COASTAL RISK MANAGEMENT

# SUPERVISION AND SURVEILLANCE ASSESSMENT: AUCKLAND REGION

Report prepared for Surf Life Saving New Zealand and Surf Life Saving Northern Region

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# Supervision and surveillance assessment: Auckland region

August 2018

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## Executive summary

This report outlines the results of a supervision and surveillance assessment conducted by Coastal Research Ltd at beaches, lakes, and waterfalls on the west coast, Whangaparaoa, North Shore, and northeast coast in the Auckland region. An analysis of the physical environment, water use, user groups, and behaviours at the sites is presented; this informs the development of recommendations for supervision and surveillance, for consideration by Surf Life Saving Clubs, Surf Life Saving Northern Region, Auckland Council, and other relevant water safety stakeholders.

## Regional setting

To ensure the recommended supervision and surveillance services meet the risk threshold of each site, the physical environment, user groups, user behaviours, and volume of water use were analysed. Fatal and non-fatal incident statistics were also reviewed. A brief summary is provided below; comprehensive details are provided in the report.

- The coastal geomorphology, hydrodynamics, and population demographics of the Auckland region are highly diverse. The region stretches from a short distance north of the mouth of the Waikato River, across to the Firth of Thames, north to the mouth of the Kaipara Harbour, and east to the coast near Mangawhai Heads. The region also includes a number of inhabited and uninhabited islands. The Waikato region and Northland region boarder the Auckland region to the south and north respectively. The Auckland region is home to a third of New Zealand's population, with 1,415,550 permanent residents (Statistics New Zealand, 2013).
- For the purposes of this supervision and surveillance assessment, four coastal areas within the Auckland region were investigated: beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast.

**West coast beaches, lakes, and waterfalls**

- On the west coast, beaches are classified as high energy wave-dominated dissipative beaches. These beaches are characterised by multiple shore-parallel sand bars separated by deep channels, and strong rip currents; these are the most hazardous of all beaches. Lakes and waterfalls are lower energy, but may slope steeply into deeper water and/or have limited water visibility.
- Beaches, lakes, and waterfalls on the west coast are used by a considerable number of people from varied socio-demographic backgrounds. Over the peak period, this includes residents from throughout the Auckland region, as well as domestic and international tourists. Water user groups include families with children, groups of young adults, individuals, and couples.
- The water users most commonly engage in wading, swimming, bodysurfing, and bodyboarding, and in many cases have little awareness of hazards and limited competence in the surf. In addition, a number of people fish in the swash zone where they are exposed to an unpredictable environment with high wave energy, while others surf or use other water craft, or operate recreational boats.
- West coast beaches, lakes, and waterfalls are typically busiest from mid to late December to the end of February, peaking over the Christmas and New Year holiday period. Muriwai Beach and Piha Beach are the busiest sites, with large numbers of simultaneous water users on a regular basis; water use is lower at other beaches. The water is most used

between 2:00 pm and 5:00 pm, peaking when surf lifeguarding services finish at 5:00 pm. Water use is higher on weekends, and increases throughout the day. Water use is lower at lakes and waterfalls.

**North Shore beaches and lakes**

- North Shore beaches are classified as tide-modified beaches; they are largely sheltered from incoming waves by Great Barrier Island, the Coromandel Peninsula, and Rangitoto Island.
- Beaches and lakes on the North Shore are largely used by residents of the North Shore and Albany Wards, and others nearby. Water user groups include families with children, groups of teenagers and young adults, and older males launching recreational boats; these water users are most commonly of New Zealand European or Asian ethnic origins.
- The water users engage in a range of recreational activities, including wading and swimming, paddle craft, sail craft, and launching recreational boats. Some users have limited hazard awareness or competence in the water, but due to the relatively low-energy environment they are usually able to manage their safety. Those using craft may have inappropriate or insufficient equipment.
- North Shore beaches and lakes are most used over the Christmas and New Year holiday period, and from mid to late January (in particular on weekends). Beaches are typically busiest between 1:00 pm and 6:00 pm; water use typically increases throughout the day, peaking late in the afternoon (4:00 pm). Long Bay and Takapuna Beach typically have the highest number of water users; water use is considerably lower at other sites.

