regularly. They visited a wider range of sites than Stratford residents, but showed a clear preference for favourite locations within South Taranaki.

Younger age brackets tended to prefer central New Plymouth beaches and Opunake Beach while the oldest age bracket showed a preference for Ngamotu beach and the Coastal Walkway.

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1. Introduction

1.1 Purpose of report

This report presents the findings of a water recreation survey conducted over the 2007-2008 summer period by the Taranaki Regional Council. The survey was undertaken to obtain up to date information on the recreational use of rivers, lakes and the coast in Taranaki. The findings of this report will be included in the Council's 2008 State of the Environment Report. The last region-wide water recreation survey was conducted by the Council's predecessor the Taranaki Catchment Commission as part of the Taranaki Ring Plain Water Resources Survey 1984.

This report discusses the location of water-based recreational areas, the type and frequency of activities, by whom they are undertaken and the accessibility of the coast, rivers and lakes for recreational use. The report provides valuable information for reporting on the state of the environment in relation to these issues and for general water resource management purposes.

1.2 Methods used

Two methods were used to obtain information on the use of water for recreational purposes.

A postal questionnaire was conducted of Taranaki residents to gain a broad indication of people's access to and use of water resources. Observation counts were made at selected locations of the total number of people present at each location and what activities were being undertaken. Further details of the methods used and the limitations for the postal questionnaire and observation counts are provided in sections 3 and 4, respectively.

1.3 Structure of the report

Section 1 introduces the purpose of the report, the methods used and the structure of the report.

Section 2 contains background information on recreation and water resources, a climate summary for the 2007 2008 summer and other information relevant to the report.

Section 3 presents the results of the postal questionnaire.

Section 4 presents the results of the observation survey.

Section 5 discusses the results, and their interpretation.

Section 6 contains recommendations for any future recreation study.

2. Background

2.1 Recreation and water resources in Taranaki

Taranaki's water resources, its rivers lakes and coastal waters, are widely used and highly valued. Recreational use of these resources occurs alongside and sometimes competes with other users for water such as agriculture and industry, community water supplies, hydroelectric power generation or port and other infrastructure developments.

There is a wide range of recreational uses of water. These include traditionally popular forms of water based recreation such as swimming, fishing, boating and aesthetic appreciation from walking, sitting or picnicing alongside waterways. Some of our rivers and coastal areas are of regional importance for the recreational and amenity values they provide. Some of Taranaki's surfbreaks for example are of regional and national importance. With changes in lifestyles and technology some new forms of water based recreation such as kite surfing and jet skis are being seen.

The Regional Sport and Physical Activity strategy prepared by Sport Taranaki in 2006 contains survey results of sport and physical activities undertaken by Taranaki residents. It shows that activities such as walking for enjoyment or exercise, swimming and fishing were in the top quartile (25%) of activities listed by Taranaki residents. Surfing and bodyboarding appeared in the second quartile of most popular activities. Walking for enjoyment or exercise which was listed by almost 60% of respondents will often involve walking along or near the waterways.

Access to beaches, rivers and lakes in Taranaki is one of the key factors that influence recreational habits. It appears that road access has not changed significantly from when the last survey was undertaken in 1984. However substantial car parking and facility upgrades and development of walkways has occurred.

For example in New Plymouth and other parts of the region there has been ongoing maintenance and upgrades of walkways and other facilities. The Central New Plymouth Foreshore development is the single most significant infrastructure development in Taranaki since the Taranaki Ring Plain Water Survey 1984. The development occurred over an eight year period from 1995-2003 and includes a 7km walkway extending from the Waiwakaiho River mouth in the east to Port Taranaki in the west, development of a main pier, finger piers, and a Len Lye sculpture at an approximate cost of \$24 million. The project is ongoing with the planned extension to Bell Block. The project has been awarded the Gold Design Award 2002 (NZ Institute of Landscape Architects National Awards), Outstanding Project Award 2003 (NZ Recreation Association), George Malcolm Award 2006 (NZ Institute of Landscape Architects) and Eastern Region Awards 2005 (International Federation of Landscape Architects).

2.2 Resource Management Act 1991

The purpose of the Resource Management Act 1991 is to promote the sustainable management of natural and physical resources, including water. In promoting sustainable management, the Council is required to recognise and provide for the maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers, and have particular regard to the maintenance and enhancement of

the quality of the environment and of amenity values. Amenity values include the recreational attributes of an area.

The survey of recreational use of coast, rivers and lakes in Taranaki provides an indication of the degree of public access to those areas. It also provides a measure of the pressures on water resources and the quality or state of water resources generally, in that people won't recreate where water quality is perceived to be poor.

The Council is required by the Act to monitor the state of the environment in the region. This enables the Council to determine if its policies and programmes are achieving success. The results of the water recreation survey are to be included in the Council's next state of the environment report due for publication in 2008.

2.3 Water quality monitoring

Taranaki Regional Council assesses and reports on bathing beach water quality over the summer period according to the Ministry for the Environment and Ministry of Health 'Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas' revised and issued in 2003.

Sampling was carried out thirteen times between November 2007 and March 2008. For marine beach sites enterococci bacteria is used to indicate faecal contamination. There were no instances of elevated bacteria levels reported for the marine bathing sites in the summer period

Three Taranaki beaches, Oakura, East End and Fitzroy gained and held Blue Flag accreditation for the summer period. This is an internationally recognised award for beaches that meet the four criteria of high standards for water quality, environmental education and information, environmental management and safety and services. These were the first beaches in Australasia to obtain Blue Flag accreditation.

The Taranaki Regional Council monitors summer cyanobacteria levels (blue-green algae) as well as *Escherichia coli* (*E. coli*) bacteria levels at Lake Rotomanu, the Waiwhakaiho River at Merrilands, Lake Ratapiko, Lake Rotokare and Lake Opunake. Cyanobacteria can cause skin irritation, and some species contain toxic substances known to have negative effects on human and animal health.

Lake Rotokare was closed for public use for the entire 2007-2008 summer period due to elevated levels of cyanobacteria.

Warning signs relating to high levels of *E. coli* bacteria at the mouth of the Timaru Stream were displayed at the Lower Weld Rd carpark for a number of weeks in February and March 2008. Warning signage was also displayed for periods of time at Lake Opunake, Patea River in Stratford and the mouths of the Kaupokonui and Waingongoro rivers.

Lake Rotomanu was closed late in March due to elevated levels of cyanobacteria. Excessive growth of aquatic weed in Lake Rotomanu resulted in complaints from boat owners as weed caught in propellers and effectively restricted the use of the

lake for recreational use. The New Plymouth District Council hired contractors to remove the weed as the lake ecosystem was unable to regulate itself.

2.4 Climate summary: 2007/2008 summer

Climate conditions can influence recreation patterns. The 2007/2008 summer period was warmer and dryer than average in the west of the North Island. Strong La Nina conditions prevailed resulting in more highs and predominant NE systems across the country. In general the west of the North Island was warmer by 1°C. Rainfall was well below average, less than 50% of the normal rainfall in some South Taranaki areas. Cloudy but hot weather meant sunshine hours in South Taranaki were below normal.

Rainfall was well below average throughout Taranaki in December, January and February with official drought conditions declared. Several areas in eastern Taranaki recorded less than 50% of average rainfall, while areas in central and northern Taranaki only recorded approximately 60% of average rainfall. Figure 1 below shows rainfall recorded specific locations around the region.

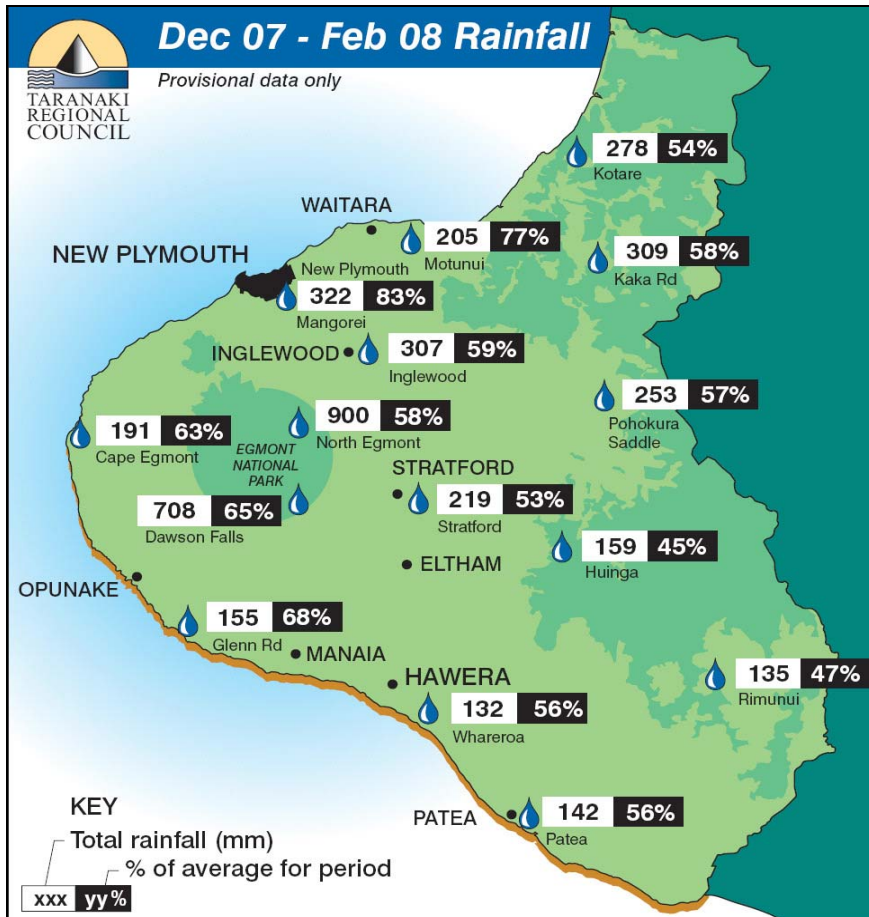


Figure 1 Rainfall over 2007/2008 summer period

3. Postal Questionnaire

3.1 Introduction

A postal questionnaire was used to gain an indication of people's access to and use of water resources. The questionnaire is attached in Appendix I. A sample of Taranaki residential addresses was selected from the White Pages of the Taranaki Telephone Directory. The method used is outlined below.

