



# EXTERNAL INFLUENCES ON PARKS

PARKS NETWORK PLAN REVIEW  
SUPPORTING INFORMATION  
MAY 2018



greater  
WELLINGTON  
REGIONAL COUNCIL  
Te Pane Matua Taiao

# EXTERNAL INFLUENCES ON REGIONAL PARKS

A supporting document for the  
Parks Network Plan Review 2018



Storm damage after ex Cyclone Gita at the Wainui Stream mouth, Queen Elizabeth Park in February 2018. For safety reasons the remaining sections of the bridge were removed.

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# External influences on Regional Parks

May 2018

## SUMMARY

More people in the Wellington region are visiting more parks, more often, and park users are participating in a growing number of activities. User conflict has increased, as too the demand for toilets and signage, however, overall visitor satisfaction has remained consistently high (~90%) for about a decade. The key issue people raise about the management of regional parks is that Greater Wellington could provide more information, including publicity about park locations, facilities, features and upcoming events. The things that users value most about the parks experience are the 'sense of freedom and tranquillity' and the ability to recharge in the natural environment.

New Zealanders are living increasingly sedentary lifestyles, contributing to rising rates of overweight and obesity. A key aim of providing recreation opportunities in regional parks is to contribute to healthy lifestyles within the region. The health benefits of parks can be maximised by designing spaces in parks that are readily accessible and inclusive, and that encourage visitation by accounting for diverse users' motivations and needs.

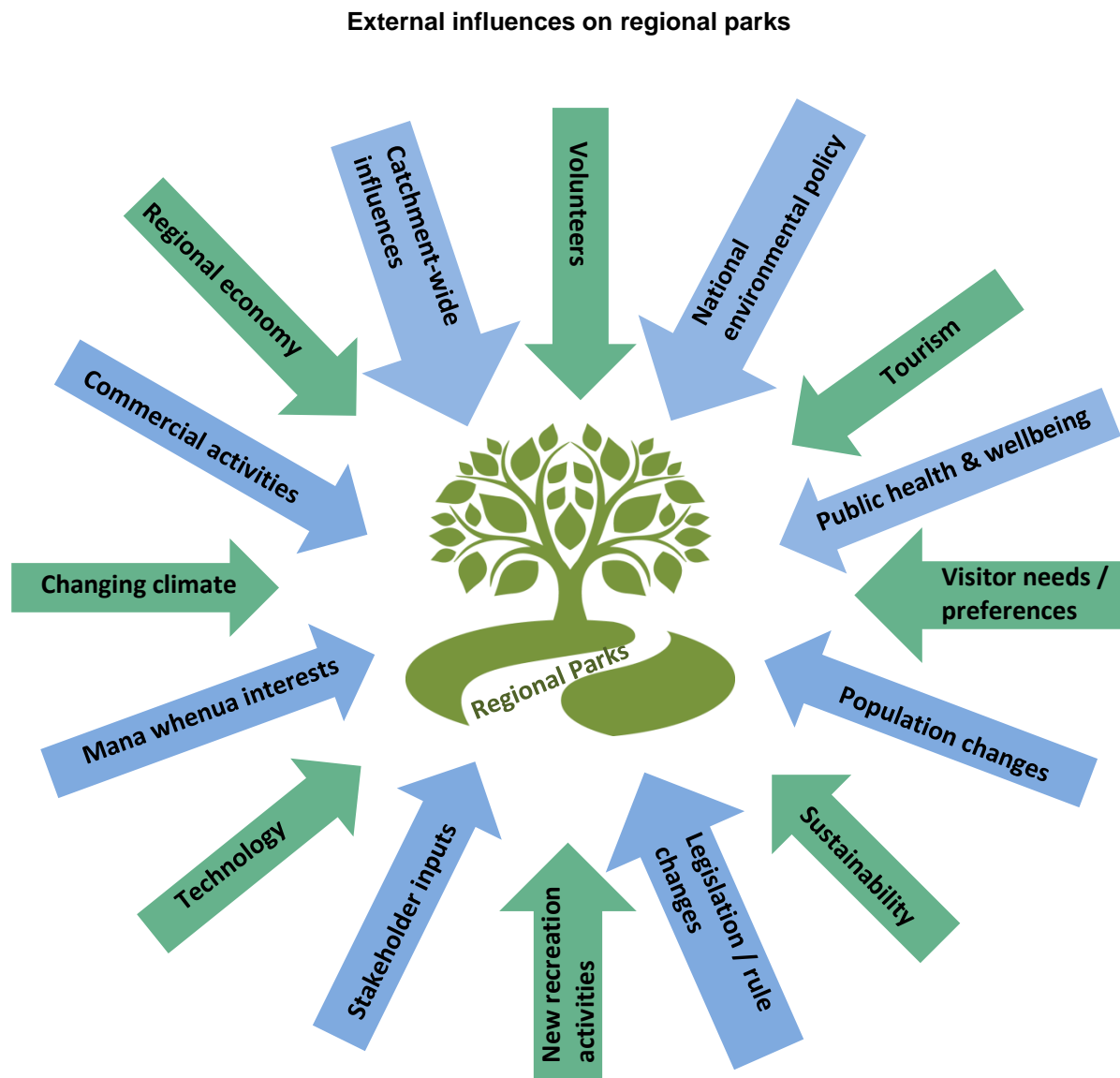
The region's population is forecast to grow by 15% between 2018 and 2043. Though Wellington City is expected to remain the key regional economic centre, factors such as land prices and improved transport connections could result in a more dispersed model of business activity across the region. Almost all of the suburbs that neighbour our regional parks are projected to experience an increase in "empty nesters and retirees" (aged 60-69), "seniors" (aged 70-84) or both. The growing older population has implications for regional parks in terms of provision of facilities and activities for parks visitors, as well as changing the make-up of parks volunteers.

Of the current regional park visitors, 91% live within the region. Domestic tourists comprise about 6% of the total park visitors, international visitors about 3%. While small in number, domestic and international tourists are a growing segment of park visitors. Tourism-related employment numbers are also expected to grow. The combined impact of tourism and associated employment growth will increase demand in the region for use of parks and associated recreational opportunities.

Technology in parks can connect people to nature, providing unprecedented access to species and habitats and to incredibly rich data about complex ecosystems. At the same time, it has the potential to cause unintended harm. Thoughtful use and integration of technology in parks with the aim of enhancing rather than disturbing people's experience of the natural world could encourage greater usage and enjoyment of our regional parks.

One of Greater Wellington's key sustainability goals is to continually lower the carbon footprint of our activities and operations and improve environmental outcomes. The afforestation and revegetation programs taking place across the parks network contribute significantly to carbon sequestration in the Wellington region. Natural and semi-natural parkland provides global benefits as a store of carbon in soil and trees. The growing urgency to remove more carbon from the atmosphere will increase the importance of tree planting activity and pest control in parks.

The effects of climate change are already being seen across the Wellington region with average annual temperatures and sea levels on the rise. Impacts on parks may include coastal erosion making tracks and infrastructure inaccessible, loss of habitats, and increases in pest plant and animal species. Management of the parks network into the future will require an adaptive management approach that plans for a range of future climate scenarios. In addition to climate change, the many other influences on regional parks are summarised below in figure 1.



**Figure 1: The parks network is affected by factors including climate change, changes in legislation, and changes in the public's demands.**

# 1. INTRODUCTION

## Greater Wellington Regional Parks Network

Greater Wellington Regional Council (Greater Wellington) manages a network of regional parks and forests for the community's use and enjoyment, and for the preservation of ecological and cultural values. Regional parks and forests provide for a wide range of healthy outdoor recreational activities that enable Wellington region residents and visitors to connect with nature and enjoy the outdoors. They offer diverse landscapes ranging from lush native bush to open grasslands, farmlands with grazing animals, rugged coastal headlands and long sandy beaches. Some regional park and forest areas are adjacent to urban parks and trails while some are more remote.

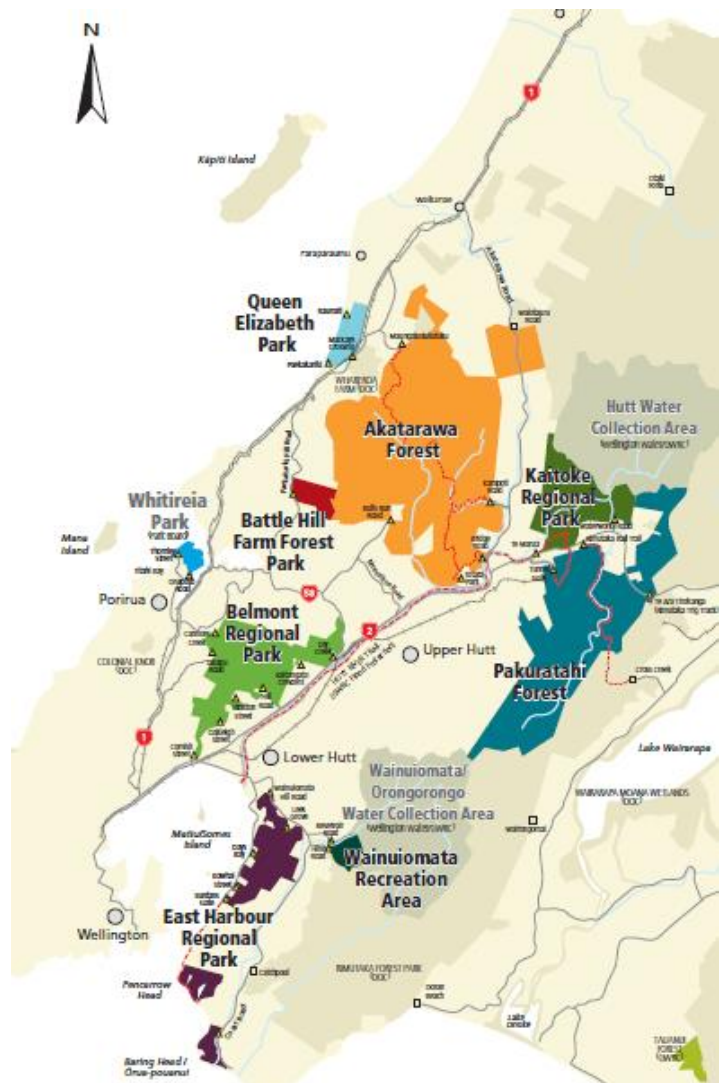
Trail based activities in our parks are the most popular – walking, dog walking, running, mountain biking and horse riding. Picnics and camping are also popular along with hunting and 4-wheel driving in some parks. Park management activities and rules help to ensure that the different types of visitor activities can take place with minimal impact on the environment and others.

### Parks Network Plan Review 2018-2019

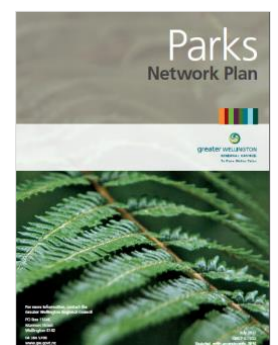
The current Greater Wellington Parks Network Plan (PNP) is a composite plan encompassing eight parks and forests and over 33,000 hectares of land. It aims to provide a coherent, consolidated management regime for the park network as a whole as well as specific management provisions for each park. The parks network comprises of Battle Hill Farm Forest Park (Battle Hill), Belmont Regional Park (Belmont), East Harbour Regional Park (East Harbour), Kaitoke Regional Park (Kaitoke), Queen Elizabeth Park (QEP), Akatarawa Forest (Akatarawa), Pakuratahi Forest (Pakuratahi), and Wainuiomata Recreation Area (Wainuiomata).

The area covered within the PNP includes land that Greater Wellington manages, including reserves established under the Reserves Act 1977. The Reserves Act requires that administering bodies keep management plans under continuous review (section 41), adapting to changing circumstances and increased knowledge.

The current PNP was finalised in 2011 and has had three amendments since then in 2012, 2014 and 2016 - so it remains relatively current. However, the directions of new



The PNP details how Greater Wellington will manage the regional park network. The plan includes all parks except Whitireia Park and the Hutt and Wainuiomata/Orongorongo Water Collection Areas which have their own management plans.



policy documents such as the Greater Wellington proposed Natural Resources Plan (pNRP) should be reflected in the plan. Greater Wellington considers it appropriate to commence a review of the PNP and develop a new one.

Please note that throughout the document, 'regional parks network', 'parks', "forests" and 'the network' are used interchangeably.

## 1.1 Purpose of this supporting document

This document outlines the external context for parks as a supporting document for the PNP review. It identifies the major factors and trends that are likely to have an impact on regional parks management and usage across the Greater Wellington parks network during the life of the next generation Greater Wellington PNP. These influences include:

- **Changing park visitor activity preferences**, expectations and experiences over time
- **Population health and physical activity trends** regionally and nationally and how parks can contribute to improving health and wellbeing
- Current and **forecast population, employment and age distribution** figures across the region and the possible impacts on parks accessibility, activities and facilities
- **Tourism trends** and the impact these may have on regional parks visitor numbers and infrastructure
- **Relationships with our mana whenua and mātāwaka Māori partners** and their interests in relation to parks
- **Technological changes** and the effects that communications, transport and other technologies are having on the way people engage with parks
- **Climate change** and impacts such as sea level rise, extreme weather events and sustainability and parks
- **Key guidance** from legislation and national policy for park management.

## 1.2 Park users preferences, expectations and experiences

**More people in the region are visiting more parks, more often, and park users are participating in a growing number of activities.** User conflict has increased, as has demand for toilets and signage, but overall visitor satisfaction has remained consistently high (~90%) for about a decade. Lack of time and other commitments are the top reasons people give for not having visited parks or not visiting more often. The key issue people raise about the management of regional parks is that Greater Wellington could provide more information about these, including publicity about park locations, facilities, features and upcoming events. The things that users value most about the parks experience are the sense of freedom and tranquillity and the ability to relax and recharge in the natural environment.

This section uses time series data to identify and contrast changing park user preferences, values



Park visitors enjoying the Te Ara Whareroa trail in QEP. It is important to Greater Wellington that we understand what park visitor's needs and preferences are, and what barriers to access there may be. One way we seek visitor feedback is via annual phone surveys.

and satisfaction levels in relation to regional parks over a number of years, spanning the life of the first generation PNP.

Greater Wellington has commissioned quantitative market surveys over a number of years to provide insight into public awareness, usage and enjoyment of Greater Wellington’s regional parks and their facilities. A randomly selected sample of 500 residents aged 16+ are interviewed each survey year using a combination of contact approaches and interviewing procedures. The majority of interviews are undertaken by way of telephone interviewing (landline and mobile). Face-to-face interviews are done where necessary, to meet stratified sample quotas and to ensure that a proper cross-section of the community is engaged. The surveys help Greater Wellington to gain greater understanding of park users’ motivations, behaviours, needs and what they value most from their park experiences. We note that an implication of this approach is that it does not capture the perspectives of people who are not residents and ratepayers in the Greater Wellington region. The results of these surveys are summarised in sections 1.2.1-1.2.5 below. Appendix 3 contains more detailed findings from park visitor intercept surveys conducted across the Greater Wellington parks network, which capture the views of park visitors from both inside and outside the region.



Parangarahu Lakes, East Harbour Regional Park. Regional parks are part of Wellington’s scenic landscape. Maintaining a variety of landscape types provides for a variety of recreation experiences.



## 1.2.1 Park visits

### Frequency of parks visits, number of parks visited and number and types of activities undertaken

The results show a gradual but steady upward movement in the percentage of residents across the Greater Wellington region visiting regional parks, with an increase from 53% to 68% of respondents between 2010 and 2017. Survey results over this period also reveal an upward trend in the average number of parks people have visited in a twelve-month period.

Survey year	2010	2011	2012	2014	2017
Residents who had visited a regional park in the past year (%)	53%	59%	63%	64%	68%
Average number of parks visited in the past year	1.9	2.1	2.1	2.5	2.7

**Table 1: Percentage of residents who visited a park over the previous 12 months and number of parks visited**

The results also reveal that not only are there a growing number of people visiting parks, but they are using the parks for a greater number of activities. Park users in the 2017 survey indicated that during the past twelve months they had undertaken an average 2.2 different activities in the regional parks, compared to 1.5 activities in the 2014 survey.