**Whangaparaoa beaches**

- Beaches on the Whangaparaoa are typically classified as tide-modified; they are largely sheltered from incoming waves by the Whangaparaoa Peninsula itself and/or Great Barrier Island.
- The users of many Whangaparaoa beaches are residents of the Albany Ward, and others nearby. Water user groups include families with children, groups of teenagers and young adults, and older males launching recreational boats; these water users are most commonly of New Zealand European or Asian ethnic origins, but a considerable proportion of water users at some beaches are of Maori or Pacific Island ethnic origins.
- Over summer, water users engage in a range of recreational activities, including wading and swimming, drag netting, collecting shellfish, paddle craft, sail craft, and launching recreational boats. Some users have limited hazard awareness or competence in the water, but due to the relatively low-energy environment may be able to manage their safety; those using craft may have inappropriate or insufficient equipment.
- The water is most used at beaches on the Whangaparaoa from mid to late December to the end of February. The beaches are typically busiest between 2:00 pm and 5:00 pm. Water use typically increases throughout the day, peaking late in the afternoon or early evening. Orewa Beach is the busiest site in this area; water use at other sites is substantially lower.

**Northeast coast beaches**

- Beaches on the northeast coast vary from low energy tide-modified beaches around Kawau Bay (due to shelter from Kawau Island, the Tawharanui Peninsula, and other offshore islands), to intermediate beaches north of the Tawharanui Peninsula. Wave

energy at intermediate beaches is substantially higher; various sand bar configurations may be observed, with inshore holes, channels, and rip currents.

- Beaches on the northeast coast are used by families with children, groups of young adults, individuals, and couples. At Omaha Beach and Pakiri Beach, which are patrolled by surf lifeguards, these groups often swim and bodyboard between the red and yellow flags. Groups of families and friends also use a number of moderate to high energy sites that are not patrolled, in particular Anchor Bay, Goat Island, and Te Arai.
- Many people surf, use other water craft, or engage in underwater recreational activities, such as snorkelling and scuba diving. However, some of these users are at risk of drowning due to their inexperience, unfamiliarity of the site, and/or a lack of competence in the water. The use of sail craft and recreational boats are also popular on the northeast coast.
- The water is most used at beaches on the northeast coast from late December to mid-January, and on weekends through to early March. The beaches are typically busiest between 1:00 pm and 5:00 pm. Water use is highest at Omaha Beach; however, water use at other sites (in particular Anchor Bay, Goat Island, Pakiri Beach, and Te Arai) has been increasing considerably in recent years.

## Fatal and non-fatal incident statistics

The analysis of fatal and non-fatal incident statistics assists in understanding the socio-demographic profile of water users who get into difficulty at beaches, lakes, and waterfalls in the Auckland region, and the types of activities that are most often associated with these incidents.

- Since 1980, there have been 562 unintentional fatal drowning incidents in coastal and nearshore waters in the Auckland region. These incidents have most often occurred over the summer period (December to February).
- Fatal drowning incidents in the Auckland region most commonly involve middle-aged to older males who reside in the Auckland region. The ethnicity of drowning victims varies considerably; on west coast beaches, people of Asian ethnic origins are most highly represented in the incident statistics, while drowning incidents at Karioitahi Beach are dominated by persons of Pacific Island ethnic origins. People of New Zealand European ethnic origins are highly represented in the fatal drowning statistics for beaches on the North Shore, Whangaparaoa, and northeast coast. The activity profile of drowning victims is similarly variable.
- Non-fatal (rescue) incidents similarly occur most often during the summer months; this coincides with the period patrolled by surf lifeguards. However, in contrast to the fatal drowning incidents, rescues most commonly involve young adults, teenagers, and children. More males than females are rescued by surf lifeguards across the Auckland region.
- Those rescued by surf lifeguards are from a range of ethnic origins, with variation across the four coastal areas investigated; however, most are of New Zealand European ethic origins. 90% of those rescued reside in the Auckland region; west coast beaches have the highest proportion of international visitors rescued (14.4%). Similar to the fatal drowning statistics, the activity profile of persons rescued also varies across the respective areas.

- Surf lifeguards also record any factors that they consider to have contributed to an incident's occurrence. Analysis of these factors provides insight into the environmental hazards, activities, competencies, and behaviours that are associated with water users getting into difficulty, i.e. inshore holes and rip currents on the west coast, strong winds on the east coast.

## Comparative risk analysis

The beaches, lakes, and waterfalls investigated as part of this supervision and surveillance assessment are highly diverse in their morphology, demographics, activity profiles, and history of fatal and non-fatal incidents. These factors assist in understanding the risk of drowning and injury at the sites; however, to quantitatively compare the level of risk at each of the sites, detailed analysis of water use and site hazardousness is required.

Using established statistical relationships between beach type, wave energy, number of water users, and the probability of rescue (Mulcahy, 2014c), water use data collected by surf lifeguards across the Auckland region has been adjusted in accordance with the relative risk to calculate 'risk-adjusted water use values'. The resulting values are then associated with different types and levels of supervision or surveillance: formal supervision, formal surveillance, and informal surveillance. The risk-adjusted water use values across all analysed sites are also ranked to assist with the prioritisation of sites across the Auckland region.