3.2 Method of postal questionnaire

1. Five hundred names were selected from the Telecom White Pages, with a target response of 400.
2. Names were sampled using simple random number tables from the three directories. The sample was divided in accordance with the proportion of population that live in New Plymouth, Stratford and South Taranaki districts.
3. The postal questionnaire was sent in mid January 2008 with a letter explaining the reason for the survey. The survey was designed to invoke individual response. To encourage respondents to fill in the survey, a self-addressed envelope and complimentary pen were included. In addition the letter indicated that those who filled out and returned a survey were automatically entered in the draw from which ten \$100 cash prizes were won.
4. By early February 2008, 230 people had responded to the initial letter; a 46% response rate. A reminder letter and further survey form were sent on 8th of February to those who had not responded to the initial letter. A further 89 responses were received by the closing date of 29 February. The total response from the written request was 319 or 64%.
5. It was evident from the returned questionnaires that those in the under 20 age group who might undertake water recreation independent of their caregiver or associated household were underrepresented. Taranaki secondary schools were therefore approached and a total of 98 surveys were completed by students from New Plymouth Girls High School, New Plymouth Boys High School, Opunake High School and Stratford High School.
6. A final total of 417 surveys were received.

3.3 Limitations

The postal questionnaire was based on the questionnaire used in the 1984 Taranaki Ring Plain Water Resources Survey to enable comparison. The Electoral Roll, used to select random addresses in 1984, was unavailable for this purpose due to Privacy Act regulations.

Based on Telecom White Pages listings, not all people have access to a land phone and not all are listed in the directory. Greater dependence on cellphones, particularly in younger age groups, may have excluded some from the survey. However, most people in Taranaki have access to a phone and the Telecom White Pages was the best available database. There was no control over who in the household filled out the questionnaire. There appears to have been good gender balance but the under 20 age bracket, which constitutes 29% of the population, was not adequately represented in

the data. The survey questions were designed for individual response, which in most cases would have been the household owner or bill payer. For this reason a number of Taranaki schools were approached and were happy to facilitate student volunteers to complete the surveys.

Significant coverage bias is associated with using the White Pages. According to a report by Gray and Suntheralingham (2005), the changing nature of communications technology indicates that using a telephone list for the survey database is not enough by itself and there is a need to move toward a multi-mode process including email, skype and web-based surveys. In 2005 Telecom estimated that nationally 13% of phone numbers were unlisted. An increasing number of people use private cell phones as their main phone line. On balance the Telecom White Pages was considered the best and most efficient method for selection of a sample population.

3.4 Results

3.4.1 Respondent Profile

The survey respondents provided an approximate representation of the demographic configuration of Taranaki (refer Table 1 below). The gender and place of residence proportions of respondents were similar to those recorded in the 2006 Census. NZ Maori were underrepresented as were the 20-24 and the 25-44 age groups. The over 65 age group was overrepresented.

Table 1 Summary of profile data 2008 compared with 2006 Census results

Ethnicity	% of respondents	2006 Census Results Taranaki %
New Zealand European	87	77
New Zealand Maori	7	15.8
Other European	3	-
Asian	1	2.2
Pacific Islander	0.5	1.4
Other	1.5	-
New Zealander	-	14.4
Residence	% of respondents	2006 Census Results Taranaki %
New Plymouth District	63	66
Stratford District	11	9
South Taranaki District	26	25
Gender	% of respondents	2006 Census Results Taranaki %
Male	47	49
Female	53	51
Age bracket	% of respondents	2006 Census Results Taranaki %
Under 20	24	29
20-24	1*	5
25-44	19*	26
45-64	30	25
Over 65	26	15

* See section 2.1.3 above. Note: ethnicity categories do not correlate completely. (see section 3.4.4). Nil response indicates that category was not available in the survey or in the 2006 Census.

3.4.2 Age

The under 20 age group had the greatest proportion that visited recreational sites with 97% having been to a beach, river or lake from December 2006- December 2007. The most frequently visited destination for this group was Fitzroy Beach followed by Opunake and Oakura beaches. The 25-44 and the 45-64 age brackets had 91% and 90% respectively who visited water recreational sites. Ngamotu Beach was the most frequently visited destination for both of these age groups followed by Fitzroy Beach.

Of the over 65 age bracket, only 74% had visited water recreation sites in the last year. Ngamotu Beach followed by the Coastal Walkway were the most frequently visited locations for this age bracket.



Photograph 1 Use of the Coastal Walkway, summer 2008

3.4.3 Gender

Approximately 89% of women and 90% of men had visited a beach, river or lake in the preceding year. Overall, females visited Fitzroy beach most frequently. Ngamotu beach followed by the Coastal Walkway, Opunake and East End beach were also frequently visited destinations. Males frequently visited Opunake Beach, followed by Ngamotu and Fitzroy beaches. However, the data for males was spread more evenly over the range of locations visited most frequently. On average, males spent more days per year than females at beach, river and lake sites.

Table 2 Mean days/year at water recreation sites by gender

Average days of a year	Beach	River	Lake
Male	61	37	21
Female	46	25	14

When asked whether people were able to visit rivers, lakes and the coast as much as they would like, 50% of all female respondents said they were not able to visit as much as they would like, compared with 72% of male respondents. Both genders mentioned similar reasons i.e. work, family and cost however, men cited work commitments as being more of a preventative factor.

At coastal sites, walking and swimming are the most favoured activities for both genders. Relaxing and fishing are ranked next as favoured activities although, twice as many females than males would choose to relax, and the reverse was true for fishing. More males would drive, surf, camp, whitebait and gather shellfish, while a higher number of females would picnic, appreciate scenery and jog. The recreational

patterns were similar at river locations. At a lake, approximately double the number of males than females boated, water skied, fished, jet skied and camped.

3.4.4 Ethnicity

The ethnicity of respondents correlated well with 2006 Census results for the Taranaki region (refer Table 1). The postal questionnaire differed from the Census in that 'New Zealander' was not an available option, but 'Other' and 'Other European' were. Redistribution of the percentage that identified as a 'New Zealander' in the Census would likely make the figures more similar.

Overall, Maori were underrepresented in the survey, with the number of Maori respondents half what would be a representative proportion according to 2006 Census figures. South Taranaki District was closest to representing proportional population in respect to ethnicity. Stratford district was overrepresented with 100% of respondents being of New Zealand European descent. New Plymouth District had the most diversity of ethnicity but was under representative of the Maori proportion of the population. The least number of surveys came from the Stratford district.

Table 3 Ethnicity of respondents by district.

Ethnicity	New Plymouth District %	Stratford District %	South Taranaki District %
Asian	1	-	-
Maori	6		15
New Zealand European	89	100	80
Other European	3	-	5
Pacific Islander	1	-	-

For those of New Zealand European descent, Fitzroy Beach rated as the most frequently visited location followed by Ngamotu then Opunake beaches. For those of Maori descent, Opunake Beach rated as the most frequently visited site, followed equally by Fitzroy then Ngamotu. People of 'Other European' ethnicity visited Oakura and Ngamotu beaches most frequently.

3.4.5 Locations visited

In the 12 months preceding the survey, 90% of respondents had visited at least one of 84 beach, river or lake locations. The range of locations visited by respondents had increased compared with the 1984 Ring Plain Survey total of 65 recreational sites. All the sites respondents listed as having visited between December 2006 – December 2007 are recorded in Table 4.