Table 2 below lists the activities that park users freely recalled having undertaken in regional parks, in order of highest to lowest participation levels.

Activities	Survey year			
	2011	2012	2014	2017
	%	%	%	%
Walking/bush walking	54	62	53	72
Mountain biking/cycling	17	14	10	26
Picnics/barbeques	17	22	11	19
Family outings/recreation	18	25	21	16
Walking/running with dog	7	7	10	12
Outings with organised groups	7	9	9	10
Camping	3	5	5	9
Swimming	5	2	8	7
Driving for pleasure (4WD, trail biking)	N.A.	N.A.	N.A.	6
Photography	N.A.	N.A.	N.A.	6
Fishing/hunting	N.A.	N.A.	N.A.	6
Horse riding	N.A.	N.A.	N.A.	4
Running/jogging	6	5	6	3
Tramping	2	2	2	3
Participated in organised sports event	1	1	1	2
Other activities	11	12	12	16
<b>Average no. of activities</b>	<b>1.5</b>	<b>1.7</b>	<b>1.5</b>	<b>2.2</b>

**Table 2: Activities in parks across survey years**

Note: N.A.= Not shown separately in these years. These activities were included in 'other activities'.

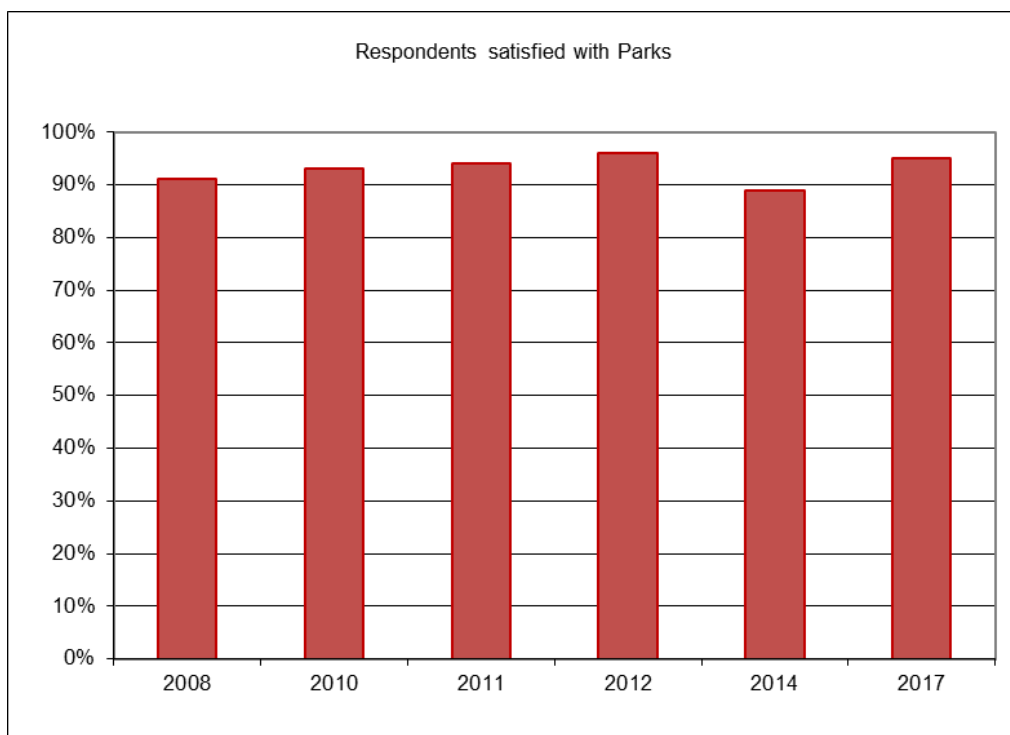
'Walking/bush walking' remains the No. 1 activity, but there has been an increase in participation rates for many of the other activities. Greater Wellington has noted, unsurprisingly, increased conflict between user groups such as cyclists and walkers as visitor numbers have grown.

A relatively high number of park users also report having experienced problems with dogs.<sup>1</sup> According to Greater Wellington’s intercept surveys of park visitors, 21% of people visiting the parks network had dogs. Pakuratahi had the highest proportion of visitors with dogs at 30% and Akatarawa had the lowest proportion at 15%. Dogs are not allowed in Battle Hill. A number of respondents in the 2017 survey, when asked if ‘there are any other activities they would like to do in the regional parks, that they are currently unable to do’, indicated they would like more areas where people can walk their dog on or off the lead.

Between the 2014 and 2017 survey years, Greater Wellington observed a number of changes in park usage behaviour, including an increase in demand for various activities and facilities. There has been a notable increase in the number of campers at parks such as Kaitoke and Belmont, as well as an increase in commercial dog walking.

### 1.2.2 Visitor satisfaction

The telephone survey responses reveal that visitor satisfaction levels have remained consistently high over time. The proportion of visitors who reported being either satisfied or very satisfied with their visits to Greater Wellington regional parks has been over 90% in all but one of the 6 survey years since 2008 (see Figure 2).



**Figure 2: Park visitor satisfaction from 2008 to 2017**

The telephone survey also explored satisfaction levels relating to specific aspects of visitor experience. The 2017 survey results indicate that satisfaction levels generally remain high for most aspects of the park experience. The main areas of dissatisfaction among park users are provision of toilet facilities and signage. These were considered inadequate by 23% and 14% of park users respectively. Greater Wellington has incorporated the provision of more toilets into its budget projections. The top issue that people wished to draw attention to in relation to the management of the regional parks in 2017 was the need for more information/education about the parks, where they are, what can be done in them, and what activities are coming up.

<sup>1</sup> Reported issues include dogs off the lead, dogs fighting, and “problem dog owners”.

### 1.2.3 Barriers to visiting parks

Other commitments such as sports and family, were the reasons given by nearly half (41%) of the 32% of total respondents in 2017 who had not visited any Greater Wellington regional parks in the past twelve months. Similarly, of the 68% of respondents who had visited any of the Greater Wellington regional parks in the past twelve months, the majority (51%) reported that the main barriers to visiting more frequently were lack of time and other commitments. Factors relating to access, for example lack of transport, time it takes to travel to regional parks, and having limited or no mobility were also commonly cited barriers for both visitors and non-visitors.

### 1.2.4 Accessing information about parks

The results of the 2017 survey suggest that Greater Wellington still needs a variety of channels to communicate with existing and potential park users. Responses showed that a wide range of channels are used and preferred, and that the way park users access information is changing. For example, while no respondents indicated that they had used smart phone apps for accessing information in the past twelve months, 10% selected this option as one of their preferred sources for receiving regular, on-going communication. Social networking sites (predominantly Facebook) also had a substantially higher level of preference compared with current usage.

### 1.2.5 Future directions from research for park management

More people doing more activities in more parks more often means:

- More toilet facilities and improved signage maybe needed to meet the growing number of park users requirements
- As visitor numbers increase, there may be a need for more education and awareness activities, so to encourage park visitors to share facilities with care and regard for one another 'Share with care' is already a focus of multi-use trails, but to avoid duplication of facilities further promotion may be required, and where appropriate separation between activities created. This could mean identifying more dog-on leash or no-dog areas and increasing behavioural information about sharing facilities and being considerate of others. Developing or redeveloping trails to support increased demand for cycling may also be required
- Looking at ways to ensure there is good access to the parks and their features and amenities for all user groups, including trying to improve connections with active and public transport modes. Greater Wellington will need to do this in collaboration with NZTA and the region's Territorial Authorities.

The main barriers to visiting regional parks (being lack of time and competing commitments) are largely outside of Greater Wellington's sphere of influence. However, possibilities exist for addressing the perception that visiting parks is too time consuming. Options include promoting more short walks and cycle tracks for 'rapid recreation', and highlighting how accessible many of the parks are (e.g., Belmont, East Harbour and QEP) in relation to many people's homes, workplaces, and other amenities. As new residential subdivisions develop near parks, enhancement of some entrance facilities may be required.

Park user preferences for sourcing information encompass a range of traditional and emerging media. Digital media sources (e.g., websites, social media and apps) are growing in importance for on-going communication about the regional parks. Greater Wellington and partner agencies can and are harnessing the increasing prevalence of and preference for accessing information via digital channels.



Social media such as Facebook and Instagram are a core part of communicating about recreation and conservation activities.

## 2. PUBLIC HEALTH

New Zealanders are living increasingly sedentary lifestyles, contributing to rising rates of overweight and obesity. A key benefit of regional parks is their contribution to the health and enjoyment of the people of the region through provision of a range of recreation opportunities. The health benefits of parks can be maximised by designing spaces within these that are readily accessible and inclusive, and that encourage visitation by accounting for diverse users' motivations and needs.

New Zealand has the third highest adult obesity rate in the OECD, and our rates are rising. Almost one in three adult New Zealanders (over 15 years) is obese, and one in ten children. The adult obesity rate rose from 27% in 2006/07 to 30% in 2013/14. Overall, obesity rates in the Wellington region are similar to the national figures. Obesity rates in the Capital and Coast DHB area are below the national average, at 25.5%, while among the communities of the Hutt Valley and Wairarapa, obesity rates are slightly higher than the national average at 31% and 32% respectively.

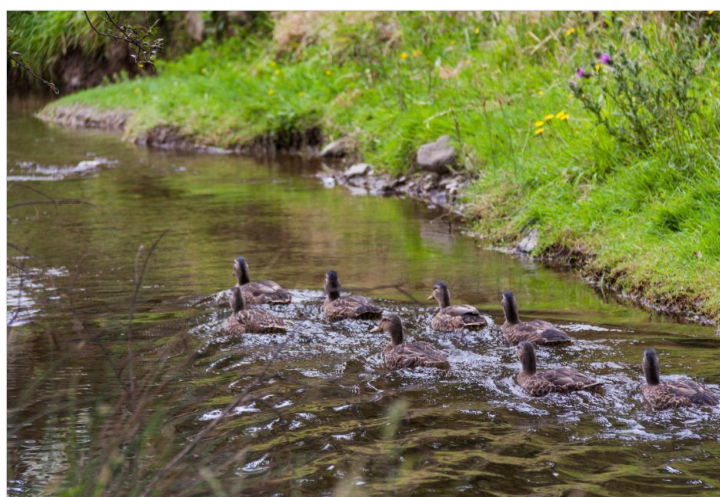
Further, less than half of adults aged 15 years and over across Wellington, Porirua and Kāpiti Coast are considered physically active (around 48%), less than the national average of 52%. Physical activity rates in the Hutt Valley are on par with the national average, and those in the Wairarapa area are significantly above average, with about 68% of people considered physically active.

### 2.1 Public health and parks

Access to quality open space is widely considered to have a positive impact on community health and wellbeing. A recent literature review on the health benefits of parks and natural spaces concluded that the evidence connecting parks and health is substantial. This finding offers justification for the promotion of and investment in parks, as settings that enhance the health and wellbeing of community members across their life.<sup>2</sup> However, do note that much of the research exploring the relationship between parks and human health is either anecdotal or descriptive. Of the relatively small number of experimental studies that have rigorously tested differences between natural and non-natural settings, many of the positive effects were not statistically significant or related to very small sample groups. This suggests further investigation of activities undertaken in parks and



The old red tractor at Battle Hill. Getting outside and playing in natural settings is essential part of development for children. Regional parks offer an abundance of unstructured, nature play opportunities.



Taking time to be still and watch nature is good 'detox' for busy urban lives. In Japan, it's called 'nature bathing'. Here in Wellington, regional parks are not far from home for many people and offer lots of opportunities for being active or just enjoying the

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<sup>2</sup> Townsend, M et al. (2015): Healthy Parks Healthy People: the state of the evidence 2015. Report prepared for Parks Victoria.

their health and wellbeing benefits is required to better understand this relationship, especially within a New Zealand context. For example, it is estimated that Londoners avoid £950 million per year (NZD\$1.9b) in health costs due to public parks.<sup>3</sup>

Some of the specific health benefits that have been linked with time spent in parks include disease regulation, livelihood support, mental and spiritual well-being, access to medicines (e.g., plants used in Rongoā Māori -the traditional Māori healing system), and as settings for physical activity.<sup>4</sup>

Public green spaces like regional parks provide a range of ecosystem services that are fundamental to human health. This includes the provision of food, clean air, water and soil. As well as these ecosystem services, parks provide a range of other health benefits that are delivered through people spending time in and being directly exposed to natural settings for purposes such as recreation, education or contributing to conservation efforts.<sup>5</sup>



Regional parks provide a range of activities. At Kaitoke the Hutt River offers a chance to jump into the deep water or play in the shallows.

## 2.2 Connecting people to parks to improve health and well-being

Parks are a cost effective means of maintaining physical and psychological wellbeing.<sup>6</sup> A recent literature review of research on the health benefits of parks found that the potential for improving health through use of parks can be enhanced through the promotion of the benefits of nature by park managers, researchers and policy makers. The report also concluded that the health benefits of parks might be maximised by designing spaces in parks that are readily accessible and inclusive, and that encourage visitation by accounting for diverse users' motivations and needs.<sup>7</sup>

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<sup>3</sup> Vivid Economics (2017): Natural capital accounts for public green space in London. Report prepared for the Greater London Authority, National Trust, and Heritage Lottery Fund.

<sup>4</sup> For example: ICUN World Parks Congress (2014): Improving Health and Well-being Stream Report; Konijnendijk, C. C. et al. (2013): Benefits of Urban Parks, A systematic review. Report prepared by the University of Copenhagen for IPFRA.

<sup>5</sup> Blaschke, P. (2013): Health and wellbeing benefits of conservation in New Zealand. Science for Conservation Report 321 prepared for the Department of Conservation.

<sup>6</sup> <https://www.theparksalliance.org/who-we-are/objectives/>

<sup>7</sup> Townsend et al. (2015): Healthy Parks Healthy People: the state of the evidence 2015. Report prepared for Parks Victoria.

Greater Wellington regional parks provide for a range of activities including walking, biking and picnics and more adventurous activities such as mountain biking and 4X wheel-driving. One of the aims of providing recreation opportunities in regional parks is to contribute to healthy lifestyles and well-being within the region.

Structured outdoor activities in partnership with the health sector are one way to forge collaborations that produce programmes to help people get active in parks. An example in the Wellington region is Riding for the Disabled Association in Battle Hill. The Association’s mission is to develop confidence, independence and well-being for people with disabilities through therapeutic horse-related programmes.<sup>8</sup>

Internationally, there are a range of examples of “park prescription” initiatives designed to harness the health benefits of helping people to get active in parks.<sup>9</sup> In San Francisco, park prescriptions are fully integrated throughout the public health system; all 7 million residents in San Francisco Bay Area have access to a ‘Healthy Parks Healthy People Program’.<sup>10</sup>



Riding in Belmont RP. There are lots of different ways to access regional parks from walking to riding, four wheel driving and horse riding.

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<sup>8</sup> <https://wellingtonrda.org.nz/>

<sup>9</sup> “Connecting people and parks”. Session 14 of the Improving Health and Well-being stream at the World Parks Congress, Sydney, 2014.

<sup>10</sup> Other examples include Active in Parks: an Australian-developed online resource to help people to find information about activities in parks to encourage people to get active in nature <https://activeinparks.org/> and Branching Out: a 12-week outdoor programme developed in Scotland for people suffering from a mental illness <http://scotland.forestry.gov.uk/supporting/strategy-policy-guidance/health-strategy/branching-out>.

### 3. POPULATION GROWTH, AGE, AND EMPLOYMENT DISTRIBUTION

The region’s population is forecasted to grow by 15% between 2018 and 2043, from a little over 500,000 to almost 585,000.<sup>11</sup> Though Wellington City is expected to remain the key regional economic centre, factors such as land prices and improved transport connections could result in a more dispersed model of business activity across the region. Almost all of the suburbs that neighbour our regional parks are projected to experience an increase in “empty nesters and retirees” (aged 60-69), “seniors” (aged 70-84) or both. The growing older population has implications for regional parks in terms of provision of facilities and activities for parks visitors, as well as changing the make-up of park volunteers.