Full details on the methodology used to calculate the risk-adjusted water use values are provided in Section 6 of this report, while a description of the different types and levels of supervision and surveillance services is provided in Section 7.

## Recommended supervision and surveillance

Based on the calculated risk-adjusted water use values for each site, and how they relate to the risk thresholds for formal supervision, formal surveillance, and informal surveillance, the following services have been recommended. The recommendations also take into account site-specific information on physical morphology, user demographics, and operational requirements to ensure they are fit for purpose.

The section below summaries the recommended supervision and surveillance service provision at beaches, lakes, and waterfalls across the four coastal areas of the Auckland region; full details are provided in Sections 8, 9, and 10 of this report.

### West coast beaches, lakes, and waterfalls

- On the west coast, dedicated and/or on-call formal supervision is recommended at Muriwai Beach, O'Neill Bay, Te Henga (Bethells Beach), North Piha Beach, Piha Beach, Karekare Beach, and Karioitahi Beach. In addition, dedicated and/or on-call formal surveillance should be provided at Rimmer Road, Maukatia (Maori Bay), O'Neill Bay, Anawhata Beach, Whites Beach, and Whatipu Beach. Surveillance services should also be considered for Muriwai Beach and Piha Beach in late autumn, winter, and early spring.
- Furthermore, roving and remote surveillance should be provided at a number of beaches and lakes on the west coast. Members of the community and/or Auckland Council Park Rangers could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents. Other stakeholders, such as members of boardriders clubs, could be upskilled as water safety ambassadors, water safety advisors, and/or water safety responders.

**North Shore beaches and lakes**

- On the North Shore, dedicated and/or on-call formal surveillance should be provided at Takapuna Beach, Milford Beach, Mairangi Bay, Murrays Bay, Browns Bay, Waiake Bay, and Long Bay. In addition, roving surveillance should be provided from the mouth of the Waitemata Harbour to Mairangi Bay, and from Mairangi Bay to the mouth of the Okura River. Remote surveillance should also be provided at selected locations.
- Furthermore, informal surveillance could be encouraged at times at Torpedo Bay, Cheltenham Beach, Narrowneck Beach, Lake Pupuke, Milford Beach, Mairangi Bay, Murrays Bay, Browns Bay, Waiake Bay, and Long Bay. Members of the community, Auckland Council Park Rangers, and/or lifeguards from nearby swimming pools could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents. Other stakeholders, such as members of boating and/or yachting clubs, could be upskilled as water safety ambassadors, water safety advisors, and/or water safety responders.

**Whangaparaoa beaches**

- On the Whangaparaoa, dedicated and/or on-call formal surveillance should be provided at Te Haruhi Bay, Big Manly Bay (Polkinghornes Bay), Stanmore Bay, Red Beach, Orewa Beach, and Wenderholm Beach. In addition, roving surveillance should be provided from Army Bay to Red Beach, and from Red Beach to Wenderholm Beach. Remote surveillance should also be provided at selected locations.
- Furthermore, informal surveillance could be encouraged at times at Arkles Bay, Matakatia Bay, Okoromai Bay, Te Haruhi Bay, Army Bay, Big Manly Bay, Stanmore Bay, Red Beach, Waiwera Beach, and Wenderholm Beach. Members of the community, Auckland Council Park Rangers, and/or lifeguards from nearby swimming pools could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents. Other stakeholders could be upskilled as water safety ambassadors, water safety advisors, and/or water safety responders.

**Northeast coast beaches**

- On the northeast coast, dedicated and/or on-call formal supervision is recommended at Anchor Bay, Omaha Beach, Pakiri Beach, and Te Arai. In addition, dedicated and/or on-call formal surveillance should be provided at Goat Island, Forestry, and Te Arai. Roving and remote surveillance should also be provided at a number of beaches.
- Furthermore, informal surveillance should be encouraged at Martins Bay, Algies Bay, Snells Beach, Sandspit, Anchor Bay, Matheson Bay, Goat Island, Pakiri Beach, Forestry, and Te Arai.

**Service guidelines and beach, lake, and waterfall management**

- In addition to the types and levels of supervision and surveillance, this report details the skills, competencies, and equipment that personnel require to provide supervision and surveillance across the respective sites (Section 9). A suggested expansion of the roles and responsibilities that personnel could fulfil, and additional strategies to best manage environmental hazards and interactions of recreational activities, is also discussed (Section 10).