Photograph 2 Child playing at Urenui River Mouth



Photograph 3 Kayaker on the Waiwhakaiho River

Table 4 Range of locations visited by respondents, December 2006- December 2007

Locations visited	No. of responses	% that had visited site	Locations visited continued	No. of responses	% that had visited site
Fitzroy Beach	140	37.2	Mimi	6	1.6
Ngamotu	121	32.2	Kina	6	1.6
Opunake Beach	113	30.1	Waiwhakaiho Burgess Park	5	1.3
Oakura Beach	88	23.4	Stony River	5	1.3
East End	81	21.5	Arawhata Rd	5	1.3
Lake Rotomanu	76	20.2	Paora Rd	4	1.1
Urenui	68	18.1	Kahui Stream	4	1.1
Back Beach	57	15.2	Waitoitoi	4	1.1
Lake Mangamahoe	53	14.1	Pukearuhe	4	1.1
Coastal walkway	53	14.1	Urenui River	3	1.1
Ohawe	42	11.2	Waiwhakaiho Mouth	3	0.8
Patea Beach	39	10.4	Waingongoro River	3	0.8
Timaru Stream	39	10.4	White Cliffs	3	0.8
Te Henui Stream	36	9.6	Mohakatino River	3	0.8
Kaupokonui River	30	8.0	Waiongana River	3	0.8
Bell Block Beach	29	7.7	Ngatoro	3	0.8
Waiwhakaiho Audrey Gale Park	25	6.6	Puketapu	3	0.8
Lake Rotokare	23	6.1	Puniho	3	0.8
Lake Rotorangi	21	5.6	Dawson Falls	3	0.8
Wai-iti	20	5.3	Waiaua	3	0.8
Onaero	20	5.3	Kaweroa	2	0.8
Tongaporutu River	18	4.8	Kapuni Stream	2	0.5
Waiwhakaiho Meeting of the waters	17	4.5	Whenuakura River	2	0.5
Lake Opunake	17	4.5	Egmont National Park	2	0.5
Waitara beach	16	4.3	Greenwood Rd	2	0.5
Huatoki	16	4.3	Makatawa River	2	0.5
Oakura River	15	4.0	Kumara Patch	2	0.5
Waitara river	15	4.0	Mangahume	2	0.5
Oaonui Stream	14	3.7	Greenmeadows	2	0.5
Ratapiko	12	3.2	Waiinu	2	0.5
Waihi Beach	12	3.2	Lake Cowley	1	0.5
Breakwater	11	2.9	Waipipi	1	0.3
Weld Rd	11	2.9	Manutahi	1	0.3
Manganui River	10	2.7	Mokoia	1	0.3
Pukekura	10	2.7	Manaia	1	0.3
Stent	10	2.7	Tangahoe River	1	0.3
Waverley	9	2.4	Otakeho River	1	0.3
Patea River	9	2.4	Epiha Rd Beach	1	0.3
Cape Egmont	9	2.4	Waitaka	1	0.3
AhuAhu	9	2.4	Komene	1	0.3
Oaonui Stream	8	2.1	Maraetai	1	0.3
Middleton Bay	7	1.9	Total location count 2008: 84		
Patea dam	6	1.6	Total location count 1984: 65		

Fitzroy, Ngamotu and Opunake beaches are the locations most people have visited, with nearly one third of all respondents having visited each of these beaches. Oakura

beach was the location most visited in 1984. Lake Rotomanu is the lake most visited and Timaru Stream, the river/estuary location visited by the greatest number of Taranaki residents. Audrey Gale Park, on the Waiwakaiho River is the most visited non-estuarine river location in the region.



Photograph 4 Surfer at a New Plymouth surf break

Regional differences

Significant regional differences were found in the range of sites visited, and the most frequently visited sites. The South Taranaki District had the greatest number of respondents that had visited water recreational sites (93%). From the New Plymouth District 90% had visited rivers, lakes or the coast. From the Stratford District, 74% of respondents had visited one of these sites in the last year. Figure 2 represents the most popular coastal, river or lake destinations for residents from the New Plymouth, Stratford and South Taranaki Districts. The top ten most frequently visited sites for residents from each district have been represented on these maps with dots representing the percentage of respondents who listed that specific location. Some respondents listed more than one site.

New Plymouth residents visited the greatest range of locations (refer to Appendix II), but the ten most frequently visited sites were all in the New Plymouth District.

Stratford residents frequently travelled region wide to get to favoured locations. Residents from this district travelled the greatest distances, but visited fewer and more popular sites in general.

South Taranaki residents were also willing to travel greater distances more regularly. They visited a wider range of sites than Stratford residents, but showed a clear preference for Opunake Beach, followed by Ohawe Beach and river as favoured locations.

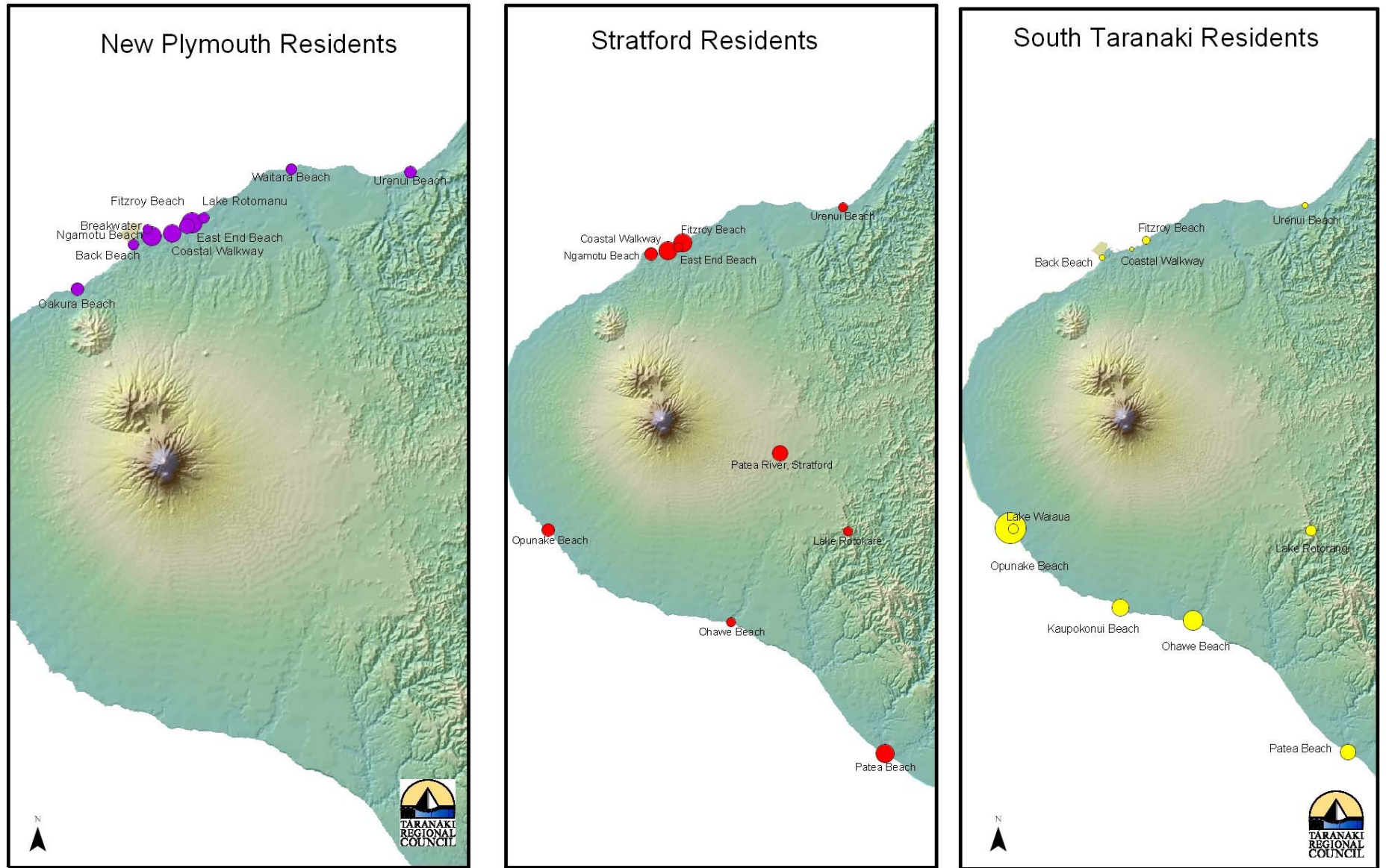


Figure 2 Proportional representation of the top ten most frequently visited locations by District

Respondents were asked to identify the locations they visited most frequently. These have been listed in Table 5.

Table 5 Comparison of most frequented locations in 2007-2008 compared with 1984 results

Locations visited 2007 - 2008	No of responses	% of responses	Rank	Top 20 most frequently visited locations 1984
Fitzroy	63	17.3	1	3
Ngamotu	54	14.8	2	2
Opunake	49	13.5	3	5=
Coastal walkway	37	10.2	4	-
East End	30	8.2	5	11=
Urenui	25	6.9	6	
Oakura	23	6.3	7	1
Ohawe	21	5.8	8	4
Patea Beach	17	4.7	9	
Back Beach	16	4.4	10	5=
Lake Rotomanu	16	4.4	11	
Waitara beach	16	4.4	12	9=
Kaupokonui River	15	4.1	13	5=
Breakwater	11	3.0	14	
Mangamahoe	10	2.7	15	8
Bell Block	10	2.7	16	6=
Rotorangi	8	2.2	17	
Onaero	7	1.9	18	
Te Henui Stream	6	1.6	19	10=
Audrey Gale Park	5	1.4	20	9=
Opunake Lake	5	1.4	21	10=
Patea River	4	1.1	22	
Waitara river	4	1.1	23	9=
Pukekura	4	1.1	24	
Manganui River	3	0.8	25	
Meeting of the Waters	3	0.7	26	10=
Rotokare	3	0.7	27	
Tongaporutu	3	0.7	28	
Paora Rd	3	0.7	29	
Kahui Rd	3	0.7	30	
Waiwhakaiho Burgess Park	2	0.5	31	11=
Waiwhakaiho Mouth	2	0.5	32	
Ratapiko	2	0.5	33	11=
Whenuakura	2	0.5	34	
Timaru Stream	1	0.3	35	
Wai-iti	1	0.3	36	
Oakura River	1	0.3	37	7
Stony River	1	0.3	38	10=
Waingongoro River	1	0.3	39	11=
Kapuni	1	0.3	40	
Stent	1	0.3	41	
Kina	1	0.3	42	
Egmont National Park	1	0.3	43	
Patea dam	1	0.3	44	

Comparing the number of responses to the 2007-2008 survey with the 1984 survey it appears the central New Plymouth beaches, Fitzroy and East End have increased in popularity. Ngamotu Beach has remained a high use recreation site. The development of the Coastal Walkway has provided a popular 'new' site, ranking as the 4th most frequented water-based recreational location in the region. It is highly likely that many of those visiting central New Plymouth beaches also made use of the Coastal Walkway without identifying it as a separate site.