#### 3.1 Projected population growth and employment distribution

Wellington region is the third largest region in New Zealand by population. The region’s population is expected to grow. About half of the forecast regional growth will be in Wellington City, and around 30% of that is likely to be focused around Wellington’s central city and northern suburbs. Outside Wellington City, regional growth will primarily be in the form of urban expansion into green field land, particularly in Porirua and Kāpiti, and denser housing development in and around existing urban centres such as Hutt City, Petone and Porirua. Figure 3 depicts projected population growth across the region over the next 25 years.

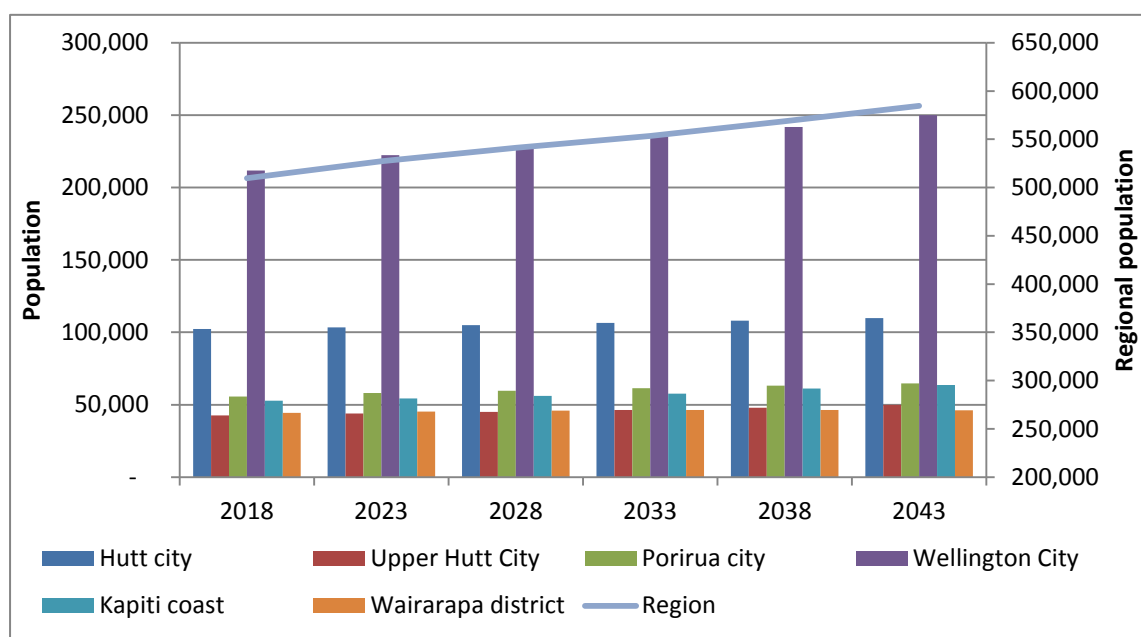


Figure 3: Forecast population by Territorial Authority and regionally (2018-2043)

Nearly 60% of the region’s current jobs are concentrated in Wellington City, with 60% of those jobs located in the CBD. Over the next 30 years, Wellington City is expected to remain the key regional economic centre, with 80% of employment growth occurring in the City, although land prices, improved transport connections, and resilience issues could result in a more dispersed model of business activity. A growing Kāpiti population is likely to increase visitor numbers for QEP and

<sup>11</sup> Forecast ID <https://blog.id.com.au/2016/population/new-zealand-population-census/forecasting-in-new-zealand-building-regional-knowledge-in-the-wellington-region/>

Akatarawa. Similarly, population growth in Porirua may increase demand for Battle Hill. A growing concentration of population in Wellington City may have implications for accessibility to parks and transport options.

While many park visitors do frequent the parks that are closest in proximity to where they live, many people visit parks in other parts of the region. For example, park visitor intercept surveys show that Wellington City residents are more likely to visit East Harbour and QEP, while Porirua residents are most likely at Battle Hill but are prepared to travel all over the region to other parks. Therefore, we cannot assume that changes in population size and age distribution in neighbourhoods closest to each park will only have implications for that particular park. However, it is likely though that closer proximity will mean greater impact.

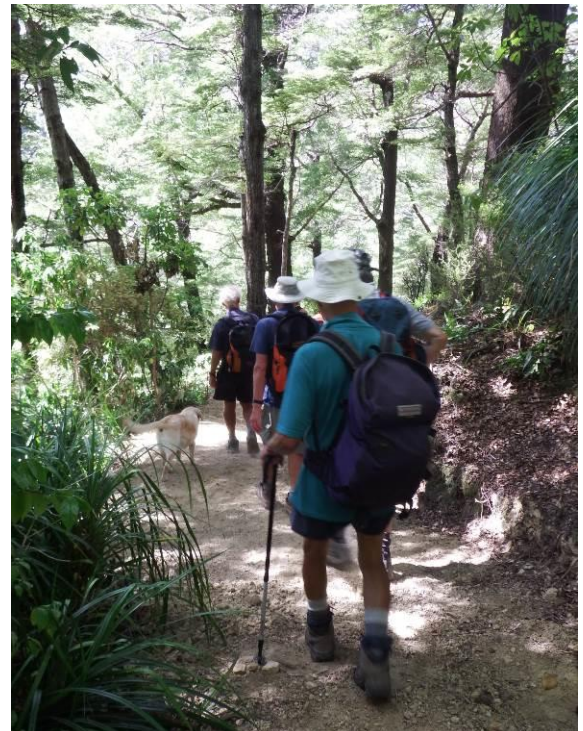
### 3.2 An aging population

Greater Wellington park visitor intercept surveys suggest that currently “parents and homebuilders” (35 to 49 years) are the largest group of park users (32%), followed by 50 to 69 years (25%) and under 16 years (22%).<sup>12</sup>

A notable trend across almost all of the suburbs that neighbour our regional parks is the projected increase in people in the 60-69 and 70-84 year age brackets. Te Marua, a suburb that nestles between Akatarawa and Pakuratahi is the sole exception: here the only age group projected to significantly increase by 2043 is the 35-49 year bracket. We discuss the possible implications of an aging population on Greater Wellington regional parks management and infrastructure at the end of section 4.



The Remutaka Cycle Trail is a key tourism and recreation trail for the region. It offers a depth of experience for visitors with many interesting railway heritage relics featuring along the trail, such as these former railway engine parts at the Summit Yard area.



Well-graded trails which contour gently up steep hills make climbing and descending easier and also mean less erosion from water runoff and less maintenance cost. Greater Wellington has been working to improve the gradients of trails for accessibility, environmental protection and to reduce management costs in parks across the region.

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<sup>12</sup> Detailed results from Greater Wellington park visitor intercept surveys are in Appendix 3.



## 4. TOURISM

91% of current regional park visitors live within the region. Domestic tourists comprise about 6% and international visitors about 3% of the total park visitors. While small in number, domestic and international tourists are a growing segment of park visitors. Tourism-related employment numbers are also expected to grow. The combined impact of tourism and associated employment growth will increase demand in the region for use of parks and associated recreational opportunities.

### 4.1 Current and projected tourist numbers at parks

Current usage of regional parks is dominated by regional and local populations. Visitation surveys conducted within regional parks showed that domestic tourists (NZ visitors who aren't resident in the region) comprise approximately 6% of the total number of visitors on average, and international visitors approximately 3%. The makeup of this user profile is diverse across age, gender and ethnicity.

The number of international tourist visitors to regional parks is likely to rise, given the annual growth rate (from 2014-17) of international visitors to national parks was 11%. The growth rate for international tourists who did not visit national parks was 6%.<sup>13</sup> This is in line with international tourism growth aspirations for NZ nationally, which are in the range of a 6% increase, year-on-year.

Tourism is likely to continue to be a source of economic growth in the Wellington region, with guest nights expected to increase on average by 2% per year. As a consequence, tourism-related employment numbers in the region are also expected to increase. The combined impact of tourism and associated employment growth will increase demand in the region for use of parks and associated recreational opportunities.

Approximately 3.2 million international visitors aged 15 and over currently visit New Zealand each year, of whom 1.7 million visit national parks.<sup>14</sup> In the financial year ending June 2017, 52% of all international visitors to New Zealand visited one or more national parks. In addition, approximately 40% of New Zealanders aged 18 and over also visit national parks<sup>15</sup>, equating to around 1.2 million people.

The Greater Wellington parks network provides public open spaces that complement the smaller urban parks provided by city and district councils and the larger national parks managed by the Department of Conservation. The latter are generally more remote and less developed in nature. Regional parks provide a mix of recreation and conservation opportunities, focusing on protecting values of national and regional significance.



The campground at Dry Creek in Belmont is particularly popular with international tourists who can enjoy budget accommodation close to Wellington and the Cook Strait Ferry terminal.

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<sup>13</sup> Department of Conservation (2017): National status and trend reports 2016-2017: National recreation and tourism trends. [http://www.doc.govt.nz/2017-annual-report-factsheets/?report=International\\_Visitors\\_trends\\_in\\_National\\_Parks](http://www.doc.govt.nz/2017-annual-report-factsheets/?report=International_Visitors_trends_in_National_Parks)

<sup>14</sup> <http://www.mbie.govt.nz/info-services/sectors-industries/tourism/tourism-research-data/ivs>

<sup>15</sup> According to DOC's annual Survey of New Zealanders

## 4.2 Tourism, population growth and demographic change influences

Tourism demand, while currently only a small component of parks usage overall, is likely to have an impact on specific sites within the parks network. These are likely to include high use facilities in Kaitoke, the Remutaka Rail Trail (Pakuratahi), shortstop visitors at Pencarrow, and accessible camping for budget-focused tourists at Dry Creek in Belmont. Expected changes in use include an increase in the number of independent travellers and budget camping, cruise tourism, and a larger proportion of domestic and international campervan users. We expect these changes to generate peak loading pressures at key sites, where seasonal capacity levels peaks are already common, for example at Dry Creek. For some sites, there are only limited options to manage spikes in usage without triggering costly infrastructure extension work (e.g., carpark extensions, additional toilets and other supporting infrastructure). Additionally, at some sites, physical space to expand is already limited (e.g., the Pakuratahi Forks carpark at Kaitoke).

In its provision of park facilities, activities and programmes, Greater Wellington is anticipating and planning for additional peak use pressures on sites visited by tourists. This is reflected in the levels of service developed for current and future years. Though increased pressure on parks from larger tourist numbers is likely to be gradual rather than immediate, incremental changes in demand can have a profound impact on the management of park assets. For example, the growing popularity of Kaitoke as a visitor destination has occurred since the original swing-bridge was installed near the Pakuratahi Forks. The growth in tourist use of this area, stemming from Lord of the Rings tourism, has created a widening capacity gap. Now the site's 10-person load limited bridge can no longer handle peak use.

A changing population poses additional demands on these types of structure. In the case of the swing bridge at Kaitoke, a higher grade of structure is needed as a replacement, with reduced maximum slopes and sufficient passing width to carry wheel chairs/ buggies and a larger volume of peak traffic. Similarly, to handle growth in peak loading the carpark and toilets at this site, Greater Wellington may need to reconfigure and enlarge these assets. Such upgrades can result in a cascade of additional investment triggered initially through growth in demand from an unplanned event. In this case, the event was the use of a site as a location for a high profile film series.

The region's aging population also has implications for the demographic make-up of Greater Wellington's volunteer workforce. Many of the people who currently volunteer in regional parks are retired or nearing retirement, and we expect that the proportion of volunteers aged 65+ will rise as the average age of the regional population increases. This may have implications for the types of work that volunteers wish to undertake, and the skills and experience they bring to the job.

Finally, it is worth reflecting on possible combined implications of tourism and an aging population. It is estimated that by 2020, 25 per cent of the tourism market worldwide will comprise people with a disability. Planning for the growth in inclusive tourism, driven predominantly by the retirement of the baby boomer generation, will need to factor into regional parks management in terms of provision of facilities and access to parks features and activities. Ultimately, this is about creating an environment where people of all ages and abilities feel welcome and provided for. Design that caters for the needs of everyone is often referred to as 'Universal Design' or 'Design for All'.



As parks get busier facilities sometimes need to be upgraded to better meet demand. Replacing this bridge at Kaitoke with a more accessible one suitable for people of all abilities and bicycles is proposed as a Long Term Plan priority action.

## 5. TECHNOLOGICAL CHANGE

Technology in parks can connect people to nature, make management activities more efficient and effective, assist in collecting data to inform management, and at the same time isolate people more from nature with virtual experiences instead of real ones. Put to good use, aiming to integrate technology in parks, to enhance rather than disturb people's experience of the natural world, can encourage greater usage and enjoyment of our regional parks. It can also improve day-to-day management activities.

### 5.1 Educational and scientific technologies

The possible applications for technology in and for parks are practically limitless. The potential for technology to be used as a means of connecting people with nature is increasingly being recognised and explored. For example, taking photos for Instagram encourages people to pay attention both to the broad vistas and light conditions, and to the interesting things you see close up; patterns and textures of flora, fauna and historic heritage relics. Images are then shared across the world with people appreciating the beauty of local Wellington places.

Geocaching, self-guided trails with QR codes, live streaming, education technology and virtual hikes are all examples of technology being used in parks around the world in parks and open spaces. These have the aim of *enhancing*, rather than disturbing, people's connection to parks and other nature spaces.<sup>16</sup>

Scientists and park managers can use images and audio from camera traps, microphones and drone footage to learn about the activity of a particular species, interactions between species, and the health of the overall ecosystem.

Drone usage by visitors to Greater Wellington regional parks is evident already and growing in popularity.<sup>17</sup> In the future, new devices that can sense minute details of air and water quality could help parks subtly monitor environmental changes, and algorithms may help scientists sort through genomes. We will likely be able to sift DNA from streams and tease out subtle changes in forest ecology from satellite images.<sup>18</sup>



Sharing the love of parks. Great experiences in parks are often shared through social media such as Instagram.

### 5.2 Information and communication technologies

The standard modes of communicating information about parks are also changing. Beyond brochures and websites, social media channels (Facebook, Instagram, SnapChat, Twitter, Google+, LinkedIn, Pinterest and YouTube to name a few) and mass email programmes, such as MailChimp and ConstantContact, can and are being used to reach past, current and future parks users.

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<sup>16</sup> <http://www.nrpa.org/parks-recreation-magazine/2016/may/park-technology-exploring-opportunities/>

<sup>17</sup> Greater Wellington developed guidelines for flying drones/ Unmanned Aerial Vehicles in regional parks following the Civil Aviation Authority's introduction of new rules in 2015 <http://www.gw.govt.nz/assets/Parks-and-Recreation/WGNDocs-1519009-v1-UAVdronesguidelineforwebsite26thAugust2015.pdf>

<sup>18</sup> <http://grist.org/business-technology/if-you-think-technology-has-no-place-in-the-national-parks-think-again/>

The way people search for and access information about parks is also shifting. User generated content like personal blogs and user reviews on platforms such as Trip Advisor are becoming much more common and influential. Information technology improvements are having a direct impact on usage of certain destinations in the Greater Wellington parks network. An example is a 2015 surge in camping at Dry Creek in Belmont coincided with it being identified in a budget camping app. It is anticipated that user generated information will have an increasingly important role to play in influencing park user decision making and expectations, further amplifying changes in usage patterns. In this context, the advantages of cross agency promotion and coordination of programmes become increasingly important.

New and emerging information technology is also being used to assist with research into how people engage with and experience parks. For example, the use of social media platforms including Facebook, Twitter and Instagram and algorithm software can be used to as a way of gaining insight into levels of happiness resulting from time in parks. Other new technologies, like wearables and remote sensing, can be used to aid health assessments and interventions within parks. This enables people to engage with their environment and offers them valuable feedback on health indicators.