## Monitoring and review

Water use at beaches, lakes, and waterfalls should be monitored on an ongoing basis to note any changes in the level of use, user groups, and user behaviours; this is particularly important where no water use data was previously available, i.e. sites that were unpatrolled. The recommended supervision and surveillance services may subsequently need to change; this should be determined using the same methodology outlined in this report.

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# 1 Introduction

This report details the findings of the supervision and surveillance assessment undertaken on beaches, lakes, and waterfalls along the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region. It then details the subsequent development of recommendations designed to reduce the risk of drowning and injury.

The report is based on a review of the sites and analysis of the hazards and other factors influencing the risk of drowning and injury. The data used in the supervision and surveillance assessment was gathered on-site, provided by local stakeholders, and passed on by water safety agencies and emergency services. This document has been prepared in conjunction with site-specific supervision and surveillance assessment reports for all existing patrolled beaches in the Auckland region.

The supervision and surveillance assessment utilises classifications and decision-assisting models outlined in the *Coastal Risk Management Framework* (Mulcahy, 2014b) and *A surf lifeguard supervision model for New Zealand beaches* (Mulcahy, 2014c). This report is produced for Surf Life Saving New Zealand and Surf Life Saving Northern Region, and has been supported by Surf Life Saving New Zealand and the Infinity Foundation with the aim of preventing drowning and injury in New Zealand.

## 1.1 Research rationale

Since 1980, 562 drowning fatalities have been recorded in coastal and nearshore waters in the Auckland region (Water Safety New Zealand, 2017). In addition, surf lifeguards have recorded 3,272 rescues, 870 searches, and 4,851 first aid incidents over the period July 2006 to June 2016 (Surf Life Saving New Zealand, 2016). There are also likely to be a considerable number of additional incidents that were not formally recorded; for example, surfers or swimmers who have rescued other water users.

The provision of formal supervision and surveillance can be an effective strategy to manage the risk of drowning and injury. However, the provision of formal supervision and surveillance requires significant human and financial resources and should therefore only be recommended where there is an identified need. This report outlines the need and provides a number of recommendations for beaches, lakes, and waterfalls along the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region.

## 1.2 Aim

To reduce the incidence of drowning and injury by identifying, analysing, and evaluating the supervision and surveillance requirements for beaches, lakes, and waterfalls along the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region.

## 1.3 Objectives

In order to achieve the aim, the following objectives must be met during the supervision and surveillance assessment:

- Identify, analyse, and evaluate hazards at the identified sites.
- Identify, analyse, and evaluate the physical morphology, site use, user demographics, incident statistics, and other factors relevant to the provision of supervision and surveillance.
- Identify, analyse, and evaluate existing formal and informal supervision and surveillance.

- Identify and recommend best practice forms of supervision and surveillance, which are relevant to the physical morphology, site use, and user demographics.
- Make the findings and recommendations available to Surf Life Saving Clubs, Surf Life Saving Northern Region, Surf Life Saving New Zealand, Auckland Council, Auckland Transport (Harbourmasters), Coastguard Northern Region, Drowning Prevention Auckland, New Zealand Police Maritime Unit (Auckland), Maritime New Zealand, New Zealand Police, Ministry for Primary Industries (Fisheries Officers), Department of Conservation, and other relevant water safety stakeholders as identified.

## 1.4 Report structure

This report is divided into eleven chapters, and is structured as follows: Section 2 outlines how supervision and surveillance fit within the broader drowning and injury prevention strategy, while Section 3 outlines the methodology used in this report. Section 4 provides a description of the geomorphology, population demographics, site use and recreation, and existing supervision in each coastal area: west coast, North Shore, Whangaparaoa, and northeast coast. Section 5 details the fatal drowning and non-fatal incident statistics.

Comparative water use and risk analysis is presented in Section 6, followed by a description of the proposed types and levels of supervision and surveillance in Section 7. The recommended supervision and surveillance requirements are detailed in Section 8. This is followed in Section 9 by service guidelines on the operational requirements, minimum competencies of personnel, and the equipment required to provide effective services. The roles and responsibilities of services, and suggested additional safety management strategies, are provided in Section 10. The report is concluded in Section 11, followed by the References and Appendices.

# 2 Drowning and injury prevention strategy

The *Drowning and Injury Prevention Strategy* conceptualises the key reasons why drowning and injury continue to occur in New Zealand, and identifies approaches to reduce their risk of occurrence.

There are six overarching factors that can lead to drowning in aquatic environments, and as such there are six corresponding strategies that can be applied to mitigate the level of risk, and therefore the incidence of drowning and injury. These are outlined below, and shown conceptually in Figure 2-1 (Mulcahy, 2014a).