Opunake Beach has become more popular regionally, ranking as the third most frequented location. Urenui and Patea Beaches are in the top 10 most frequently visited locations but were not mentioned in the 1984 Ring Plain report as frequented locations. Oakura, Bell Block, Kaupokonui, and to a lesser degree Back Beach and Ohawe have dropped in popularity.

3.4.6 Activities Undertaken

Generally, beaches are the favoured water-based recreational destination in Taranaki due to good access to many diverse options. Figure 3 below shows the percentage of average days per year spent at a beach, river or lake by all respondents.

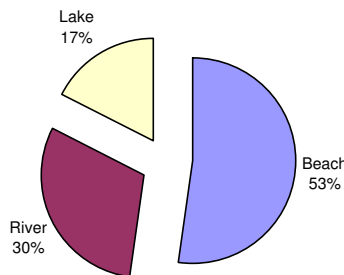


Figure 3 Breakdown of favoured location type.

Respondents were asked what activities they undertook while visiting identified beach, river or lake sites. Outlined in Table 6 is a breakdown of the activities selected by respondents. Respondents were also asked to identify on their response which activity illustrated the main reason for visiting an area. Results are distorted as many respondents interpreted this question by listing all activities they engaged in without identifying a main reason. A smaller number of people only identified the main reason for visiting a location and did not list the secondary activities they engaged in. For this reason more generic and passive activities such as walking, relaxing and scenic appreciation may be overrepresented.



Photograph 5 Children on bodyboards at Urenui River mouth.

Table 6 Specific recreational activities at beach, river and lake sites Dec 2007-Dec 2008

Beach activity	% of activities	River activity	% of activities	Lake activity	% of activities
walk	60.9	walk	47.4	walk	42.8
swim	50.3	swim	46.4	relax	38.9
relax	43.9	relax	40.3	scenic	28.3
fish	25.0	scenic	24.6	swim	25.6
picnic	24.2	picnic	24.2	picnic	20.0
scenic	20.2	fish	15.6	watch	13.3
drive	13.0	whitebait	14.7	drive	12.8
watch	12.2	watch	9.5	boat	11.7
surf	12.0	boat	8.5	waterski	9.4
camp	8.5	camp	8.5	fish	8.3
jog	6.9	drive	8.1	jog	8.3
whitebait	6.1	jog	5.2	kayak	8.3
kayak	5.6	hunt	4.3	jetski	8.3
shellfish gathering	5.1	waterski	3.8	camp	7.8
sail	2.1	raft	2.8	hunt	1.7
windsurf	1.6	kayak	2.8		
waterski	1.3				
boat	1.3				
cycle	1.1				
horseride	0.8				
surf lifesaving	0.5				
jetski	0.5				
quad bike	0.3				

Walking, swimming and relaxing are the most popular activities at beaches and rivers. Scenic appreciation and picnicing are also popular. Fishing is a popular beach activity ahead of surfing and camping. At rivers fishing and whitebaiting are popular activities. A higher percentage of people engage in passive recreation at lakes, but more people in the region go to lakes to boat and water ski rather than fish, jog or kayak.

Over half the respondents visited these locations all year round. Of those that visited seasonally, summer was by far the most popular time of year. People visited spring and autumn an equal amount, but very rarely in winter.

3.4.7 Reasons for visiting locations

Respondents were asked to rank reasons why they had visited those locations most frequently in the last twelve months. The top reason for selecting a location was because of proximity, i.e. it was close to home. Figure 4 illustrates a breakdown of respondents' reasons.

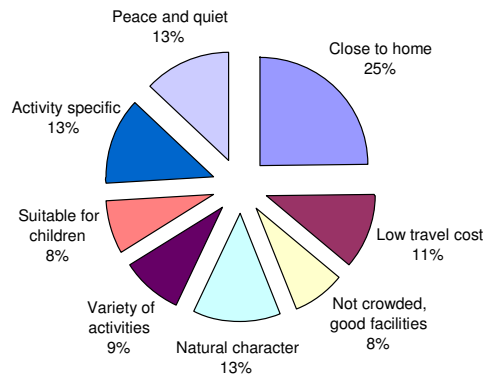


Figure 4 Reasons for visiting selected sites 2008

Choosing to visit a location because it is closer to home, may dictate the type of recreational activity undertaken. However, the reason ranked second equal, that the environment was suitable for a specific activity, is likely to reflect the sub-groups of users that require very specific environmental conditions such as surfers or anglers. Higher skill based and equipment intensive activities are more condition dependent and these recreational user groups tend to travel further to get to the best environment. Peace and quiet and the natural character of a location are also ranked second equal as reasons people choose to visit water-based recreational sites.

As a generalisation, the recreational activities people engage in are influenced by where they live, unless they belong to a sub-group of skilled and environment specific recreationalists, seek peace and quiet or the natural character of a place and are therefore willing to travel to the best location. The few comments made by respondents on this matter related to dog exercise restrictions. These are quoted below.

"I think more facilities for safe dog walking on beaches would be beneficial."

"Need for more places to camp and places to take dogs."

3.4.8 Factors discouraging visits

Of all respondents 61% indicated that they did not visit rivers lakes or the coast as often as they would like. The main reasons people gave for this are displayed in Figure 5 below.

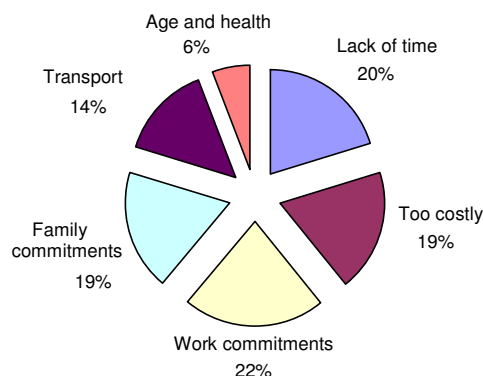


Figure 5 Reasons preventing more regular visits

The main reasons are work commitments followed closely by lack of time, family commitments and cost. Approximately 10% of respondents indicated that they did not

visit any of these sites at all. Ill health, mobility issues and a lack of transport were all cited as reasons that prevented them from visiting rivers, lakes and beaches. Around one sixth of those that had not visited a water-based recreation site stated they had no interest in visiting these locations.

3.4.9 Public Access

Respondents were asked if they had been able to gain access to rivers lakes or parts of the coast in Taranaki that they wanted to in the last year. Seventy eight percent indicated that they had been able to and 10% had not. The main reasons people could not gain access was because the access or entrance was closed, too difficult or too dangerous. Only 1% of respondents had been denied access by the land owner or occupier.

Table 7 Respondents' perception of access to rivers, lakes and the coast.

Respondents' perceptions of level of access to rivers, lakes and coast	Inadequate %	About right %	Too great %
	8	90	2

Of all respondents 90% thought that the level of public access to Taranaki rivers, lakes and coast was about right. Results from a Taranaki Regional Council report on coastal areas of local or regional significance in the Taranaki region showed that in 2004, 58% of the coastal areas identified in the Inventory had good or excellent public access while 42% of the sites were rated as having poor public access. Poorly defined legal access was the single most significant limiting factor (represents almost 45% of the identified coastal areas having poor public access), followed by a lack of legal access (represents almost 35% of the identified coastal areas having poor public access).

A selection of quotes representing comments made on the level of accessibility are included below:

"Debatable... 'A privilege abused is a privilege denied'. Control of access seems to be increasingly necessary."

"Taranaki beaches and lakes are very easy to access and convenient"

"Sometimes I'm not aware of how to get there – seems to be word of mouth. Hard if you're not local."

"As a land owner I feel the laws are more in favour of the general public than the land owner."

"Clearer understanding of public river access is required for anglers and landowners - very poor understanding for public regarding access and the Queens chain etc."

"I have never had difficulty getting access to private land. Permission is readily given if properly requested."

3.4.10 Water quality

Respondents were asked how they rated the overall water quality of Taranaki's beaches, rivers and lakes by checking a box to indicate their rating. The percentage breakdown for each location-type are given in Table 8.

Table 8 Perceived water quality ratings January 2007- January 2008.

Perceived water quality	N = no. of respondents	Excellent %	Good %	Fair %	Poor %
Beach	350	31	59	10	0
River	301	18	59	23	0
Lake	269	13	58	29	0

Ninety percent of respondents perceived the water quality of Taranaki's beaches to be good or excellent, 77% perceived the water quality of Taranaki's rivers to be good or excellent and 71% perceived lake locations to have good or excellent water quality. Twenty nine percent of respondents perceived fair water quality in Taranaki lakes, 23% rated rivers to have fair water quality and only 10% rated beach water as fair quality. There were no responses indicating that water quality was perceived to be poor at any location.

At a number of lake and river mouth locations in 2008, elevated levels of *E. coli* bacteria caused warning signs to be put up advising against bathing in the water due to the potential health risk. Local media reported on the toxic cyanobacteria algae blooms at lake Rotokare (throughout the season) and Lake Rotomanu (towards end of season) and elevated *E. coli* levels at Lake Rotomanu, Timaru Stream, Lake Opunake Kaupokonui and Waingongoro river mouths, Patea River (Stratford) and Manganui River (Everett Rd). The increase in public awareness was in part due to a change in requirements for public notification by the Ministry of Health and the introduction of cyanobacteria monitoring as part of routine water quality monitoring.