Such technologies may augment, rather than replace, the important but more traditional ways of understanding people's experiences of parks, such as interviews, conversations, and surveys. Together, these approaches could allow more comprehensive understandings of the connections between parks and people's mental and physical health.<sup>19</sup> After all, parks are intended to be places that are free to enter and that generate wellbeing - where everyone feels welcome and experiences a sense of belonging.<sup>20</sup>

### **5.3 Transport technologies**

In the Greater Wellington parks network over the life of the next PNP, usage of sites may change as transportation technologies improve. In the near term, electric bikes and powered scooters may have the greatest impact, particularly cycle accessible trails. There could be demand for specific infrastructure within or near parks (such as electric vehicle charge stations or dedicated parks). Greater Wellington is actively promoting the use of electric vehicles through its 'Electric Vehicles First Policy'<sup>21</sup>.

Electric Vehicles and autonomous vehicles are expected to significantly disrupt New Zealand's transport sector over the next ten years. At the time of writing the Wellington region has the second highest per capita ownership of electric vehicles in the country. Ownership rates are expected to increase further as market trends that are now well established continue. These include the range electric vehicles can travel on a single charge increasing, battery life and performance improvements, and falling purchase costs. Consumer uptake will also be dependent on the continuation and or enhancement of government policies designed to favour the adoption of these low emission technologies.

Autonomous vehicles are self-driving fully electric vehicles. Trials of this technology are currently occurring in multiple cities. Transport sector analysts expect that as the technology reaches maturity, 'mobility as a service' will become a prominent business model that disrupts and reshapes how people move around. This could have a significant impact on how people access parks.

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<sup>19</sup> For example: Christopher Golden, Wildlife Conservation Society, USA (2014): How social media data can be harnessed to understand the effects of national parks on mental health.

<sup>20</sup> Emily Munroe (2014): 8-80 Cities, Canada – Healthy Parks Healthy people: 8-80 Cities and the Make a Place project.

<sup>21</sup> <http://www.gw.govt.nz/assets/Climate-change/GWRCelectric-vehicle-policy-2016.pdf>

Also, because cars will not be owned by individuals, (but provided as an on-demand service) the need for dedicated car parking spaces in regional parks could diminish overtime. While it is not possible to predict exactly when or how 'mobility as a service' in autonomous vehicles will manifest in the Wellington region, the arrival of autonomous vehicles may prove to be a significantly disruptive innovation. Future parks planning for things like layout and configuration of car parking spaces, access roads and laybys may need to take into account the implications of this fast emerging technology and its potential to change visitor's transport behaviour.

E-bikes are revolutionising cycling, enabling riders to reach destinations that were previously considered too far away or difficult to reach due to terrain such as large hills, or climatic conditions such as prevailing winds. Steep topography and strong wind are two factors that are highly relevant in a Wellington region context. E-bikes are also enabling a wider range of people to adopt cycling as a mode of transport, as the extra power offered helps overcome terrain difficulties.

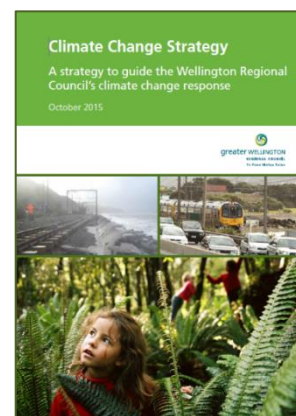
Many of the parks in the Greater Wellington network are accessed via state highways and or rural roads that currently have limited provision for cycling. In the future, greater use of e-bikes to access parks may be enabled through more widespread provision of charging facilities across the region, and ongoing work by NZTA and the region's Territorial Authorities to provide safe cycling infrastructure.



The Transmission Gully motorway, seen here under construction in the distance from Battle Hill, provides the opportunity for Greater Wellington to identify QEP, Battle Hill and Belmont parks to hundreds of thousands of passing motorists, through signage, restoration plantings and potentially even the types of large motorway side sculptures common in other countries.

## 6. SUSTAINABILITY AND RESILIENCE

The effects of climate change are visible across the Wellington region with average annual temperatures and sea levels on the rise. One of Greater Wellington's key sustainability goals is to continually lower the carbon footprint of our activities and operations and improve environmental outcomes. The afforestation and revegetation programs taking place across the parks network contribute significantly to carbon sequestration in the Wellington region. Natural and semi-natural parkland provides global benefits as a store of carbon in soil and trees. Management of the parks network into the future will require an adaptive management approach that plans for a range of future climate scenarios and takes account of emerging low carbon innovations and technologies. The strategy's vision is that "Greater Wellington strengthens the long-term resilience and sustainability of the Wellington region through climate change action and awareness".



### 6.1 Greater Wellington's sustainability context

Sustainability at Greater Wellington is driven by a Council commitment to be a low carbon and zero waste organisation, identified in a Corporate Sustainability Action Plan in 2014. A review and refresh of the plan is currently underway. Greater Wellington's sustainability activities also act on policies from Greater Wellington's Climate Change Strategy and Implementation Plan (2015), and the organisation's Long Term Plan and Annual Plan goals. Greater Wellington monitors and evaluates progress on organisational sustainability objectives through the preparation of an annual corporate Green House Gas Inventory as well as a Sustainability Report.

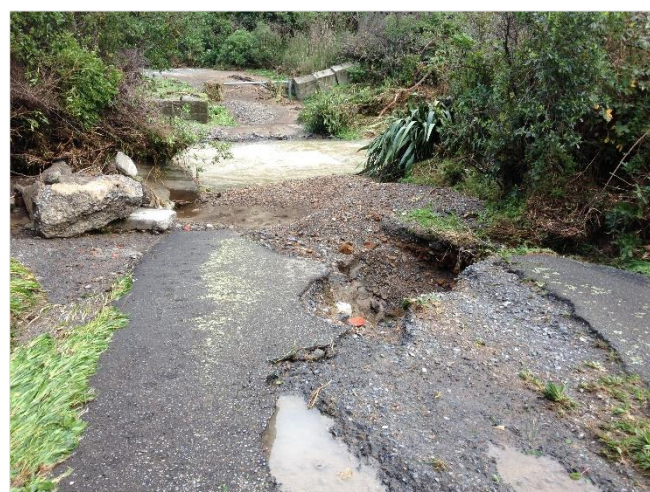
Greater Wellington has three key sustainability focus areas for the future:

1. To continue to grow a culture of sustainability within the organisation and across all operations
2. To continue to mitigate climate change through reducing greenhouse gas emissions
3. To champion adaptive and innovative sustainability practices in the region through, for example, developing sustainable procurement policies

Quality green spaces such as the park network contribute to environmental sustainability by:

- Improving air and water quality
- Protecting and biodiversity and wildlife habitats from threats
- Restoring native and regionally appropriate plant species
- Fostering participation in healthy outdoor recreation activities, and engagement through events and volunteering.

Natural and semi-natural parkland also provides global benefits as a store of carbon in soil and trees. The pest management work that maintains and enhances the integrity of our forest ecosystems is key to ensuring the regional parks continue to act as valuable carbon sinks. New fast growing forests absorb increasing amounts of carbon from the atmosphere as they develop, meaning that the afforestation and revegetation programs taking place across the parks network contribute



In 2015 the Korokoro stream catchment in Belmont received very high rainfall in a short period which resulted in flooding that damaged many of the assets in the valley. The frequency of these events is increasing as a result of climate change.

significantly to carbon sequestration in the Wellington region. Tree planting activities across the parks network will keep growing in importance as the urgent need to remove carbon from the atmosphere to combat climate change continues to intensify.

## **6.2 The region's changing climate**

**The region is typically dry in the east and wet in the west and this pattern will be enhanced in the future.** When it rains the rainfall may become heavier than it has been in the past, and when we get periods of drought they may last for longer. Storms are expected to occur more often in the future or be more severe. Combined with higher seas, these storms will exacerbate coastal areas with erosion and inundation events.

## **6.3 Likely climate change impacts and implications**

Some of the potential implications and impacts of climate change for the Greater Wellington parks network are significant and are likely to be variable throughout the region:

### **Temperate and rainfall changes**

- The number of days of very high and extreme forest fire danger are projected to increase by 100-150% by the 2090s for the Wellington Region
- Mean annual low flow of rivers is projected to decrease throughout the region, particularly in the east
- Mean annual flood is projected to increase in most parts of the region, particularly in the west. Changes to the hydrological regime in NZ rivers may impact the distribution of native species
- Increased rainfall intensity could increase flood intensity and exacerbate issues associated with erosion (slips etc)
- Sea level rise and consequent coastal fortification (to prevent coastal erosion) will result in the loss of habitats. Sea level rise will also affect infrastructure at risk of coastal inundation. Adaptation strategies may include restricting further development or retreating.

### **Flora and Fauna changes**

- Native New Zealand plants and animals may change the ranges and altitudes they currently are found in as the climate warms and rainfall patterns change.
- Changes to timing of seasonal activities such as flowering, breeding, and migration may disrupt relationships between species.
- Changes in temperature and rainfall may allow pest species to move into new habitats where they may out-compete NZ's native species. Tropical and subtropical pests (e.g., certain mosquito species) that currently occur as seasonal immigrants may become established in the region with warmer temperatures. Biosecurity work may require more resources.

### **Impacts on people, park assets and the regional economy**

- Coastal assets may need to be relocated inland or reinforced where they are coastal dependant
- Extreme weather events may increasingly impact people using or depending on parks for their livelihood
- Species used for customary harvest may disappear or be more abundant. Mahinga kai species may change with habitat changes
- Conditions for recreation activities may change with more or less wind, rain, water
- Tracks may require extra drainage, relocation to reduce erosion effects

- Heritage assets may continue to require extra strengthening to preserve and protect them
- Park licence holder activities may be impacted and need to change their activities e.g., farming and grazing
- Prolonged sunny, wet or cold summers influence park visits particularly for activities such as camping. A long sunny summer, such as that of 2017/18, results in more people camping in our regional park campgrounds and more ranger effort required supporting this demand. Negative effects can be more frequent or longer lasting algal blooms in rivers and streams from low water flows making them unusable for campers.

Appendix 2 presents whitua (catchment scale) tables that outline climate change projections for Greater Wellington's Regional Parks for 2040 and 2090.

## 6.4 Adaptive management for climate change

Prudent management of the parks network into the future will require managers to consider a range of scenarios, ensuring both the worst potential impacts of climate change are considered alongside more optimistic projections. This practice of planning against a range of potential futures is known as **adaptive management**.

Adaptive management encompasses:

- Being well **informed** about how the regional climate is changing and what it means for parks
- Being **organised** in our approach to asset planning and day to day management
- Taking **proactive** measures to manage aspects of the park environment most at risk of the effects of climate change.

Understanding the impacts is of course only half the story. It is essential to also understand what the *implications* of the impacts will be. For example:

- Increased storms and the severity of them will likely mean coastal and riverside trails and other assets will be impacted by flooding and erosion. In future they may need to be reinforced or relocated
- Warmer weather may change the time of year that some native species of tree fruit. This could have an impact on the food supply for some bird species and may be more or less favourable for them. Should an alternative food sources vegetation be planted and if so which species? The flow on effects will likely be gradual ecosystem change.

Management of the parks network into the future will require an adaptive management approach that plans for a range of future scenarios. Climate change adaptation is a key consideration in biodiversity, asset management planning and scientific studies for park terrestrial and aquatic ecosystems.

## 7. LEGISLATION AND KEY NATIONAL POLICIES

Regional parks are governed by a range of legislation that sets broad and sometimes specific parameters about how different park lands can be managed and developed, acquired or disposed of. They also influence levels of service by setting out a range of standards, regulations and processes that must be followed in asset provision and service delivery in regional parks. Key legislation with a short synopsis is listed below.

**Local Government Act 2002** - sets out principles and consultation requirements for local authorities in performing their functions. The Act requires local authorities to consult before selling any park or part of a park that is not a reserve under the Reserves Act 1977. The Act also allows regional councils to apply for regional parks to be protected in perpetuity through an Order in Council. Section 149



authorises Greater Wellington to make bylaws governing the use of regional parks and forests, which ensures compliance with the rules set out in the PNP.

**Reserves Act 1977** –provides for the acquisition of land for reserves, and the classification and management of reserves (including leases and licences). The Act requires Greater Wellington to prepare reserve management plans for parks held as reserves. The majority of Greater Wellington’s parks classified under the Reserves Act are recreation reserves, with some scenic and local purpose reserve areas. Greater Wellington considers it best practice to prepare a plan that includes all land that contributes to the regional park network, whether held under the Reserves Act or other legislation.

**Resource Management Act 1991** – The PNP must comply with regional and district plans prepared under the Resource Management Act. Greater Wellington parks are located across five districts (Wellington City, Porirua City, Hutt City, Upper Hutt City and Kāpiti Coast District Councils). The PNP must therefore comply with each of these district plans, as well as the five operative regional plans and the proposed Natural Resources Plan for the Wellington Region. For example, the PNP identifies protected and managed natural areas that have Significant Natural Area or Significant Ecological Area status under various district plans, such as Korokoro Valley and Dry Creek Bush in Belmont.

**National Policy Statement for Freshwater Management (revised 2017)** – This National Policy Statement sets out that freshwater quality must be maintained or improved in order to provide for the many ways water is valued by New Zealanders. As a policy statement prepared under the Resource Management Act, the National Policy Statement for Freshwater Management must be given effect to by the Council’s regional plan. The Council’s Whaitua Programme will progressively set water quality limits for all parts of the region. This will mean activities that affect water quality, including forestry, farming and urban land uses, must be managed to ensure the ‘maintain and improve’ test is met. As major land owners in some whaitua (e.g. Te Awarua-o-Porirua), parks planning and operations will need to deliver on water quality objectives, limits and methods identified in the regional plan.

**Wellington Regional Water Board Act 1972** - sets out Greater Wellington’s legal responsibilities and powers over the forest lands, enabling Greater Wellington to hold and manage lands for water supply purposes, forestry and recreation. Greater Wellington officers and rangers are empowered by the Act’s bylaws to control activities in the forests. The Akatarawa and Pakuratahi Forests are held as potential future water collection areas under this Act. This means that protection of forest areas for water collection is the priority, when new proposals in these areas are considered.

**Building Act 2004** - applies to the construction of new buildings as well as the alteration and demolition of existing buildings. In practical terms, this means that Greater Wellington must comply with the provisions in the Act when constructing, modifying or demolishing buildings within the parks network, for example rangers’ houses, heritage structures, and farm and toilet buildings.

**Biosecurity Act 1993** – provides for pest control strategies and defines the role and responsibilities of pest management agencies in the control of pests, the procedures to be followed, and how pest management is to be funded. Under the Act, Greater Wellington is empowered to exercise relevant enforcement and funding provisions to achieve the objectives of its Regional Pest Management Strategy 2018-2028. This legislation helps guides environmental management priorities across the Greater Wellington Regional Parks Network.

**Health and Safety at Work Act 2015** - promotes that workers and other persons should be given the highest level of protection against harm to their health, safety, and welfare from work risks as is reasonably practicable. This legislation applies to the many volunteers who undertake activities across the Greater Wellington regional parks network. Under Section 19 of the Act, people and groups volunteering in parks on an ongoing or regular basis and undertaking work that is an integral part of the business must be treated the same as staff members with regard to health and safety.