Factors leading to drowning and injury:

1. Exposure to the hazard
2. Ignorance or misunderstanding of the hazard
3. Disregard for the hazard
4. Inability to cope when exposed to the hazard
5. **Lack of surveillance and advice when exposed to the hazard**
6. Inability to affect a rescue prior to succumbing to the hazard

Strategies designed to address each of these factors:

1. Eliminate or isolate the hazard

Where the hazard cannot be fully eliminated or isolated, the following additional strategies should be considered:

2. Increase awareness and understanding
3. Legislate, monitor, and enforce
4. Enable and equip
5. **Increase supervision and surveillance**
6. Increase efficiency and effectiveness of response

The *Drowning and Injury Prevention Strategy* is the central rationale for the risk assessment process. It ensures that all elements of risk at the beaches, lakes, and waterfalls are duly considered and addressed in the risk assessment reporting and implementation process.

This report focuses on the provision of supervision and surveillance as a strategy to reduce the risk of drowning and injury. Details on the other factors and strategies will be presented in additional reports.


Figure 2-1: *Drowning and Injury Prevention Strategy* (Mulcahy, 2014a).

# 3 Methodology

The supervision and surveillance assessment methodology draws on the current risk management standard, AS/NZS ISO 31000:2009 (Standards Australia/Standards New Zealand, 2009). The process is displayed in Figure 3-1, and further explained below. Additional details on the decision-assisting models and strategies developed for supervision and surveillance assessments in New Zealand can be found in the *Coastal Risk Management Framework* (Mulcahy, 2014b) and *A surf lifeguard supervision model for New Zealand beaches* (Mulcahy, 2014c).

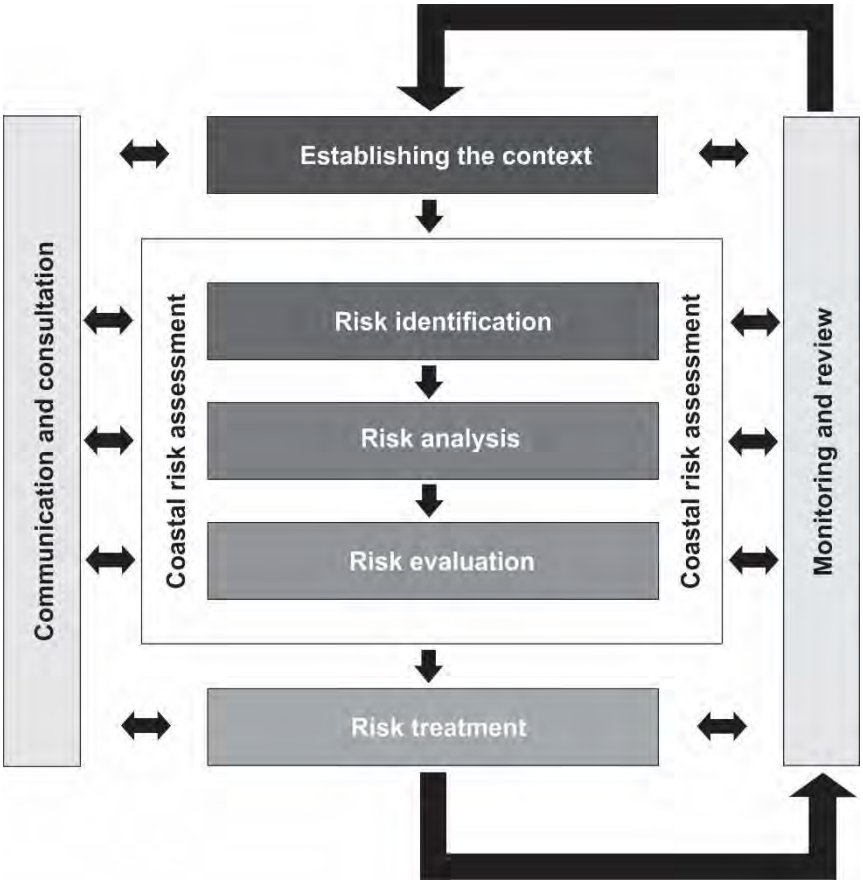



Figure 3-1: Supervision and surveillance assessment process, adapted from AS/NZS ISO 31000:2009 (Standards Australia/Standards New Zealand, 2009).

## 3.1 Establishing the context

### 3.1.1 Supervision and surveillance assessment scope

The beaches, lakes, and waterfalls investigated as part of the supervision and surveillance assessment are situated on the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region; these are described in Section 4. The assessments at each site within these areas typically covered either the beach, lake, or waterfall, as well as adjacent shore platforms, cliffs, plunge pools, or other geological features. Areas of adjacent reserve or park were also considered. Information on the geology and climate of the sites were also gathered from scientific papers and other relevant sources.