Some of these warnings were in place and reported in the media a the time of the postal questionnaire and may have influenced people's perception of overall water quality in Taranaki.

4. Observation Count

4.1 Introduction

The observation count was designed to indicate the level of use and the type of activity undertaken at specific recreation locations. The data collected only provides an indication only of recreational behaviour patterns as these are dependent on a wide range of environmental, cultural and personal factors. More popular locations were visited more frequently in order to pick up any trends and were visited at busier times of the day and week.

Locations were chosen were based on known popular recreation sites, with nearly double the number of locations visited than in the previous study. The method of the observation count is outlined in section 3.1.4.

Common recreational activities that are not based at a specific location such as angling and kayaking are under represented in the observation count. An indication of the level of activities such as angling and kayaking are included in section 4.2 below. Whitebaiting activity which occurred outside the observation period is discussed in section 4.5.

4.2 Non site-specific activities

Due to the highly mobile nature of trout fishing and kayaking, these recreational users were not represented adequately in observational counts. Taranaki clubs and organisations gave an indication of active anglers and kayakers in the region.

Results from the postal questionnaire indicated that around 6% of respondents fish at rivers and 4% fish at lakes in the region. Based on figures supplied by Fish and Game Taranaki, an estimated 1% of the Taranaki population hold whole season trout fishing licences. A 2001/2002 survey of angling activity carried out by Fish and Game Taranaki estimated over 6300 total angler days for the season, which was likely to be below average. In the 1994/1995 survey the number of angling days was estimated at over 8400 visits.

The New Plymouth Canoe and Kayak Club estimated they had approximately 60 active white water kayakers, and 80 active sea kayakers regularly frequenting the waterways and coast. The Oakura Surfcasting and Kayak Fishing Club has an active local membership of approximately 40 members and hosted one of New Zealand's main kayak fishing contests in March 2008.

4.3 Whitebaiting season

The 2007 whitebaiting season lasted from 15th August – 30th November. Whitebaiting is a popular activity in Taranaki but was not represented in the observation data which was collected from the end of November 2007 to the end of February 2007.

During the 2007 season it was estimated by local whitebaiter Allen Stancliff that at peak times there were more than 50 people on the Waiwhakaiho River alone. He estimated that peak counts on one day from the Mohakatino River estuary down to the Waitotara River would have totalled in excess of 1,000 whitebaiters. Even small streams such as the Katikara, Timaru, and Te Henui had significant use with peak counts of somewhere between 5 and 20 people. DOC New Plymouth marine expert Bryan Williams agreed with those estimates, saying for that time of year whitebaiting

is one of the most popular recreational activities throughout Taranaki. It is enjoyed by a large cross-section of the community from young children to the retired. Retired people make up a large proportion of this group and can be very passionate whitebaiters.

4.4 Public events

Recreational locations are used during summer months for large organised community and public events. These events do not fall within everyday recreational use of the region's beaches and waterways, but attract a temporary flux in numbers that has an impact on the resource. Dependent on good weather, public areas by the coast, rivers and lakes provide a desirable environment for sporting, artistic and cultural events. Longstanding organised events such as beach carnivals, school trips and surf lifesaving events have continued, while upgraded facilities and more sophisticated event management has allowed for outdoor concerts and movies.

An example of organised events and estimated attendance over the 2007-2008 summer are recorded below.

- The Oakura Beach Carnival on 1st January 2008, ran by NPOB Surf Life Saving club attracted between 6000 and 7000 people. Attendance in previous years has been as high as 10 000.
- Fitzroy Beach Carnival ran by the Fitzroy Surf Life Saving Club was held on Waitangi Day, 6th February 2008. Entertainment and activities were organised by the club and this attracted over 3000 people to the beach. Numbers in previous years have exceeded 5000. Also on Waitangi day, a dawn ceremony and a midday concert at the Pukeariki landing adjacent to the Te Henui Stream attracted hundreds of people.
- Opunake Beach Carnival run by the Opunake Lions Club on 5th January 2008 had an estimated 2500 people attend.
- Surf and Skate Day Out held at East End Beach and Skate Park on 21st January attracted over 600 people. This event was organised by the New Plymouth District Council.
- The Big Beach Bonanza at Ngamotu Beach attracted 250 people at once and 200 attended the Oakura Beach Big Dig. This event was organised by the New Plymouth District Council.

Additional events that attracted people to the waterways and coast over the 2007-2008 summer are listed below:

- Take a kid fishing days, Lake Opunake, Patea River, Lake Rotomanu and Lake Ngangana, December 2007.
- Stone Sculpting Symposium, East End reserve adjacent to the Te Henui Stream, January 2008.
- West Coast One Base sports fishing competition run by the New Plymouth Sports Fishing and Underwater Club, March 2008.
- Billabong Pro Junior Australasian surf competition, March 2008.
- Opunake Kneeboard Surfing Classic, March 2008.
- Lake Rotorangi Gutbuster endurance race, April 2008.



Photograph 6 Fishing on the Maketawa River

4.5 Method of observation count

1. Observation counts were undertaken at selected locations (see Appendix 1) using a standard form (Appendix 2) to record the total number of people present and what activities were undertaken. Other factors that influence people's recreational behaviour patterns such as weather conditions and time of day were recorded also.
2. The number of observation counts undertaken at the selected sites varied according to the popularity of each site. A minimum of two observations were targeted for quieter sites, five observations at medium use sites and ten at the most popular locations.
3. Observations were made at different times of the day and week, including weekends and public holidays, and during different tidal conditions. Some surveys were carried out in the evenings during weekdays to record peak after hour usage. Surveys were aimed to be carried out on fine days to coincide with peak usage.
4. Taranaki Regional Council volunteers assisted in conducting observation counts while on other council business at identified observation sites. The observer counted from a prominent stationary point what they could see people in the water and along the beach, lake or river bank.
5. Observers recorded comments on the crowd, noting characteristics or trends and whether public events or organised activities were occurring. This enabled anomalous counts from organised events to be excluded in calculation of mean usage.

4.6 Results

A general summary for observed recreational sites is given in Table 9 below.

Table 9 General summary for selected observation locations

Waterway	Observation site	No of surveys	Peak users	Average Users
Beach				
Wai-iti	Wai-iti Rd	2	7	5
Urenui	Urenui Beach Rd	4	35	16
Onaero	Near domain/surf club	5	63	29
Fitzroy	Near Fitzroy surf club	20	352	122
East End	Near surf club	14	177	83
Ngamotu	Near yacht club	14	413	86
Back Beach	Near Herekawe Stream	9	70	43
Oakura	Near surf club	10	169	62
Opunake	Near surf club	13	140	63
Ohawe	near boat ramp	13	16	10
Patea	Mana Bay, Beach Rd	3	36	26
Waverley	Beach camp, Waipipi Rd	1	10	10
River				
Urenui River	mouth and estuary	4	34	16
Manganui River	Everett Park	6	83	25
Waiwhakaiho	Meeting of the Waters	5	36	26
Waiwhakaiho	Burgess Park	4	90	7

Waiwakaiho	Audrey Gale Park	8	92	52
Waiwhakaiho	River mouth	8	27	16
Te Henui Stream	stream mouth	10	33	23
Oakura River	Corbet Park	7	48	32
Timaru Stream	Weld Rd carpark	4	58	33
Stony River	Upper Kaihihi Rd	2	11	10
Oaonui Stream	Lower Kina Rd	3	13	10
Kaupokonui River	Lower Glenn Rd	9	41	24
Waingongoro River	River mouth	8	41	19
Patea River	Scout Den, Stratford	6	19	6
Lake				
Rotomanu	Western beach,	12	42	20
Mangamahoe	Lake side	6	96	36
Ratapiko	Carpark, Tarihi Rd	3	82	46
Rotokare	Reserve, Rawhitiroa Rd	3	10	4
Rotorangi	Nth end, Glennui, Patea	6	89	20
Opunake	Boatramp, Layard St	4	17	7

4.6.1 Beach

Ngamotu Beach recorded the highest count for peak number of recreational users however Fitzroy Beach had the highest average visitor numbers. Fitzroy Beach and Ngamotu Beach have significantly higher average user figures forming a distinct group. The next clump of medium-high average user numbers included East End, Opunake Beach and Oakura Beach.

4.6.2 River

Audrey Gale Park, Waiwhakaiho River was the most popular river location with a peak count of 92 and an average of 52 visitors. Timaru Stream had an average of 33 visitors and Corbett Park had 32 average visitors. The difference between peak counts and average use was less for these two sites indicating greater consistency in patterns of use. Smaller differences between peak and average use at Kaupokonui and Waingongoro River mouths indicate a degree of consistency in use of these sites also.

Everett Park, Manganui River had a high count of 83 and average use of 25 visitors. Burgess Park, Waiwhakaiho River recorded a high count of 90 due to a wedding function, otherwise the highest count was 7 people. More surveys at these sites would result in a clearer indication of use.

4.6.3 Lake

Lake Ratapiko had a peak count of 82 and average of 46 visitors. Lake Mangamahoe had a peak count of 92 and average of 36. The difference in activity types between these lakes is significant. The high count for Lake Ratapiko was comprised of family sized groups with boating equipment. The high count at Lake Mangamahoe occurred on a day when a wedding function was held at the location, and a greater gap exists between peak and average count.

Lake Rotorangi had a peak count of 89 and average use of 20 visitors. These figures represent combined data from three different boat ramps on the lake, as observation points only covered a small section of lake. A greater number of surveys at these sites

would be required to gain a more representative indication of use. Isolation of observation site meant true usage was likely to be underrepresented.