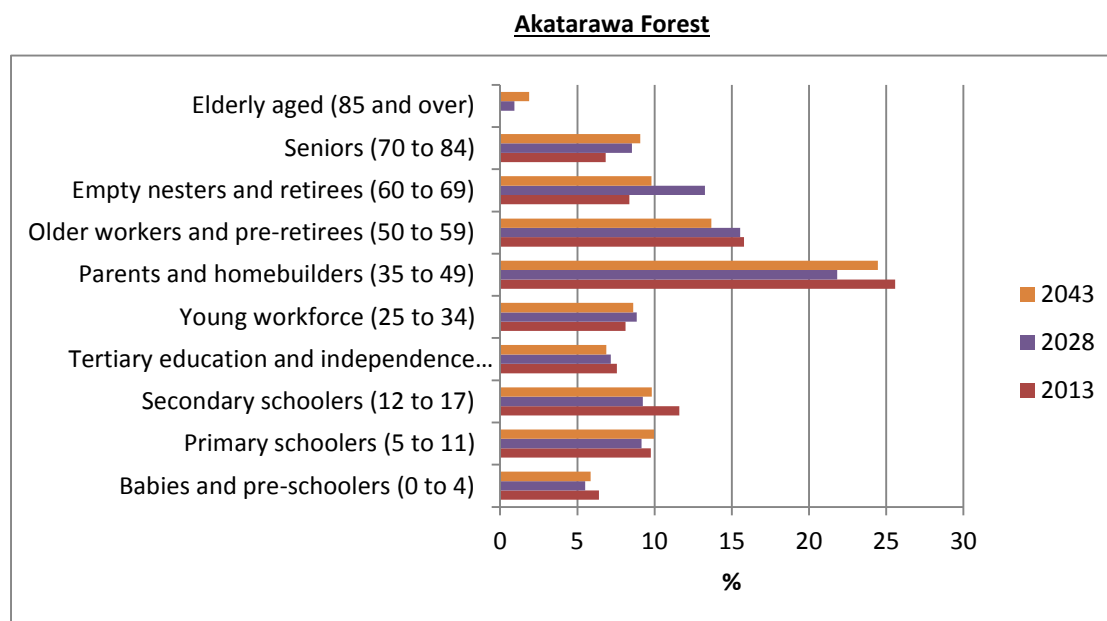
***Heritage New Zealand Pouhere Taonga Act 2014*** - promotes the identification, protection, preservation, and conservation of the historical and cultural heritage of New Zealand. Development and activities in Greater Wellington parks take into account the requirements of this Act, such as protection of registered archaeological sites. Operationally an Accidental Discovery Protocol guides park maintenance work, such as trail earth works.



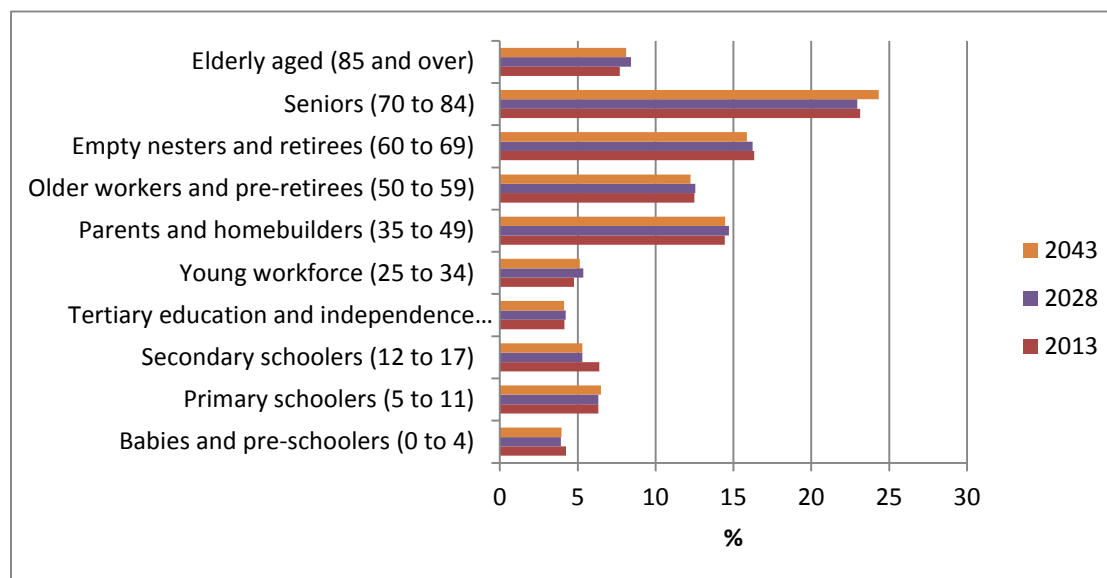
Puke Ariki track Belmont RP and Wellington Harbour has the potential to be a 'must do' walk or ride connected by public transport.

## Appendix 1: Projected age structure in suburbs neighbouring regional parks

The following graphs show forecast population growth and decline across different age groups for each of the suburbs adjacent to the respective regional parks and forests in the Greater Wellington parks network.



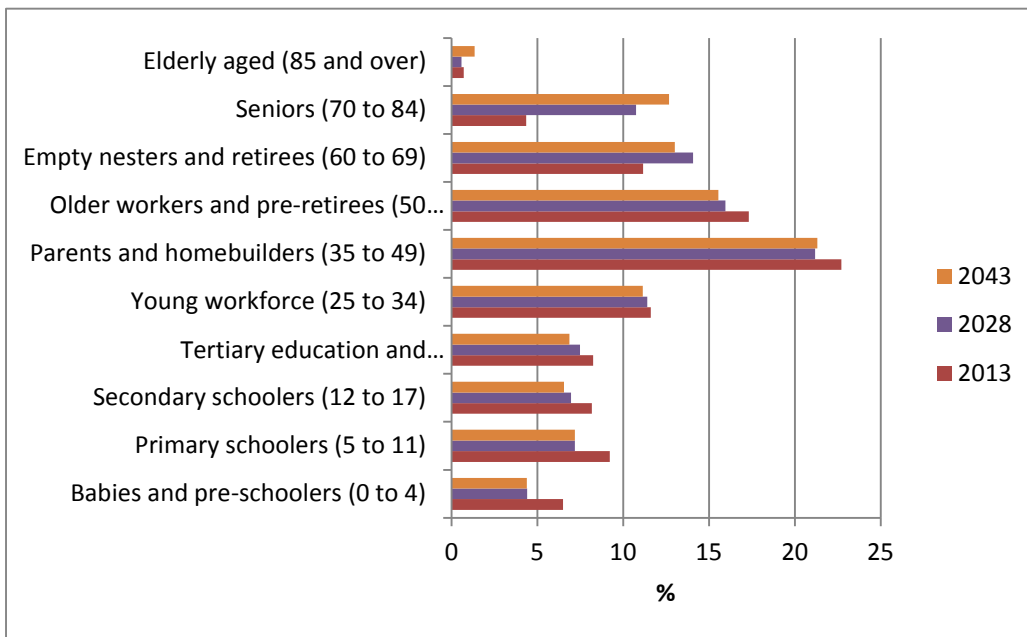
**Figure 1. Te Marua forecast age structure**



**Figure 2. Waikanae-Reikorangi forecast age structure**

The population surrounding the Akatarawa Forest are in the Hutt Valley and on the Kāpiti Coast. Key projected changes for the population around the Akatarawa Forest are more retirees on the Kāpiti Coast, with an increase in parents and homebuilders in the Hutt Valley by 2043.

**Belmont Regional Park**



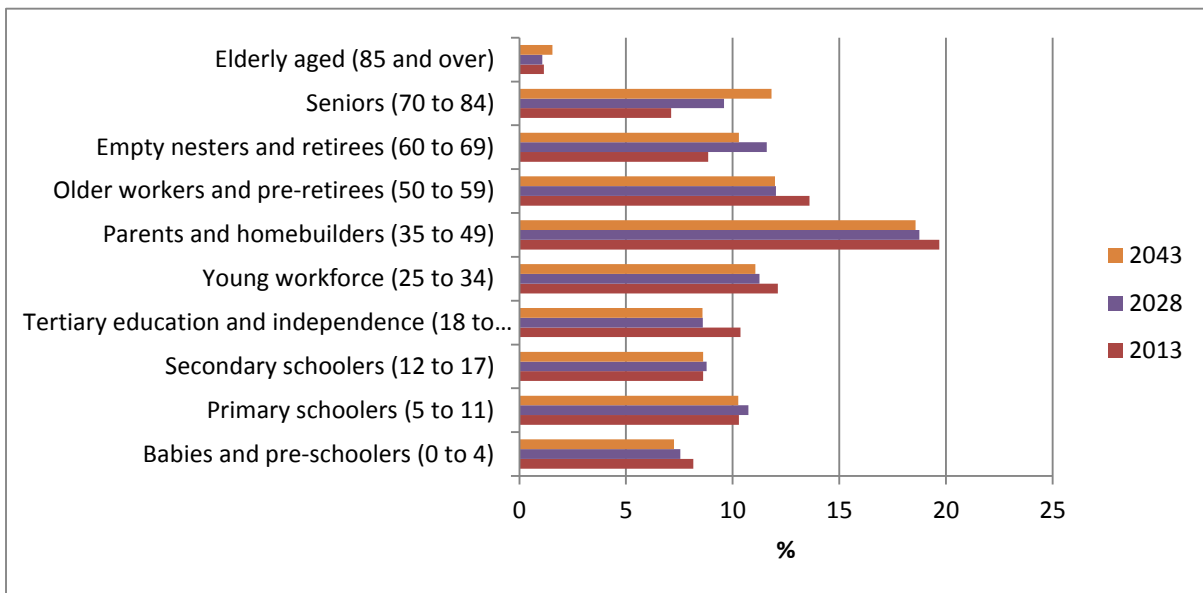
**Figure 3. Belmont forecast age structure**



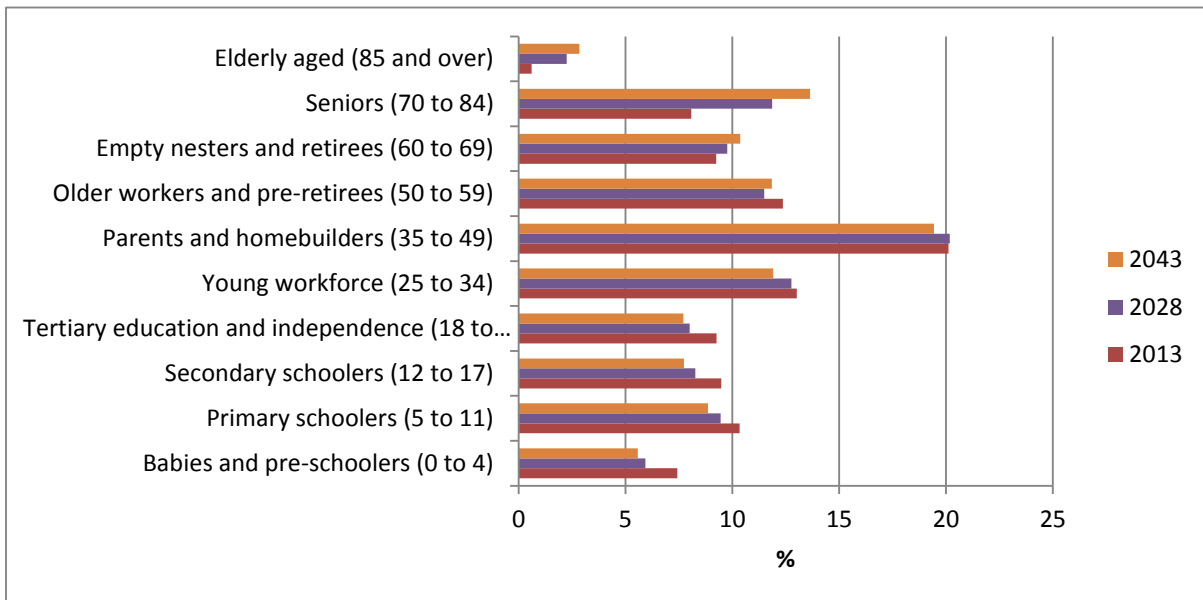
**Figure 4. Normandale – Tirohanga forecast age structure**

The key changes for the population closest to Belmont are similar to that of other parks; more empty nesters and retirees and seniors than there are in these areas now.

**East Harbour Regional Park/ Wainuiomata Recreation Area**



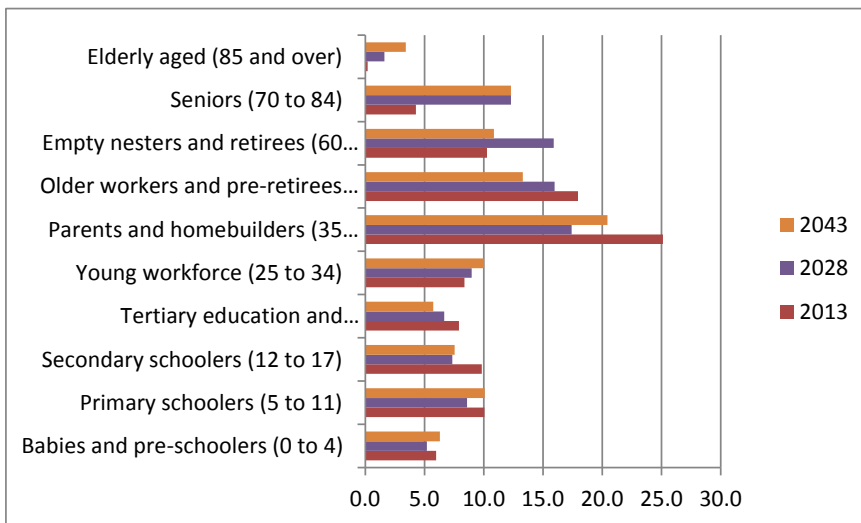
**Figure 5. Homedale – Pencarrow forecast age structure**



**Figure 6. Parkway**

The key changes for the population area closest to East Harbour and the Wainuiomata Recreation Area are again significantly more seniors and elderly people, more empty nesters and retirees who are likely to be active (in recreation and conservation activities) and less younger people and working aged people.

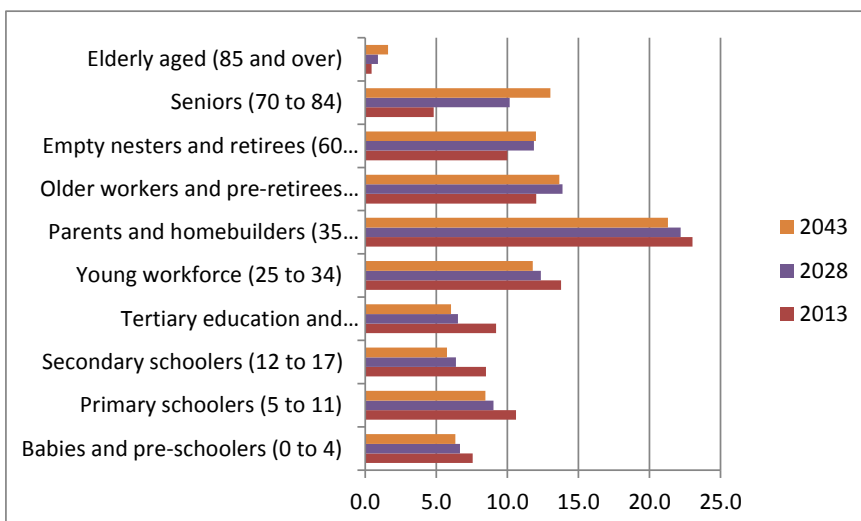
**Pakuratahi Forest and Kaitoke Regional Park**