### 3.1.2 Area demographics

Information on the area and visitor demographics was gathered from a range of sources, including Auckland Council, Statistics New Zealand, and Surf Life Saving New Zealand's Patrol and Memberships (PAM) database. This information helped identify likely user groups at beaches, lakes, and waterfalls along the west coast, North Shore, Whangaparaoa, and northeast coast, enabling supervision and surveillance to be tailored as effectively as possible.

### 3.1.3 Past incident data

Incident statistics were gathered from Water Safety New Zealand's DrownBase™ database and Surf Life Saving New Zealand's Patrol and Memberships (PAM) database. In addition, local stakeholders provided further information on unreported incidents. This provided further information on high risk user groups.

## 3.2 Supervision and surveillance assessment: risk identification

A number of site visits were conducted by the author. During this time, methodical assessments of the physical nature of the sites were undertaken to identify site hazards, as well as a review of access to the sites, relevant public facilities, and existing safety interventions.

In addition, discussions were held with stakeholders to determine the most common activities of site users, the volume and frequency of use, and other factors relevant to the interaction of people with the environments. Stakeholders involved in these discussions included representatives from Surf Life Saving Clubs, Surf Life Saving Northern Region, Auckland Council, and other organisations. Site users were also engaged in discussions at the time of on-site assessments.

To determine trends in water use throughout the year, data recorded by surf lifeguards and held within Surf Life Saving New Zealand's PAM database was reviewed. The dataset covered the period between October and April from 2006 to 2016; no full year dataset was available. To standardise the data and reduce the influence of weather and other factors on the water use patterns for any particular season, the data was corrected to align weekdays and weekends over the 10 year period for analysis. The average water use for each day was then calculated, and a theoretical dataset for summer was produced.

For sites where no water use data was available, car counter data, on-site observations and counts, and discussions with site stakeholders assisted the author to semi-quantitatively calculate the typical number of site users, relative to a nearby site where data was available (see Section 6).

## 3.3 Supervision and surveillance assessment: risk analysis

Following the site visits, all data was collated and assessed. Fatal and non-fatal incident statistics were analysed to identify high risk site users in each of the coastal areas, and placed within the context of the Auckland region and national trends.

To quantitatively compare and analyse the level of risk at each of the sites, 'risk-adjusted water use values' were calculated using established statistical relationships between beach type, wave energy, number of water users, and the probability of rescue (see Section 6). The resulting values are then associated with different types and levels of supervision or surveillance: formal supervision, formal surveillance, and informal surveillance (see Section

7). The risk-adjusted water use values across all analysed sites were also ranked to assist with the prioritisation of sites across the Auckland region.

## 3.4 Supervision and surveillance assessment: risk evaluation

The results of the comparative risk analysis were then reviewed in the context of site-specific information on physical morphology, user demographics, and operational requirements. Recommendations on the type and level of service at each site were then developed; these are presented in Section 8, with site-specific tables provided in Appendix 13.2. The recommendations also draw upon decision-assisting models and strategies developed as part of the *Coastal Risk Management Framework* (Mulcahy 2014b) and *A surf lifeguard supervision model for New Zealand beaches* (Mulcahy, 2014c).

The risk analysis and evaluation also informed the development of recommendations on operational requirements, minimum competencies of personnel, and the equipment required to provide effective services (see Section 9). Finally, the roles and responsibilities of services, and suggested additional safety management strategies are provided in Section 10.

## 3.5 Risk treatment

The completed supervision and surveillance assessment report will be presented to all relevant water safety stakeholders. All stakeholders are asked to work in partnership to assist in the timely delivery of the recommendations. Where relevant, the interventions should be incorporated in the management plans of Surf Life Saving Clubs, Surf Life Saving Northern Region, Surf Life Saving New Zealand, Auckland Council, Auckland Transport (Harbourmasters), Coastguard Northern Region, Drowning Prevention Auckland, New Zealand Police Maritime Unit (Auckland), Maritime New Zealand, New Zealand Police, Ministry for Primary Industries (Fisheries Officers), Department of Conservation, and other relevant water safety stakeholders as identified.

## 3.6 Monitoring and review

Water use at beaches, lakes, and waterfalls should be monitored on an ongoing basis to note any changes in the level of use, user groups, and user behaviours; this is particularly important where no water use data was available, i.e. unpatrolled sites. The recommended supervision and surveillance services may subsequently need to change; this should be determined using the same methodology outlined in this report.