4.6.4 Activity breakdown

Table 10 is a summary of the activities recorded at specific locations. Average numbers have been calculated and these results are indicative only of recreational habits. The figures in bold indicate the highest recorded average.

Table 10 Average no. of participants in specific activities at specific locations

Location	On beach/ river bank	sea swim	river swim	surfing	fishing	sail craft	power craft	dogs	other	average total users
Fitzroy Beach	69	56		9			2	2	3	122
Ngamotu Beach	60	20		3	5	8	2	1	6	86
East End Beach	48	30		5		5			3	83
Opunake Beach	31	16		9	2		2		19	63
Oakura Beach	30	21		9	1		1	4	5	62
Audrey Gale Park	35		17					2	9	52
Burgess Park	48		3							49
Lake Ratapiko	28		12		3		7		6	46
Back Beach	19	7	2	19	2	1		4	2	43
Lake Mangamahoe	33				1				7	36
Timaru Stream	14	5	8	6	2	7		2	2	33
Corbett Park, Oakura	20	3	17					2	3	32
Onaero Beach camp	14	6	12		4				3	29
Patea Beach	13				8			1	10	26
Everett Park	16		13		1				5	25
Kaupokonui Mouth	11	3	5	3	6				4	24
Te Henui Stream	17		3			4		3	4	23
Meeting of the Waters	14		9							23
Lake Rotomanu	17		2				3		3	20
Waingongoro River	9	3	6		6				8	19
Lake Rotorangi	21		8				6		4	17
Urenui River	14	6	5				2		4	16
Waiwhakaiho Mouth	8		3		7				2	16
Oaonui beach, Kina Rd	4			4		3		2		10
Ohawe Beach	6	2		2	1				5	10
Waverley Beach	6				3				1	10
Stony River	5		5							10
Lake Opunake	4		4				1		1	7
Patea River, Stratford	7				2			1	2	6
Wai-iti beach	4									5
Lake Rotokare	6									4

*The category 'other' included picnickers, kayaks and surf skis, and cyclists.

Of the fixed observation locations, Fitzroy Beach recorded the highest average number of people on the beach and swimming in the sea. Audrey Gale Park, Waiwhakaiho River and Corbett Park, Oakura recorded the highest equal average for freshwater swimmers. Back Beach had the greatest average number of surfers and of people walking dogs. Patea Beach had the highest average for fishing.

Ngamotu Beach had the greatest average number of sail craft and Lake Ratapiko the highest average number of power craft, this category included jet skis. Opunake

Beach recorded the highest number of 'other' users, a catchall category including picnickers, kayakers, surf skis and cyclists, which indicate the degree to which an area accommodates a diverse range of activities.

The scenic attractiveness of areas such as Lake Mangamahoe and Burgess Park combined with parking and well maintained open-ground areas make them attractive for weddings and other formal functions.

4.6.5 Individual locations

Comments recorded by observers on specific site locations are summarised in the paragraphs below. Characteristic activities have been listed in order of popularity.

Fitzroy Beach

Swimming, sunbathing, surfing and walking were characteristic activities at this beach. It is popular with surfers in the morning when conditions are right. There tends to be more swimmers in the afternoons, fewer surfers and windier conditions. All ages are present when the weather is fine but there was often a high number of teenagers. This beach is patrolled by surf lifesavers. Fitzroy and East End Beach have been more closely linked for users by the Coastal Walkway. Walkers, joggers and cyclists pass through on a constant basis. Fitzroy Beach and East End beach maintained Blue flag accreditation for the duration of the summer.

East End Beach

Swimming, walking, sunbathing, surfing, kite surfing, windsurfing and kayaking were characteristic activities at this beach. This is a popular windsurfing and kite surfing area when the conditions are right.

There is space to assemble kites and boards and smaller waves enabling an easier start. The beach is patrolled by surf lifesavers, and there was often lifesaving training and events. Kayaks were sometimes



Photograph 7 Kite Surfer at East End beach

taken out here. Again this location has ample parking and is linked by the Coastal Walkway to a variety of other recreational destinations.

Opunake Main Beach

Swimming, walking, sunbathing, surfing, picnicing and beach games were predominant activities undertaken at this beach. There are a wide range of amenities available and space to accommodate different age groups and activities. The playground and children's pool were well used on most visits. It was observed that more people were fishing at Middleton Bay and visiting the beach as a quiet alternative to the main beach.

Oakura Beach

Swimming, sunbathing, surfing, walking, kayaking, long line fishing and use of jet skis were characteristic activities at this beach. It is a patrolled beach that accommodates a wide range of activities. Small boats are launched from the beach occasionally. Walkers and joggers are common, with dogs and horses being exercised

on the beach in the mornings and evenings. Oakura beach maintained Blue flag accreditation for the duration of the summer.

Waiwhakaiho River, Audrey Gale Park

Picnicing, swimming, sunbathing, organised gatherings, walking, and dog exercise were characteristic activities at this river. The availability of parking areas, grassed lawn, barbeque facilities, picnicing area, close proximity to town and good swimming conditions are all reasons people regularly visit this location. Ample space allowed different activities to be accommodated. The picnic area downstream often attracted quieter crowds while greater numbers of younger people were often at the upstream carpark and swimming hole.

Lake Ratapiko

Waterskiing, wakeboarding, jet skiing, picnicing, spectating and to a lesser degree swimming and kayaking were characteristic activities at this lake. Families were observed picnicing while members of the group were on the lake. Biscuiting and kayaking were popular with younger ages. This lake is smaller but more accessible to main centres than Lake Rotorangi.

Back Beach

Walking, exercising dogs, surfing, sunbathing, swimming, and fishing were characteristic activities at this beach. While it is a very popular surfing beach, it is more dangerous for swimming and was not patrolled. It is a very popular location for exercising dogs and sometimes horses. Occasionally people were long line fishing here.



Photograph 8 Family time at Fitzroy Beach

Lake Mangamahoe

Walking, driving and picnicing are characteristic activities at this lake. Mountain bikers pass through to use trails in the area surrounding the lake. This is often a quiet location for picnicing and is popular for general scenic appreciation. Younger families and older age groups often visit the lake.

Timaru Stream

Surfing, kayaking, windsurfing, exercising dogs, camping and fishing are characteristic activities at this location. It is often a favourite family swimming location in the river mouth, however signage warning of high levels of *E coli* bacteria

was erected for several weeks over the summer period and significantly fewer people swam in the river. This did not appear to affect the number of people in the sea.

Corbett Park

Picnicing, swimming, sunbathing, spectating and kayaking are all characteristic activities at this location. It was especially popular for family groups with younger children. Groups staying at the Oakura Marae swim here. There is a lot of parking, plenty of shade, and the area offers safe swimming. Dogs are permitted in the park.

Onaero Beach

This is a popular camping, picnicing, swimming and kayaking destination for family groups near the river mouth. Swimming, surfcasting and long line fishing were popular on the beach. Small boats were launched from the beach occasionally over the summer period.

Patea Beach

Walking, fishing and picnicing were frequently observed activities at this beach. There were often spectators in the car park or on the beach itself. The picnic areas were well used. Fishing boats were commonly launched from the boat ramp and people were often fishing off the breakwater.

Waiwhakaiho River, Meeting of the Waters

Swimming, walking, spectating, picnicing and kayaking were observed activities at this river. People spectating from the car park was a common occurrence.

Manganui River, Everett Park

Swimming, picnicing, spectating and kayaking were observed activities at this river. This was a popular location for picnics, and was frequented by families with small children as it provided a relatively safe swimming area. School groups from the Everett Park Camp used the area.

Kaupokonui Beach and River

Camping, fishing, picnicing, whitebaiting, swimming, fishing, kayaking and spectating were observed activities at this beach and river. This river is a popular South Taranaki location that can accommodate a number of diverse activities such as whitebaiting and sheltered safe swimming in the river and open sea long lining, surfcasting, swimming and surfing in the ocean. Large picnicing areas were well used and there were consistently campers in the campground. Warning signage relating to high E. coli bacteria count was displayed over the New Year period. This was covered in local media. Periodically river users have referenced perceived poor aesthetic water quality conditions in the lower reaches during spring/summer.

Te Henui Stream, mouth

Walking, cycling, dog exercise, jogging, spectating, windsurfing in the right conditions, and skateboarding were observed activities at this location. A lot of through traffic from the Coastal Walkway meant people would stop for short periods of time. People would often spectate from the car park at the river mouth and from the footbridge over the stream. There were regularly children playing in the adjacent playground.

Lake Rotomanu

Waterskiing, wakeboarding, picnicing, jet skiing, walking, kayaking, cycling, and dog exercise were observed activities at this lake. No one was observed just swimming in the lake. The lake was closed several times over the summer due to

high *E. coli* bacteria counts, found to be caused by large numbers of ducks and geese defecating near lake entry points. The problem was exacerbated by people feeding them at these sites. An abundance of aquatic weed frustrated boaters when it got stuck in outboard motors. NPDC had contractors dredge the lake. Otherwise it was a popular location for boating, waterskiing, jet skiing and kayaking. Organised school groups visited the lake for kayaking. People regularly cycled and jogged around the lake.

Waingongoro River, mouth

Freshwater swimming, sunbathing, whitebaiting, sea swimming, dog exercise and spectating were observed activities at this site. It was often more sheltered than the beach and provided relatively safe swimming conditions. Warning signs of high levels of *E. coli* bacteria were erected in January.