**Figure 7. Akatarawa-Rimutaka-Kaitoke-Mangaroa-Moonshine Valley**



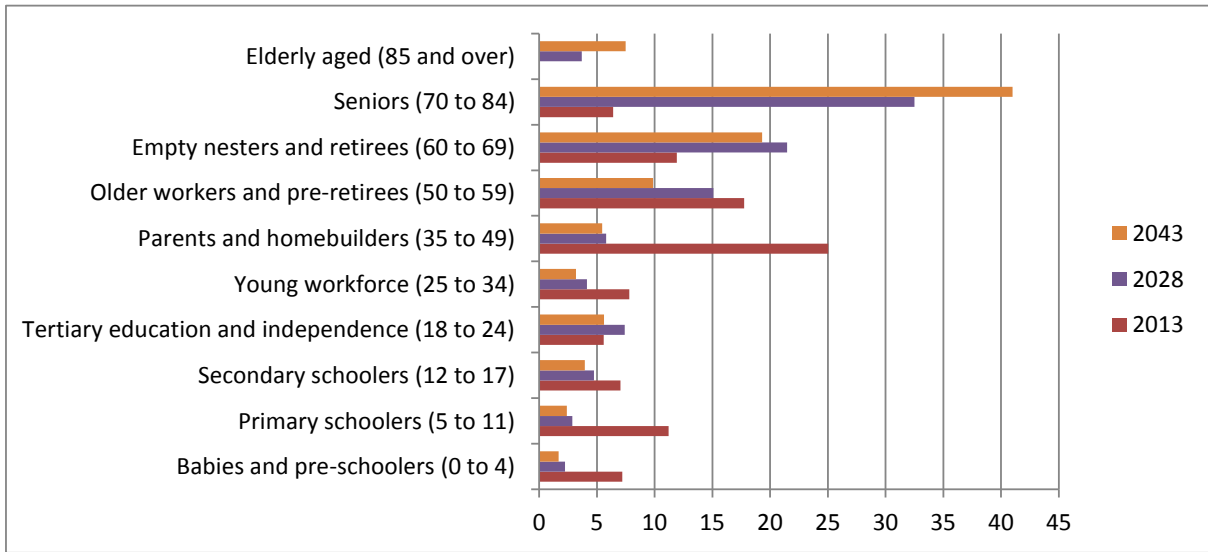
**Figure 8. Te Marua**



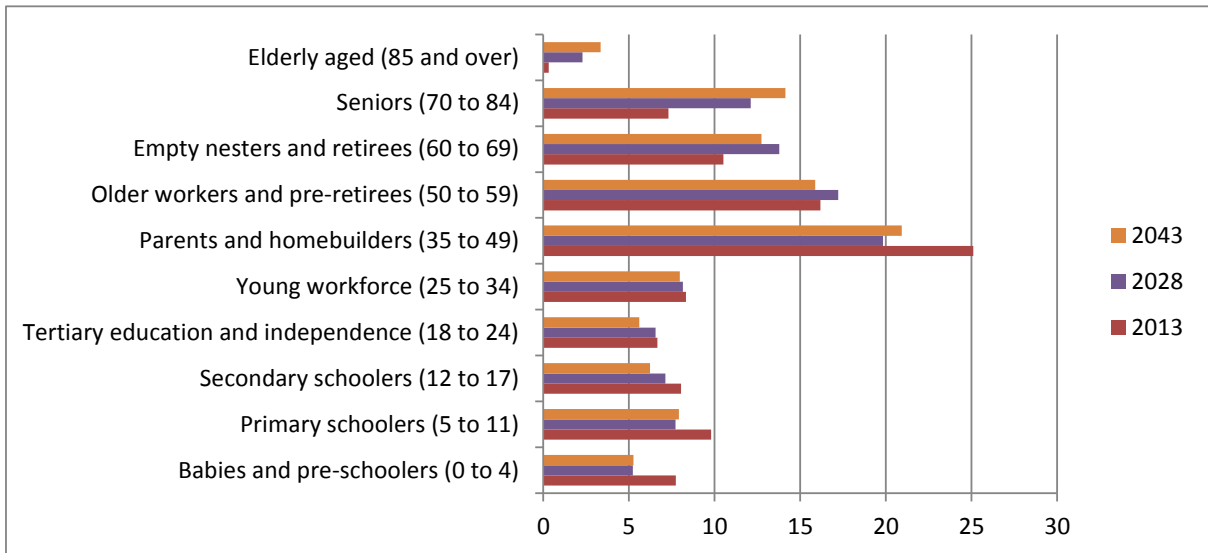
**Figure 9. Maoribank**

The projected population changes surrounding Kaitoke and Pakuratahi are similar to other parks with more empty nesters and retirees, more seniors and far fewer young families in the area.

**Queen Elizabeth Park**



**Figure 10. Paekākāriki**



**Figure 11. Raumati South**

The Kāpiti coast has always been a destination for retirees and this area is predicted to see the retired, senior and elderly population increase even further over the next 25 years.

## Appendix 2: Climate change projections in the Wellington region by Whaitua (catchment) area

Scientists have modelled the future climate of the Wellington region and the **projections** produced through that work can help stakeholders understand what impacts to prepare for. How much the climate will change will depend on how quickly the international community reduces overall global greenhouse gas emissions. No one knows exactly how quickly people around the world will be able to reduce their emissions and because of this **uncertainty**, the projections are presented in the form of **scenarios**. For example a 'continued high emissions scenario' provides projections for a world that undergoes a large amount of global warming (i.e. the worst case scenario), while a 'low emissions scenario' describes what could occur if emissions are reduced dramatically within the next twenty years.<sup>22</sup>

It is important to acknowledge that no matter what happens with global emissions in the future, climate change is already affecting the region and will continue to do so. This is because the greenhouse gas emissions produced by humans since the industrial revolution have already affected the global climate, causing temperatures to rise, which in turn generates the impacts of sea level rise, increased rainfall intensity, longer droughts in drought prone areas etc. There is nothing that can be done to stop the effects of the emissions that have already occurred, but the worst **projected** effects of climate change be avoided if emissions are reduced.

The tables below set out climate change projections for Greater Wellington's Regional Parks for 2040 and 2090. The projections for each park were developed based on the whaitua (catchment area) within which the park is located.

The tables set out the changes projected for the main variables of interest (variables are things like temperature, rainfall, sea level rise etc). The variables are presented in ranges, i.e. the numbers presented span a range of scenarios.

The variables tell us a story about the impacts, but the tables do not provide an exhaustive list of implications. Known implications that are relevant to each park are briefly noted, however it is important to acknowledge more analysis needs to be done to identify currently unknown implications. Determining these will require further research as they are likely to be context specific. I.e. they are based on the characteristics (topography, ecology, location of assets etc) and priorities specific to each park.

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<sup>22</sup> Incomplete scientific knowledge about some of the processes governing the climate, and natural year-to-year variability, also contributes to uncertainty in projections for the future



## Te Awarua o Porirua whaitua (catchment area)

### Parks within this Whaitua:

- Belmont Regional Park (western side)
- Battle Hill Farm Forest Park

Variable/period	2040	2090	Commentary
Average annual Temperature	+0.5C to 1C above present  (+1.2C to +1.7 C above pre-industrial)	+1C to +2.7C above present  (+1.7C to +3.4C above pre-industrial)	Maximum warming in autumn and winter, least in spring  Note reference to above present versus pre-industrial: About 0.7C of warming has already happened from pre-industrial to present (1880-1909 compared to 1986-2005 reference periods).  Uncertainty range: lower range for RCP <sup>23</sup> 4.5 and upper range for RCP8.5
Average annual rainfall	0% to 5% increase	0% to 10% increase	There is a large uncertainty in the range of changes due to model differences and emission scenarios. Changes against RCP are not necessarily linear. Greater likelihood of positive changes in autumn, winter and spring.
Amount of rain falling during heavy rainfall days (> 99 <sup>th</sup> percentile of daily rainfall)	0% to 15% increase	5% to 25% increase	Although the uncertainty in average rainfall range is high, extreme rainfall increases are more certain due to the increased amount of water vapour that the atmosphere can hold as it gets warmer (about 8% increase in saturation vapour per degree of warming)
Sea level rise	0.12 to 0.24 metres above present  (0.38 to 0.5 metres above pre-industrial)	0.36 to 0.98 metres above present  (0.62 to 1.24 metres above pre-industrial)	The projected sea level rise, based on International Panel on Climate Change (IPCC) fifth assessment report, may get significantly worse depending on the behaviour of the Antarctic ice shelves, so the upper limit is not a fixed physical limit. There is very high confidence in sea level rise projections, probably more so than any other variable. Note the difference between present and pre-industrial, as we have already had about 26cm of sea level rise so far.  See the link below for inundation maps plotting for anywhere in the world:  <a href="http://sealevel.climatecentral.org">http://sealevel.climatecentral.org</a>
Number of hot days (above 25C) per year	Between 0 and 10 days increase	Between 0 and 30 days increase	

<sup>23</sup> Representative Concentration Pathways (RCPs) are four greenhouse gas concentration (not emissions) trajectories adopted by the International Panel on Climate Change for its fifth Assessment Report (AR5) in 2014.

## Te Awarua o Porirua whaitua (catchment area)

### Parks within this Whaitua:

- Belmont Regional Park (western side)
- Battle Hill Farm Forest Park

Number of frost nights (below 0C) per year	Between 0 and 5 days reduction	Between 0 and 15 days reduction	
Change in the intensity of wind during windy days (>99 <sup>th</sup> percentile of daily mean)	1% to 2% increase	1% to 3% increase	
Change in annual number of windy days	2 to 4 days increase	2 to 10 days increase	
Change in annual potential evapotranspiration deficit (mm)	Increase between 60 and 100 mm	Increase between 60 and 120 mm	Measures drought intensity
Change in rivers mean annual low flow discharge (MAL)	Decrease up to 40%	Decrease up to 40%	Measures water shortage in the catchments
Change in rivers mean annual flood discharge (MAF)	Increase up to 40%	Increase up to 80%	Measures flood potential in the catchments
Changes in number of days of very high and extreme forest fire danger	50% to 100% increase	100% to 150% increase	These figures are given by IPCC model averages. Individual models can show much higher increases of up to 700%
Implications for Park Management, Assets and Activities	<p>Increased flood intensity</p> <p>Increased coastal inundation (some areas to become permanently inundated)</p> <p>Increased erosion</p> <p>Reduced soil fertility</p> <p>Decreased water quality</p> <p>Groundwater quality and availability pressures</p> <p>Salt water intrusion</p> <p>Increased pressure on water storage</p> <p>Biodiversity losses</p> <p>Increased pests such as wasps and rodents</p> <p>Ocean acidification</p> <p>Decline in fish population</p> <p>Increased wildfire</p> <p>Increased allergies (e.g. pollen)</p>		

## Wellington Harbour & Hutt Valley Whaitua (*catchment area*)

### Parks within this Whaitua:

- Belmont Regional Park (eastern side)
- Kaitoke Regional Park
- Pakuratahi Forest Park
- East Harbour Regional park
- Akatawara Forest Park
- Wainuiomata Recreation Area

Variable/period	2040	2090	Commentary
Average annual Temperature	+0.5C to 1C above present  (+1.2C to +1.7 C above pre-industrial)	+1C to +2.5C above present  (+1.7C to +3.2C above pre-industrial)	Maximum warming in summer and autumn, least in spring and winter  Note reference to above present versus pre-industrial: About 0.7C of warming has already happened from pre-industrial to present (1880-1909 compared to 1986-2005 reference periods).  Uncertainty range: lower range for RCP4.5 and upper range for RCP8.5
Average annual rainfall	5% decrease to 10% increase	5% decrease to 10% increase	There is a large uncertainty in the range of changes due to model differences and emission scenarios. Changes against RCP are not necessarily linear. Greater likelihood of positive changes in autumn and winter.
Amount of rain falling during heavy rainfall days (> 99 <sup>th</sup> percentile of daily rainfall)	5% to 15% increase	5% to 30% increase	Although the uncertainty in average rainfall range is high, extreme rainfall increases are more certain due to the increased amount of water vapour that the atmosphere can hold as it gets warmer (about 8% increase in saturation vapour per degree of warming)
Number of hot days (above 25C) per year	Between 0 and 10 days increase	Between 0 and 40 days increase	
Number of frost nights (below 0C) per year	Between 0 and 5 days reduction	Between 0 and 10 days reduction	
Change in the intensity of wind during windy days (>99 <sup>th</sup> percentile of daily mean)	1% to 2% increase	1% to 4% increase	
Change in annual number of windy days	2 to 6 days increase	2 to 12 days increase	
Change in rivers mean annual low flow discharge (MAL)	Decrease up to 40%	Decrease up to 40%	Measures water shortage in the catchments
Change in rivers mean annual flood discharge	Increase up	Increase up	Measures flood potential in the catchments

## Wellington Harbour & Hutt Valley Whaitua *(catchment area)*

### Parks within this Whaitua:

- Belmont Regional Park (eastern side)
- Kaitoke Regional Park
- Pakuratahi Forest Park
- East Harbour Regional park
- Akatawara Forest Park
- Wainuiomata Recreation Area

(MAF)	to 40%	to 100%	
Changes in number of days of very high and extreme forest fire danger	50% to 100% increase	100% to 150% increase	These figures are given by IPCC model averages. Individual models can show much higher increases of up to 700%
Implications for Park Management, Assets and Activities	<p>Increased flood intensity</p> <p>Increased coastal inundation (some areas will become permanently inundated)</p> <p>Increased erosion</p> <p>Reduced soil fertility</p> <p>Decreased water quality</p> <p>Groundwater quality and availability pressures</p> <p>Saltwater intrusion</p> <p>Increased pressure on water storage</p> <p>Biodiversity losses</p> <p>Increased pests such as wasps and rodents</p> <p>Ocean acidification</p> <p>Decline in fish population</p> <p>Increased wildfire</p> <p>Increased allergies (e.g., pollen)</p>		

## Kāpiti Coast Whaitua (catchment area)

### Parks within this Whaitua:

- Queen Elizabeth II Park

Variable/period	2040	2090	Commentary
Average annual Temperature	+0.5C to 1C above present  (+1.2C to +1.7 C above pre-industrial)	+1C to +2.7C above present  (+1.7C to +3.4C above pre-industrial)	Maximum warming in autumn and winter, least in spring  Note reference to above present versus pre-industrial: About 0.7C of warming has already happened from pre-industrial to present (1880-1909 compared to 1986-2005 reference periods).  Uncertainty range: lower range for RCP4.5 and upper range for RCP8.5
Average annual rainfall	0% to 5% increase	0% to 10% increase	There is a large uncertainty in the range of changes due to model differences and emission scenarios. Changes against RCP are not necessarily linear. Greater likelihood of positive changes in autumn, winter and spring.
Amount of rain falling during heavy rainfall days (> 99 <sup>th</sup> percentile of daily rainfall)	0% to 10% increase	0% to 15% increase	Although the uncertainty in average rainfall range is high, extreme rainfall increases are more certain due to the increased amount of water vapour that the atmosphere can hold as it gets warmer (about 8% increase in saturation vapour per degree of warming)
Sea level rise	0.12 to 0.24 metres above present  (0.38 to 0.5 metres above pre-industrial)	0.36 to 0.98 metres above present  (0.62 to 1.24 metres above pre-industrial)	The projected sea level rise (based on IPCC AR5) may get significantly worse depending on the behaviour of the Antarctic ice shelves, so the upper limit is not a fixed physical limit. There is very high confidence in sea level rise projections, probably more so than any other variable. Note the difference between present and pre-industrial, as we have already had about 26cm of sea level rise so far.  More regular storm events in the fragile coastal environment may also mean faster and more significant coastal retreat. See the link below for inundation maps plotting for anywhere in the world:  <a href="http://sealevel.climatecentral.org">http://sealevel.climatecentral.org</a>
Number of hot days (above 25C) per year	Between 5 and 10 days increase	Between 5 and 50 days increase	
Number of frost nights (below 0C) per year	Between 0 and 5 days reduction	Between 0 and 15 days reduction	
Change in the intensity of wind during windy days (>99 <sup>th</sup> percentile of	0% to 2% increase	0% to 3% increase	

## Kāpiti Coast Whaitua (catchment area)

### Parks within this Whaitua:

- Queen Elizabeth II Park

daily mean)			
Change in annual number of windy days	0 to 4 days increase	0 to 6 days increase	
Change in rivers mean annual low flow discharge (MAL)	Decrease up to 40%	Decrease up to 40%	Measures water shortage in the catchments
Change in rivers mean annual flood discharge (MAF)	Between 20% decrease and 60% increase depending on catchment	Increase up to 60%	Measures flood potential in the catchments
Changes in number of days of very high and extreme forest fire danger	50% to 100% increase	100% to 150% increase	These figures are given by IPCC model averages. Individual models can show much higher increases of up to 700%
Implications for Parks Management, Assets and Activities	<ul style="list-style-type: none"> <li>• Possible future relocation of the QEP coastal track, Paekākāriki road end facilities (toilets, roads, carpark, picnic areas) and Ranger House.</li> <li>• Relocation of other essential low lying infrastructure</li> <li>• Increased flood intensity</li> <li>• Increased coastal inundation (some areas will become permanently inundated)</li> <li>• Increased erosion</li> <li>• Reduced soil fertility</li> <li>• Decreased water quality</li> <li>• Groundwater quality and availability pressures</li> <li>• Saltwater intrusion</li> <li>• Increased pressure on water storage</li> <li>• Biodiversity losses</li> <li>• Increased pests such as wasps and rodents</li> <li>• Ocean acidification</li> <li>• Decline in fish population</li> <li>• Increased chance of wildfire</li> <li>• Increased allergies (e.g., pollen)</li> </ul>		

# Appendix 3: Greater Wellington regional parks - Intercept Surveys 2011-2015

## Introduction

This appendix presents the findings of seven visitor **intercept** surveys administered by the Greater Wellington Parks team between 2011 and 2015. The intercept surveys consist of a questionnaire completed by park visitors and corresponding data collected by the surveyor. There are five main subject areas covered by the survey: demographic information, access to parks, activities, frequency of use and feedback. The appendix presents the findings for individual parks and all parks (the average result for 7 parks) under these subject areas. A visitor intercept survey was not done at the Wainuiomata Recreation Area.