# 4 Regional setting

The Auckland region encompasses the largest population in New Zealand, and stretches from a short distance north of the mouth of the Waikato River, across to the Firth of Thames, north to the mouth of the Kaipara Harbour, and south of Mangawhai Heads (Figure 4-1). The region also includes a number of inhabited and uninhabited islands. The Waikato region and Northland region boarder the Auckland region to the south and north respectively. The Auckland region is home to a third of New Zealand's population, with 1,415,550 permanent residents (Statistics New Zealand, 2013) and continuing population growth.

For the purposes of this supervision and surveillance assessment, four areas within the Auckland region were investigated, as outlined in Figure 4-1: beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast.

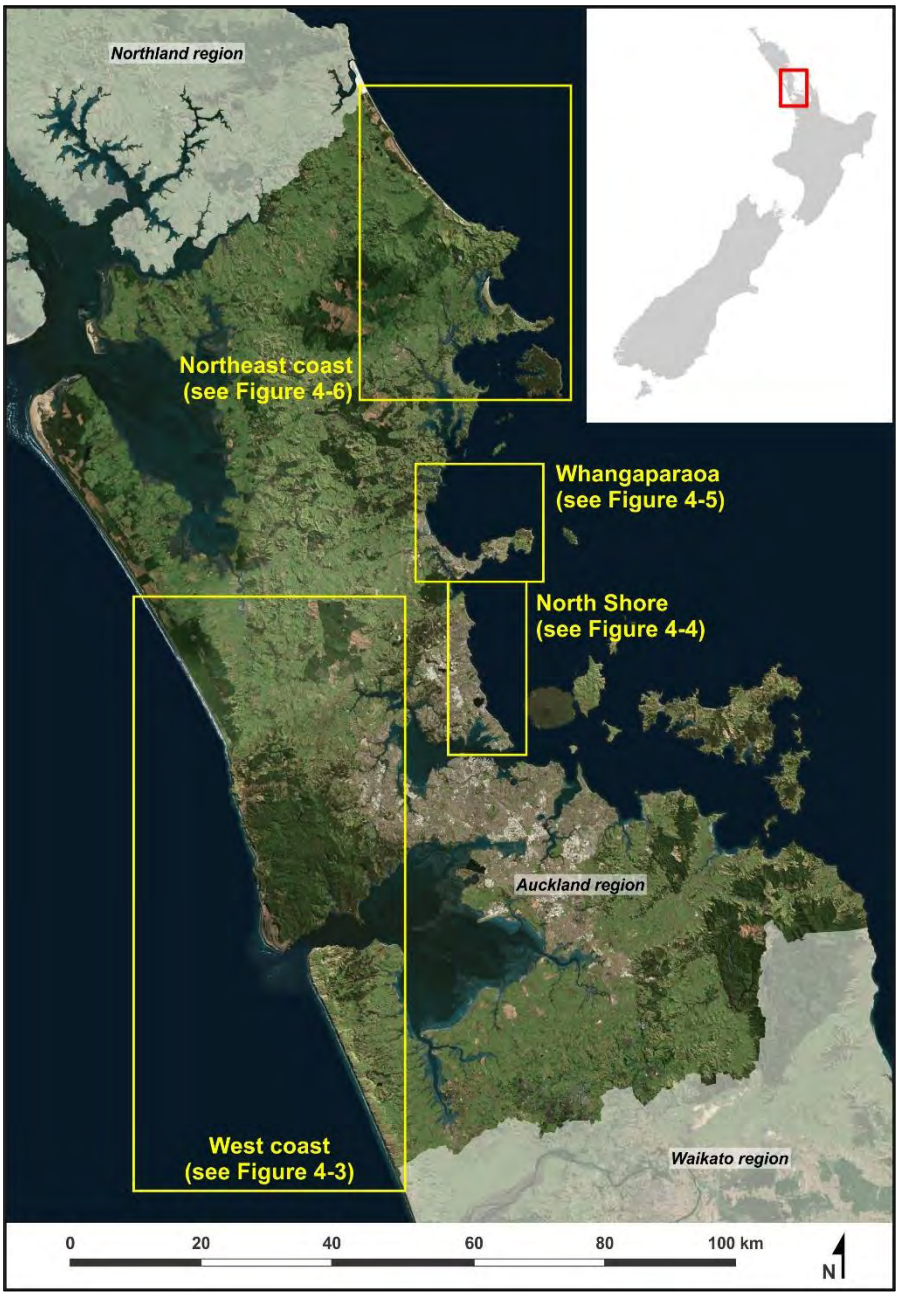



Figure 4-1: The Auckland region, New Zealand, outlining the four areas investigate as part of the supervision and surveillance assessment: beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast.