Lake Rotorangi

Sufficient data was not collected to portray a fair representation of actual recreational use of Lake Rotorangi. According to regular lake users there has been a significant increase in the number of jet skis used in the lake over the past 5 years. The closure of Lake Rotokare due to high cyanobacteria counts may have resulted in more family boaters and waterskiers travelling to Lake Rotorangi causing more congested roads and mooring space at the Glen-nui Boat Ramp.

Lake Opunake

Boating, kayaking, fishing, picnicing and swimming were observed activities at this site. Warning signs of high levels of *E. coli* bacteria were in place in January. This was found to be caused by ducks and geese defecating near where people fed them, which was close to the boat ramp and entry point for swimmers.



Photograph 9 Waka ama (outrigger canoe) training on Lake Waiaua, Opunake

5. Discussion

5.1 Correlation of postal questionnaire and observation count

According to the postal questionnaire, Fitzroy, Ngamotu and Opunake beaches are the locations visited by the widest range of respondents. Lake Rotomanu and Timaru Stream mouth are the lake and river sites visited by the most people. Audrey Gale Park is the non-estuarine river location visited by most people in the region.

The observation count recorded highest average levels of use at Fitzroy, Ngamotu and East End beaches. Opunake and then Oakura beaches recorded medium levels of use. Lake Ratapiko followed by Lake Mangamahoe recorded greatest average use of the regions lakes. As in the questionnaire results, Audrey Gale Park was the river site that recorded highest use.

Discrepancy between these results may reflect a bias in the observation data as South Taranaki locations were less frequently observed at weekends and in the evenings than sites in the New Plymouth District. An initial bias in the postal questionnaire towards the older age brackets was rectified by addition of data from school aged respondents. This helped achieve satisfactory representation of the Taranaki population.

It is likely the discrepancy between favoured lake locations and observed use was affected by the closure of Lake Rotokare for the majority of the summer, as well as Lake Ratapiko and Lake Rotomanu for periods of time due to high bacteria counts discovered during routine testing. Boaters commented there was a noticeable increase in the number of boats and jet skis on other lakes over the summer period.

Observation data comments indicated that there were often a greater number of teenagers and young adults at East End and Fitzroy beaches. Postal questionnaire results confirmed that Fitzroy beach was the favoured beach for the under 20 age group, Fitzroy and Ngamotu Beaches were favoured by the 25-65 age bracket and the over 65 bracket preferred Ngamotu Beach followed by the Coastal Walkway.

Questionnaire data indicated males spent a greater estimated number of days per year at beaches, rivers and lakes but no trends were noted during observation surveys.

Questionnaire data indicated that a proportion of the population fished at beach, river and lake sites around the region. The data did not provide differentiation between the type of fishing. Observation survey results for 'fishing' only recorded surfcasting, long lining and coastal shore-based fishing. No indication was gained of open sea fishing from boats, fishing on lakes and trout fishing of rivers. A recommendation to include an individual section for respondents to fill out on fishing activity is included in section 5.

5.2 Comparison with 1984 survey

In the 1984 postal questionnaire 213 surveys were completed and processed and in 2008 a total of 418 completed surveys were processed. In 1984, 99% of respondents had visited a beach, river or lake for recreational purposes in the previous 12 months compared with 90% of respondents in 2008. Almost 8% of those who had not visited a beach, river or lake in the previous year were prevented from doing so by ill health, mobility issues or a lack of transport. A little over 2% were not interested.

The total number of locations visited by respondents increased from 65 in 1984 to 85 different locations in 2008. This may indicate people are more willing or able to travel

to less accessible locations. It could also be a function of the different size of sample populations.

The postal questionnaire highlighted that the central New Plymouth beaches have become more popular, especially East End Beach. Opunake Beach has become more popular as regional destination ranking as the third most frequently visited site, ahead of the New Plymouth Coastal Walkway as the 4th most frequented location. The observation count did not explicitly assess the use of the Coastal Walkway itself.

Noteably, Urenui and Patea beaches are in the top 10 regularly visited locations but were not mentioned in the 1984 survey as frequented sites. Oakura, Bell Block, Kaupokonui, and to a lesser degree Back Beach and Ohawe were not as highly ranked as they were in 1984. Oakura has been replaced by Fitzroy as the region's most frequently visited recreational site.

Observation surveys suggest Opunake Beach, Timaru and Kaupokonui River mouths, Oakura and Back Beach are favoured for the variety of activities they accommodate.

Waitara Beach and boat ramp was ranked as the 12th most frequently visited site and should be included in any future recreational survey as an observation site. An observation site and method for ascertaining use of the New Plymouth Coastal Walkway could also be included in any future survey. Recommendations to this effect are included in section 5.

The structure of the postal questionnaire was based on the 1984 questionnaire to enable comparison and correlation of results. This enabled changes in general trends of recreational use over time to be determined. Comparing the respondents' profile data with 2006 Census results shows a satisfactory representation of the Taranaki population was achieved. This provides a useful sample population that could be used to gain more detailed information by reviewing the structure of the questionnaire. A recommendation to this effect is included in section 5 of the report. To keep up with evolving information technology, a web-based questionnaire and revised method for selecting the sample population may warrant consideration in any future survey.

6. Recommendations

Based on the results of this survey the following recommendations are made:

1. THAT the results of this survey be repeated in approximately three years.
2. THAT Waitara Beach and the New Plymouth Coastal Walkway be included as observed sites to ascertain level of recreational use in future surveys.
3. THAT including a section in the postal questionnaire to distinguish between fishing activity is considered for any future questionnaire on recreational activity.
4. THAT the structure of the postal questionnaire be reviewed for greater efficacy and wider breadth of use.

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Appendix I

Postal Questionnaire

Taranaki Regional Council Water Recreation Survey

Please mark your answers in the boxes with a ✓

1. Are you:

Male

Female

2. What is your age?

Under 20

20-24

25-44

45-64

65 and over

3. Which ethnic group best describes you?

New Zealand European

Pacific Islander

New Zealand Maori

Asian

Other European

Other - please state: _____

4. What is your address?

5. (a) Have you visited any beaches, river, or lakes in Taranaki in the last 12 months for reasons other than to do with your work?

Yes

No

If NO, please go to Question 8.

(b) If YES, then please list the areas you have visited:

(c) Mark (x) these areas on the map of Taranaki provided at the back of this questionnaire.

6. Which of the areas above have you visited most frequently during the last 12 months?

7. For the beaches, river or lakes you have visited in the last 12 months please:

tick the activities you undertook while visiting the area and **circle** the activity which best illustrates the main reason for visiting the area.

Beach		River		Lake	
<input type="checkbox"/> Walking	<input type="checkbox"/> Kayaking/	<input type="checkbox"/> Walking	<input type="checkbox"/> Boating	<input type="checkbox"/> Walking	<input type="checkbox"/> Boating
<input type="checkbox"/> Jogging	Canoeing	<input type="checkbox"/> Jogging	<input type="checkbox"/> Whitebaiting	<input type="checkbox"/> Jogging	<input type="checkbox"/> Jet skiing
<input type="checkbox"/> Swimming	<input type="checkbox"/> Jet skiing	<input type="checkbox"/> Swimming	<input type="checkbox"/> Hunting	<input type="checkbox"/> Swimming	<input type="checkbox"/> Hunting
<input type="checkbox"/> Surfing	<input type="checkbox"/> Sailing	<input type="checkbox"/> Fishing	<input type="checkbox"/> Camping	<input type="checkbox"/> Fishing	<input type="checkbox"/> Camping
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Whitebaiting	<input type="checkbox"/> Picnic/BBQ	<input type="checkbox"/> Driving for	<input type="checkbox"/> Picnic/BBQ	<input type="checkbox"/> Driving for
<input type="checkbox"/> Fishing	<input type="checkbox"/> Shellfish gathering	<input type="checkbox"/> Relaxing	pleasure	<input type="checkbox"/> Relaxing	pleasure
<input type="checkbox"/> Picnic/BBQ	<input type="checkbox"/> Camping	<input type="checkbox"/> Scenic	<input type="checkbox"/> Watching other	<input type="checkbox"/> Scenic	<input type="checkbox"/> Watching other
<input type="checkbox"/> Relaxing	<input type="checkbox"/> Driving for	appreciation	people's	<input type="checkbox"/> Scenic	recreation
<input type="checkbox"/> Scenic	pleasure	<input type="checkbox"/> Rafting	recreation	<input type="checkbox"/> Kayaking/	
<input type="checkbox"/> Water skiing	<input type="checkbox"/> Watching other	<input type="checkbox"/> Water skiing		canoeing	
	people's			<input type="checkbox"/> Water skiing	
	recreation				
Other _____		Other _____		Other _____	
_____		_____		_____	
_____		_____		_____	

8. On approximately how many days of the year would you visit a Taranaki:

beach days

river days

lake days

9. About what percentage of your total leisure time does this represent?

beach %

river %

lake %

10. What time of the year do you usually visit these areas?

Summer Autumn Winter Spring All year round

11. Of the areas you visited most frequently during the last 12 months (Question 6 above), what made you choose these areas to visit?

From the list below, please list your first three most important reasons where:

1 = main reason

2 = second reason

3 = third reason

- Close to home
- Doesn't cost too much to get there
- Not crowded
- Visual appeal
- Natural character
- Variety of things to do
- Suitable for children
- Good for activities listed in Question 7
- Peace and quiet
- Good facilities
- Other reasons - please state: _____

12. (a) Do you visit rivers, lakes and the coast as often as you would like?