## Methodology

The park intercept surveys consisted of a questionnaire administered by a surveyor at various locations in each park. The surveyor also recorded for each respondent: the mode of transport, dogs present or not and number of people in the group (or in the vehicle). The questionnaire was replicated for all seven parks with only minor changes over the five years they were implemented. The subject areas covered by the questionnaire:

- Demographics (age, ethnicity, where the respondent lives)
- Access to the park and who with
- Range of activities by visitors
- The frequency of visits to the park and length of stay
- Feedback about the park.

The aim of each survey was to build a detailed picture of visitor demographics, visitor patterns of use, types of activities undertaken and frequency of use. Park visitors were also asked what they liked about the park and ideas for how the park experience could be improved. Some of the questions related to the group as a whole (e.g., age, where the respondent lives) while other questions were directed only to the randomly selected visitor/interviewee.

Seven surveys are included in this report - one from each park. The surveys took place between 2011 and 2015, during the summer months and over several days. The number of survey respondents varies across the parks and there were 2,323 total responses from the seven surveys.

Table 1 provides the total respondents by park and year. Where the sample size is small (230 or less) the findings in this report for those parks are more indicative than representative. For those parks where sample size was greater than 500, the margin of error is much less and therefore results are much closer to the overall population. This also applies to the category where results are summarised across all parks.

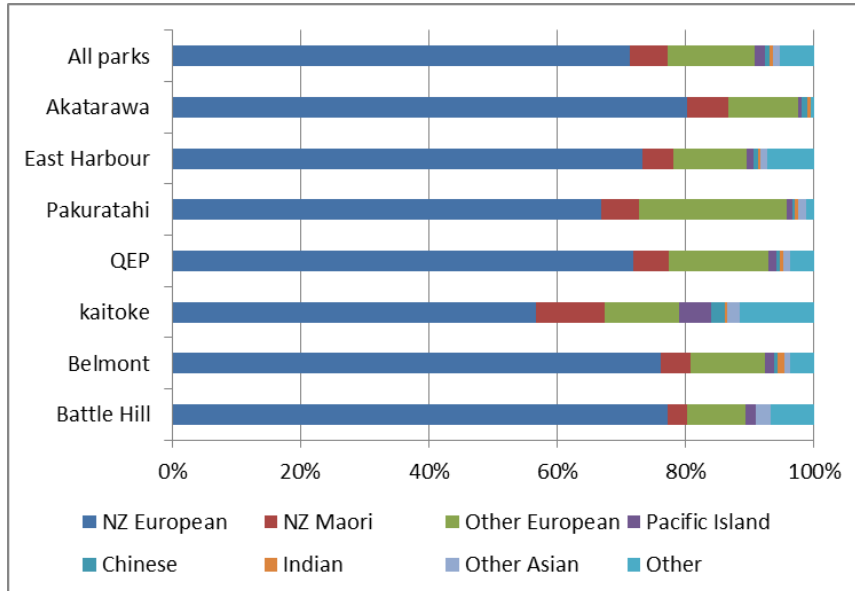
**Table 1: The year parks were surveyed and the sample size**

Park	Total respondents	Survey year
Battle Hill	146	2012
Belmont	320	2011
Kaitoke	282	2012
Queen Elizabeth Park (QEP)	537	2012
Pakuratahi	206	2015
East Harbour	636	2013
Akatarawa	196	2015
Total	2323	

# Survey findings

## Demographic information

The majority of park visitors were New Zealand European (71%) with the next two largest groups - Other European (13%) and NZ Maori (6%). **Figure 1** shows the ethnicity of park visitors by park.

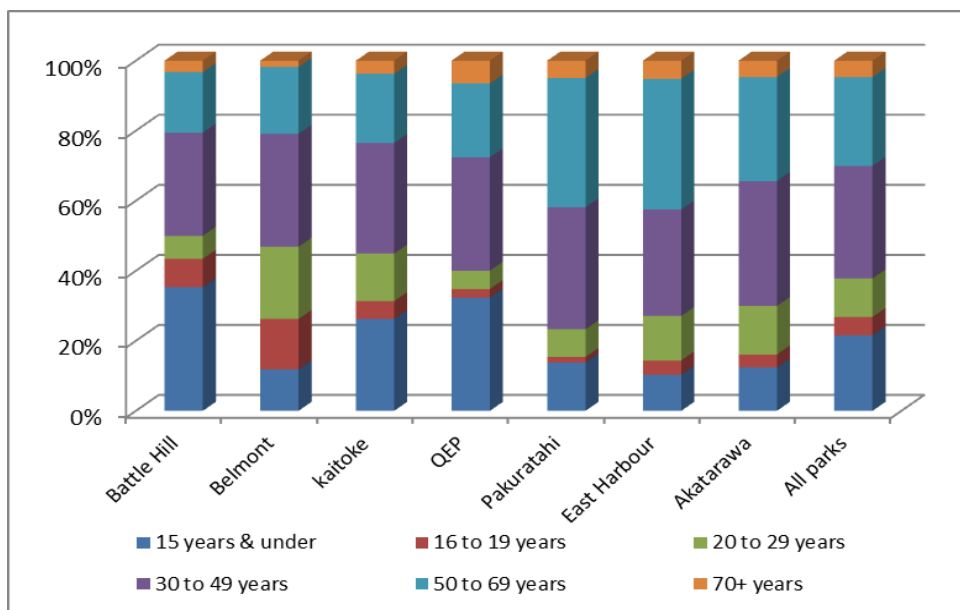


**Figure 1: Ethnicity of visitor sample**

## Age

Visitors to the parks (the average for all 7 parks) are represented across all age groups. The largest group are those aged between 30 to 49 years (32%) followed by 50 to 69 years (25%) and under 16 years (22%). **Figure 2** shows the visitor age range for each park and all seven parks.

Visitors to Battle Hill and Belmont parks tend to be in the younger age groups with approximately 50% are below 30 years of age. Other parks have an older visitor profile such as Pakuratahi and East Harbour where at least 40% are aged 50 and above.

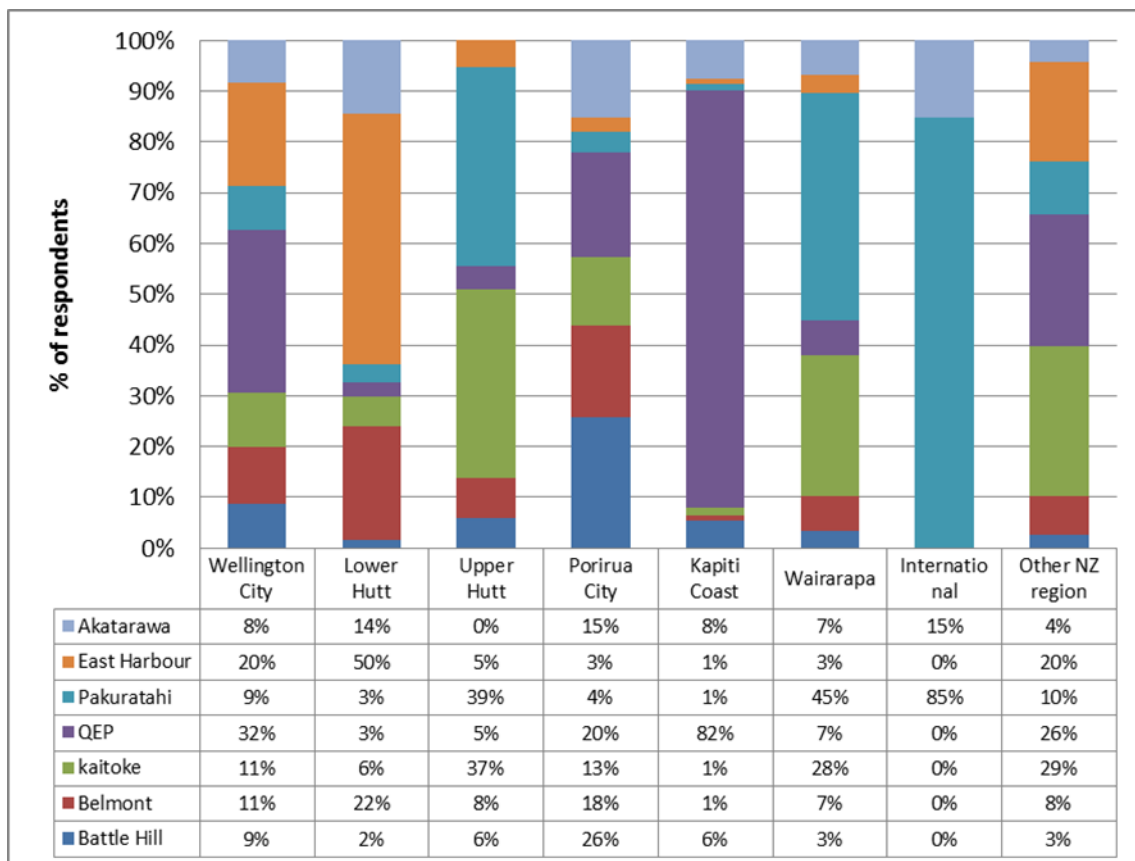


**Figure 2: Age of Park visitors**



## Where do visitors live?

Those surveyed were asked where everyone in the group was from. Across all parks the areas with the highest representation in the survey were Lower Hutt 35%, Wellington City 21% and 13% Kāpiti Coast. **Figure 3** shows the local council area (or territorial authority) where visitors live by park. Visitors from outside of NZ and from other NZ regions were reported separately.

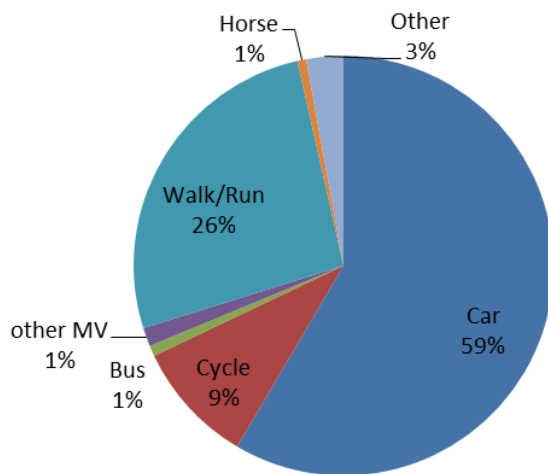


**Figure 3: Local council area or region where visitors live by park**

Wellington City visitors were more likely to visit East Harbour and QEP parks. Lower Hutt residents favoured their closest parks Belmont and East Harbour. Proximity was also a factor for Kāpiti coast residents who were most likely to be at QEP (82%) which is one of their closest parks. Porirua visitors were most likely to visit Battle Hill Park (26%) but were prepared to travel across the region to other parks. International visitors were recorded at Kaitoke and Akatarawa. Cars were the main mode of transport (59%) used to access the regional parks shown in **Figure 4**, with walkers and runners next likely at 26%.

## Travelling to the park and who do you go with?

### Mode of transport



**Figure 4: Mode of transport to access Parks**

**Table 2** shows main mode according to each park. Visitors to Kaitoke and Battle Hill were highly likely to use a car with 87% and 80% respectively using this mode. Walking or running was the main mode for visitors to East Harbour (57%) and also popular for QEP 23%. Cycling as a mode of transport was highest at Akatarawa (17%) and Belmont (16%).

**Table 2: Mode of transport by Park**

Transport Mode	Battle Hill	Belmont	kaitoke	QEP	Pakuratahi	East Harbour	Akatarawa	All parks
Car	80%	58%	87%	60%	73%	35%	60%	58%
Cycle	1%	16%	1%	13%	13%	5%	17%	9%
Bus	1%	0%	5%	0%	0%	0%	0%	1%
other MV	4%	3%	3%	2%	0%	0%	0%	1%
Walk/Run	3%	18%	2%	23%	9%	57%	18%	26%
Horse	2%	2%	0%	0%	1%	0%	1%	1%
Motorcycle	1%	0%	0%	0%	0%	0%	2%	0%
Other	8%	3%	1%	2%	3%	3%	2%	3%

### Dogs in parks

Over all parks 21% of those surveyed had dogs. Pakuratahi had the highest proportion with dogs at 30% and Akatarawa is least likely with 15% of visitors with dogs. Dogs are not allowed in Battle Hill.

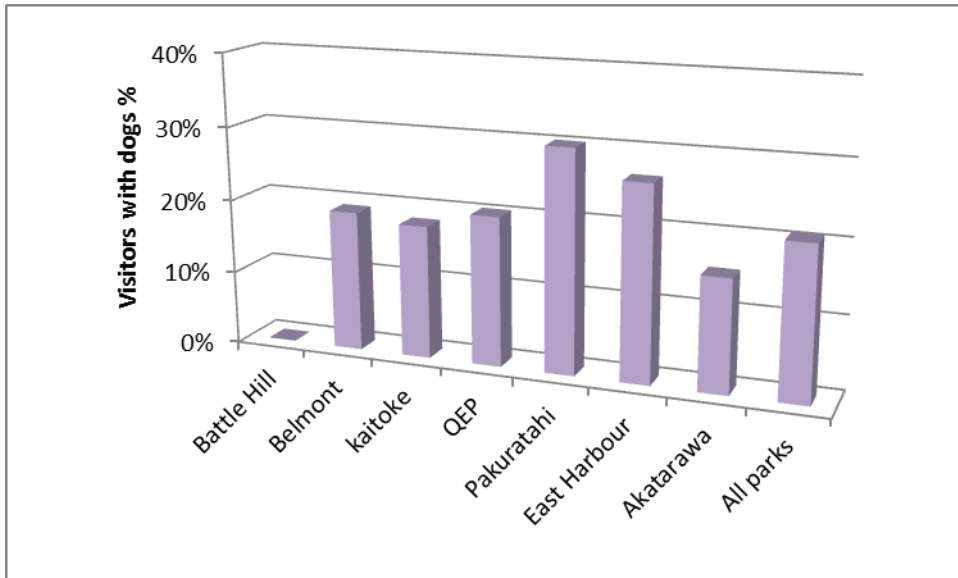


Figure 5: Percentage of visitors with dogs by park

### Who do you go to the park with?

Typically across all seven parks, people visited either on their own (26%) or with family (26%), with 18% going with spouse/partner and 16% with friends. At specific parks family groups were more likely such as Battle Hill (45%) and QEP (36%) and people visiting on their own were more likely at East Harbour (33%) and Belmont (35%). These results are shown in figure 6.