- Yes No

(b) If NO then which of the following reasons best explains why not? Please rank in order of importance where:

1 = main reason

2 = second reason

3 = third reason

- Takes too long to get there
- Costs too much (petrol)
- Work commitments
- Family commitments
- Lack of transport
- Other reasons – please state: _____

13. (a) Within the last 12 months have you been able to gain access to rivers, lakes or parts of the coast in Taranaki that you wanted to have access to:

Yes No

(b) If NO what has been the main reason or reasons why you have not been able to gain access?

- Landowner or occupier denied access across their land
- Entrance or access closed
- Access was too difficult eg, no road, track or bridge, steep topography etc
- Not aware of any access to the site
- Other reason - please state: _____

14. Do you think the level of public access to Taranaki's rivers, lakes and the coast is:

- Inadequate
- About right
- Too great

Comment: _____

15. How would you rate the overall water quality of Taranaki's beaches, rivers and lakes?

Beaches

Rivers

Lakes

Excellent

Excellent

Excellent

Good

Good

Good

Fair

Fair

Fair

Poor

Poor

Poor

The Taranaki Regional Council thanks you for your participation

Appendix II

Observation Count Form

Beach/ river location _____						Observer _____						
Date	Time	Weather conditions*	Total # on beach or river bank*	Number swimming		Other activities					Comment*	
				in the sea	in fresh water	Surfing	Fishing	Sail craft	Power craft	Other		

*

Notes

See the range of options below to assist with recording data

Weather conditions

Fine and sunny / light cloud cover / overcast / showers

Still / light breeze / moderate winds / strong winds

Include wind direction if relevant

General Comments

Note whether those on beach or river bank are picnicing, spectating, sunbathing, using facilities etc.

Number of pets

Make a note of any large groups or organised events

Appendix III

Locations visited and most frequented by district residents

SOUTH TARANAKI DISTRICT

NEW PLYMOUTH DISTRICT

STRATFORD DISTRICT

Locations visited	No.	%	Most frequently visited location	No.	%	Locations visited	No.	%	Most frequently visited location	No.	%	Locations visited	No.	%	frequently visited location	No.	%
Opunake	68	19.4	Opunake	45	36.9	Fitzroy	114	11.4	Fitzroy	56	15.0	Urenui	11	10.7	Patea	4	14.8
Ohawe	35	10.0	Ohawe	18	14.8	Ngamotu	103	10.3	Ngamotu	49	13.1	Opunake	11	10.7	Fitzroy	4	14.8
Kaupokonui River	23	6.6	Kaupokonui River	14	11.5	East End	72	7.2	Coastal walkway	42	11.3	Fitzroy	10	9.7	Coastal walkway	4	14.8
Patea	21	6.0	Patea	11	9.0	Rotomanu	61	6.1	East End	29	7.8	Ngamotu	8	7.8	Patea River	3	11.1
Lake Opunake	18	5.1	Rotorangi	6	4.9	Oakura	69	6.9	Oakura	22	5.9	Patea	9	8.7	Ngamotu	2	7.4
Oakura	15	4.3	Opunake Lake	5	4.1	Urenui	51	5.1	Urenui	19	5.1	Rotokare	5	4.9	Opunake	2	7.4
Rotorangi	13	3.7	Fitzroy	3	2.5	Back Beach	45	4.5	Waitara beach	16	4.3	Coastal walkway	5	4.9	Urenui	1	3.7
Fitzroy	12	3.4	Back Beach	2	1.6	Mangamahoe	42	4.2	Rotomanu	15	4.0	Wai-iti	4	3.9	East End	1	3.7
Waihi Beach	10	2.9	Urenui	2	1.6	Coastal walkway	42	4.2	Back Beach	14	3.8	East End	4	3.9	Ohawe	1	3.7
Rotokare	9	2.6	Coastal walkway	1	0.8	Te Henui Stream	34	3.4	Breakwater	11	2.9	Patea River	5	4.9	Rotokare	1	3.7
Mangamahoe	7	2.0	Kahui	1	0.8	Opunake	33	3.3	Mangamahoe	9	2.4	Back Beach	3	2.9	Waitara river	1	3.7
Middletons Bay	7	2.0	Oakura	1	0.8	Bell Block	24	2.4	Bell Block	9	2.4	Oakura	3	2.9	Waitara beach	1	3.7
Back Beach	6	1.7	Middletons Bay	1	0.8	Waiwakaiho	23	2.3	Cape Egmont	9	2.4	Ohawe	2	1.9	National park	1	3.7
Waverly	6	1.7	Ngamotu	1	0.8	Onaero	17	1.7	Onaero	7	1.9	Kaupokonui River	2	1.9	AhuAhu	1	3.7
Tongaporutu	6	1.7	Tongaporutu	1	0.8	Onaero	17	1.7	Te Henui Stream	6	1.6	Rotomanu	2	1.9			
Ngamotu	6	1.7	Paora	1	0.8	Waitara beach	16	1.6	Onaero	6	1.6	Mangamahoe	2	1.9			
Coastal walkway	5	1.4	Waingongoro River	1	0.8	Waiwhakaiho	15	1.5	Waiwakaiho	5	1.3	Rotorangi	2	1.9			
Oaonui Stream	5	1.4	Rotomanu	1	0.8	Huatoki	13	1.3	Pukekura	4	1.1	Waitara river	2	1.9			
Urenui	5	1.4	Arawhata Rd	1	0.8	Wai-iti	13	1.3	Paora	4	1.1	Waitara beach	2	1.9			
Oaonui Stream	5	1.4	Dawson Falls	1	0.8	Waitara river	12	1.2	Waiwhakaiho	3	0.8	Tongaporutu	2	1.9			
Stent	4	1.1	Weld Rd	1	0.8	Breakwater	11	1.1	Waitara river	3	0.8	Waverly	1	1.0			
Rotomanu	3	0.9	Mangahume	1	0.8	Ratapiko	10	1.0	Opunake	2	0.5	Te Henui Stream	1	1.0			
Patea dam	3	0.9	Whenuakura	1	0.8	Tongaporutu	10	1.0	Ratapiko	2	0.5	Bell Block	1	1.0			
Arawhata Rd	3	0.9	Waipipi	1	0.8	Rotokare	9	0.9	Tongaporutu	2	0.5	Kina	1	1.0			
Puketapu	3	0.9	Otakeho	1	0.8	Pukekura	9	0.9	Rotokare	2	0.5	Mohakatino	1	1.0			
Dawson Falls	3	0.9				Cape Egmont	9	0.9	Waiwhakaiho	2	0.5	Huatoki	1	1.0			
Ratapiko	3	0.9				Weld Rd	8	0.8	Rotorangi	2	0.5	Cape Egmont	1	1.0			
Kahui	3	0.9				Waiwhakaiho	8	0.8	Waiwhakaiho	2	0.5	AhuAhu	1	1.0			
Oakura River	2	0.6				AhuAhu	7	0.7	Makatawa River	2	0.5	Hawera	1	1.0			
Pukekura	2	0.6				Patea	4	0.4	Kumara Patch	2	0.5						
Waingongoro River	2	0.6				Rotorangi	6	0.6	Waiinu	2	0.5						
Wai-iti	2	0.6				Stent	6	0.6	Wai-iti	1	0.3						

Weld Rd	2	0.6
Puniho	2	0.6
Mangahume	2	0.6
Greenmeadows	2	0.6
East End	2	0.6
Waiwhakaiho	2	0.6
Bell Block	2	0.6
Kina	2	0.6
Waitara beach	1	0.3
Paora	1	0.3
Waiwhakaiho	1	0.3
Kumara Patch	1	0.3
Waiinu	1	0.3
Onaero	1	0.3
Urenui River	1	0.3
Te Henui Stream	1	0.3
Onaero	1	0.3
Whenuakura	1	0.3
White Cliffs	1	0.3
AhuAhu	1	0.3
Waipipi	1	0.3
Manutahi	1	0.3
Mokoia	1	0.3
Manaia	1	0.3
Tangahoe	1	0.3
Otakeho	1	0.3
Waitaka	1	0.3

Mimi	6	0.6	AhuAhu	1	0.3
Ohawe	4	0.4	Patea	1	0.3
Stony River	5	0.5	Stent	1	0.3
Kaupokonui River	5	0.5	Mimi	1	0.3
Waiwhakaiho	4	0.4	Ohawe	1	0.3
Oakura River	4	0.4	Stony River	1	0.3
Paora	4	0.4	Kaupokonui River	1	0.3
Waitoitoi	4	0.4	Oakura River	1	0.3
Pukearuhe	4	0.4	Waitoitoi	1	0.3
Oaonui Stream	2	0.2	Patea dam	1	0.3
Kina	3	0.3	Kapuni	1	0.3
Patea dam	3	0.3	Whenuakura	1	0.3
Kaweroa	3	0.3	Kahui	1	0.3
Waiongana	3	0.3	Kahui	1	0.3
Ngatoro	3	0.3			
Oaonui Stream	3	0.3			
Waverly	2	0.2			
Urenui River	2	0.2			
Kapuni	2	0.2			
National park	2	0.2			
Greenwood Rd	2	0.2			
White Cliffs	2	0.2			
Mohakatino	2	0.2			
Makatawa River	2	0.2			
Kumara Patch	2	0.2			
Arawhata Rd	2	0.2			
Waiinu	2	0.2			
Manganui River	0	0.0			
Whenuakura	1	0.1			
Kahui	1	0.1			
Lake Cowley	1	0.1			
Puniho	1	0.1			
Kahui	1	0.1			
Epiha Rd Beach	1	0.1			