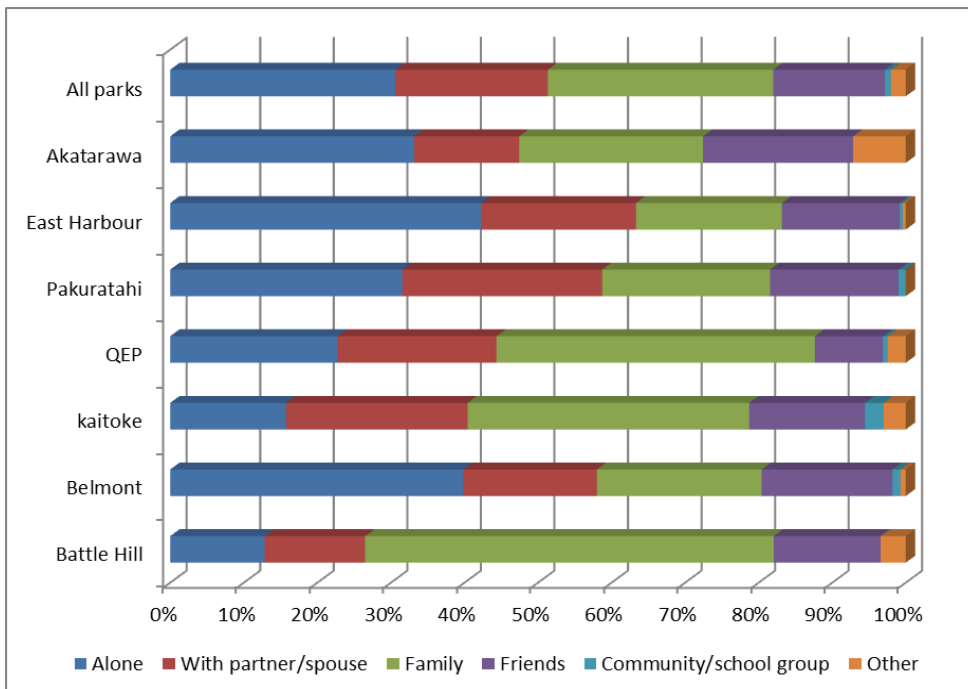


Figure 6: Who do you visit the park with?

### Activities at the Park

Respondents were asked to provide several activities that they did at the park, table 3 shows the results by park. The most popular activity across all seven parks was walking (45%), followed by mountain biking (14%). 70% of those visiting East Harbour were walking and this was also a popular activity at Akatarawa (46%). For all those participating in mountain biking the largest group were in Belmont (26%) and QEP (21%). For those interested in picnics and barbeques Kaitoke was the

preferred location (38%). Runners were most likely to be visiting Belmont (37%) and East Harbour (38%).

Some parks had specific activities associated with them and these were evident in the survey results. Battle Hill results showed that a high proportion of visitors were involved in horse related activities 41%, Akatarawa, Belmont and Pakuratahi had relatively high participation in mountain biking 34%, 21% & 32% respectively. Kayaking or rafting was an activity popular at Kaitoke (12%).

**Table 3: Reported activities at each park**

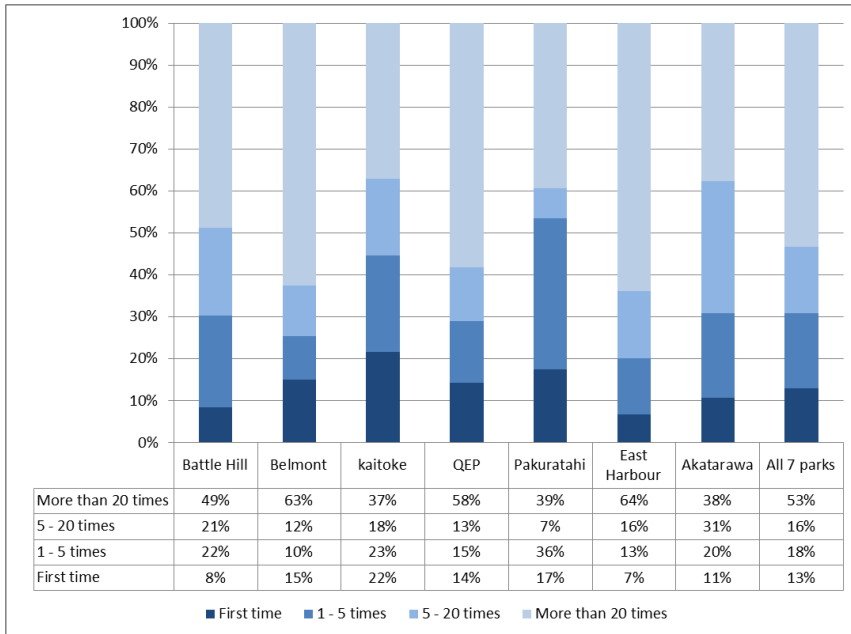
Activities	Battle Hill	Belmont	Kaitoke	QEP	Pakuratahi	East Harbour	Akatarawa	All 7 parks
Walk or walked dog	17%	42%	37%	40%	47%	70%	46%	45%
Running	1%	14%	1%	3%	6%	12%	4%	6%
Tramping	2%	5%	2%	0%	5%	3%	2%	2%
Horse activity	41%	2%	0%	3%	2%	0%	2%	4%
Mountain biking	2%	21%	1%	12%	32%	9%	34%	14%
Picnic/BBQ	14%	6%	18%	7%	5%	1%	0%	7%
Camping/rock climbing	7%	2%	9%	5%	0%	2%	0%	4%
Swimming/lifesaving	7%	0%	3%	10%	0%	1%	3%	4%
Kayaking/Rafting	0%	1%	12%	1%	0%	0%	0%	2%
Wildlife/Fishing	2%	0%	1%	1%	0%	2%	1%	1%
Other	8%	6%	15%	16%	4%	1%	6%	9%
tramways	0%	0%	0%	4%	0%	0%	0%	1%

### Time spent at the park and frequency of visits

**Figure 7** shows the frequency of visits for each park. Just over half the park visitors surveyed (53%) were high users of the park; having visited the park more than 20 times. A small proportion were first time users 11%. Similar proportions had visited 1 to 5 times (18%) and between 5 and 20 times (16%)<sup>24</sup>.

The visitors who were high users tended to be in the middle of the age range (30 to 69 years) 66%. These visitors mainly arrive by car (50%) but a large proportion walk or run (34%) to the park. The park with the highest proportion of visitors returning over 20 times was East Harbour with 64% high users closely followed by Belmont (63%).

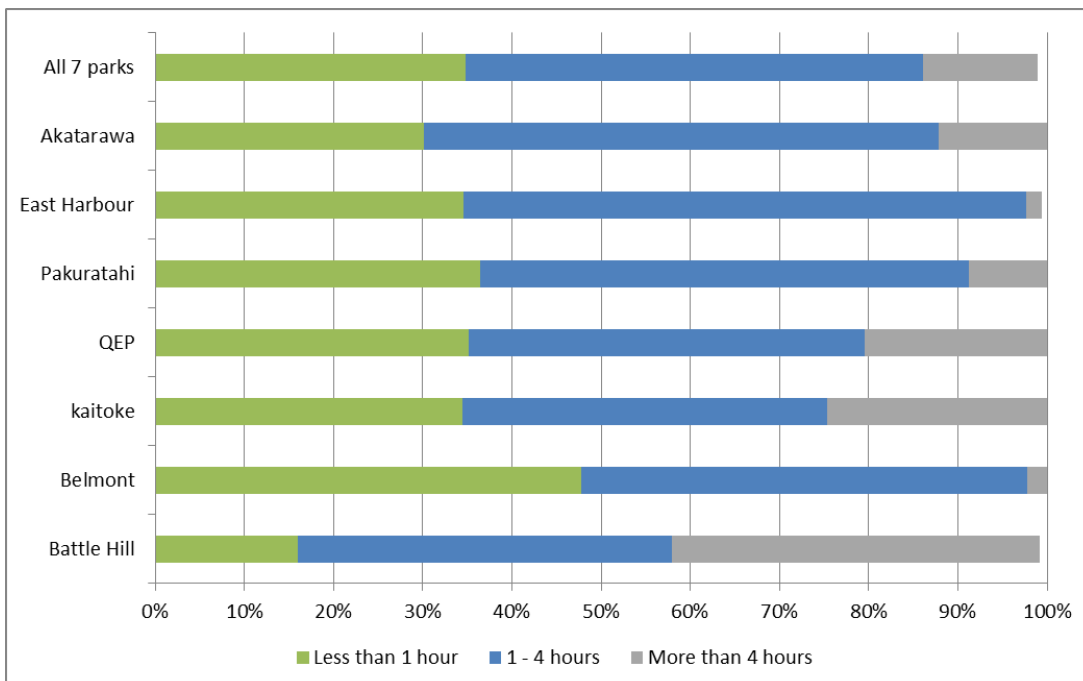
<sup>24</sup> Those survey respondents who did not answer the question were excluded from calculations.



**Figure 7: Frequency of visits to the Park**

**Figure 8** shows the length of visiting time at the park. The length of stay averaged over all 7 parks was between one and four hours (51% of visitors) with visits of less than one hour (35%) and greater than 4 hours (13%). The length of stay at the park for the high user group was roughly divided into quick visits (less than an hour), 40% and up to four hours, 50%.

Battle Hill was atypical, with a small proportion of visitors staying less than an hour (16%) and a high proportion staying longer than 4 hours (41%).



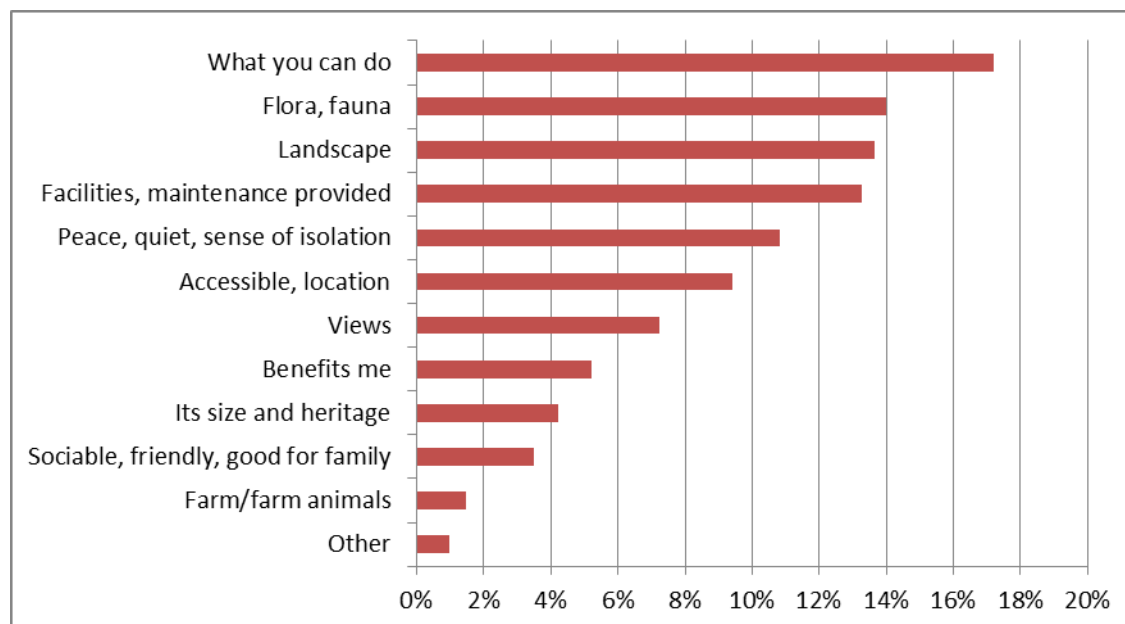
**Figure 8: Length of visit to the park**

## Feedback about the park

### What visitors most liked about the park

The survey questionnaire asked visitors what they liked most about the park; any comments made were matched to a list of categories compiled from previous survey results. **Figure 9** shows the results averaged for all seven parks. The most liked feature of the park was *What you can do* (17%) followed by *Flora and fauna* and *Landscape*, both on 14%.

**Figure 9: What visitors liked most about the park (average for all 7 parks)**



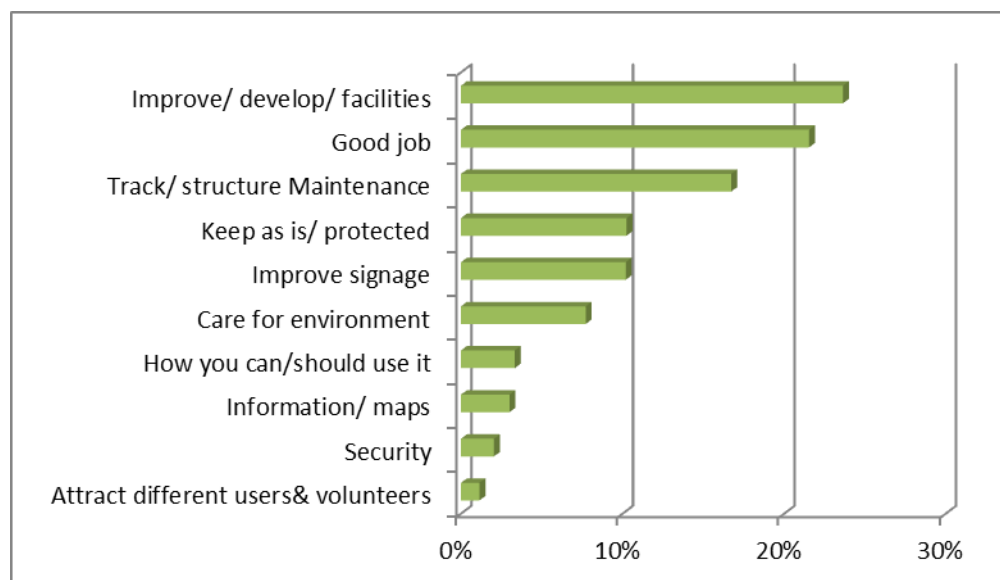
**Table 4** below shows the feedback results for each park (What did you like about the park). The response category with the highest percentage (for each park) is shaded in blue. At Kaitoke visitors appreciated the landscape most and then flora and fauna. At Pakuratahi 25% appreciated the facilities and maintenance. Flora and fauna were most appreciated at East Harbour (24%) and Belmont visitors were most appreciative of the Landscape (17%).

**Table 4: What visitors liked about the park**

	Belmont	Battle Hill	Kaitoke	QEP	Pakuratahi	East Harbour	Akatarawa
Landscape	17%	9%	21%	19%	10%	8%	8%
Facilities, maintenance provided	12%	14%	12%	10%	25%	9%	19%
What you can do	13%	22%	12%	23%	14%	17%	20%
Accessible, location	14%	12%	8%	8%	5%	12%	6%
Views	8%	2%	2%	5%	10%	12%	8%
Peace, quiet, sense of isolation	13%	10%	14%	9%	10%	10%	12%
Flora, fauna	14%	8%	18%	8%	13%	24%	8%
Sociable, friendly, good for family	2%	4%	3%	6%	5%	1%	4%
For the region, free to visit	1%	2%	2%	1%	0%	0%	1%
Benefits me	4%	2%	3%	3%	5%	7%	12%
Its size	1%	11%	4%	5%	0%	0%	1%
Heritage	1%	2%	0%	3%	4%	0%	0%
Farm/farm animals	1%	4%	0%	1%	0%	0%	0%

## Feedback for park managers

Respondents were asked if they had any feedback for park managers. These comments were summarised into the categories in **Figure 10** below. Feedback on improving facilities (e.g., to remove thistles, provide rubbish bins, more signs) had the highest proportion of responses received (24%). This was closely followed by positive feedback (e.g., great tracks, like signage, good job) on the park tracks and facilities, 22%.



**Figure 10: Feedback for park managers**

Table 5 shows the feedback response categories by park. Aside from the comments mentioned above, other comments featured for individual parks for example, *Improve the signage* was in the top three comments for Belmont and Akatarawa. *Care for the environment* was the most frequent feedback for visitors at Pakuratahi. The response category with the highest percentage (for each park) is shaded in blue.

**Table 5: Feedback to managers on park service**

Feedback	Battle				East		
	Belmont	Hill	Kaitoke	QEP	Pakuratahi	Harbour	Akatarawa
Improve signage	17%	5%	7%	5%	15%	6%	20%
Track/ structure Maintenance	17%	14%	7%	14%	9%	26%	17%
Security	2%	1%	2%	2%	0%	1%	7%
Improve/ develop/ facilities	20%	30%	29%	33%	21%	19%	18%
Information/ maps	6%	4%	3%	2%	2%	2%	3%
How you can/should use it	5%	2%	2%	0%	0%	8%	0%
Care for environment	6%	1%	1%	2%	22%	10%	8%
Keep as is/ protected	7%	6%	6%	10%	20%	8%	17%
Involve volunteers more	1%	0%	0%	0%	0%	1%	0%
Good job	19%	38%	42%	30%	7%	18%	8%
Attract different users	1%	0%	0%	1%	4%	1%	1%