## 4.1 Climate

The Auckland region is situated in the 'Northern New Zealand' climate zone. Based on data captured at the weather station in Auckland, temperatures are typically between 7 and 24 degrees (National Institute of Water and Atmospheric Research, 2014). Auckland experiences some form of precipitation (exceeding 1 mm) on average 7-16 days per month (National Institute of Water and Atmospheric Research, 2014). Light to moderate winds (10-15 km/h) from the southwest to northwest prevail in the Auckland region (National Institute of Water and Atmospheric Research, 2014).

The weather is distinctly seasonal, with the warmest and driest conditions experienced over the summer period. During summer, air temperatures of 14-24 degrees and 7-10 days rainfall per month could be expected (Figure 4-2). This coincides with the Christmas, New Year, and summer school holidays, and as such the time of greatest use of beaches, lakes, and waterfalls. Winter experiences the coolest and wettest conditions, with air temperatures of 7-16 degrees and on average 14-16 days rainfall per month (National Institute of Water and Atmospheric Research, 2014).

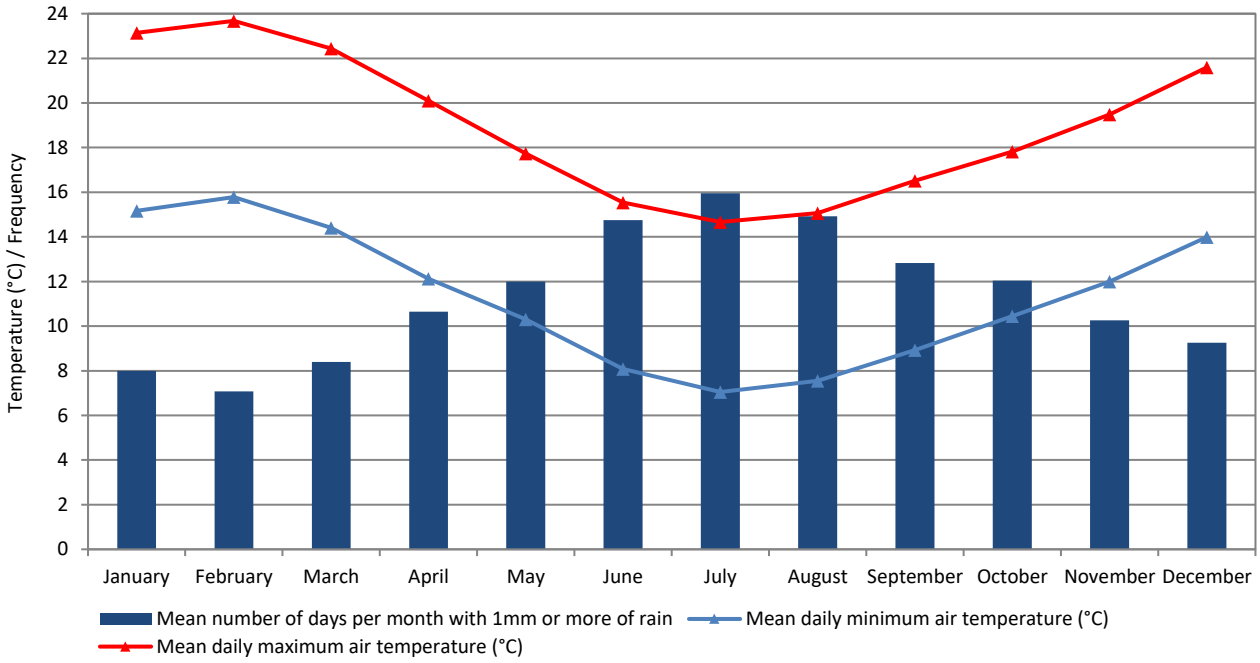



Figure 4-2: Annual temperature and precipitation gradients for the Auckland region, based on the weather station at Owairaka, Auckland over the period 1989-2010 (National Institute of Water and Atmospheric Research, 2014).

## 4.2 Study areas

The sections below briefly outline the site characteristics of the beaches, lakes, and waterfalls investigated across the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region. This is followed by sections describing the coastal geomorphology, population demographics, use of the sites, and existing forms of supervision and surveillance.

### 4.2.1 West coast beaches, lakes, and waterfalls

The beaches, lakes, and waterfalls investigated as part of the supervision and surveillance assessment of the west coast include: Rimmer Road, Muriwai Beach, Maukatia (Maori Bay), O'Neill Bay, Te Henga (Bethells Beach), Lake Wainamu, Anawhata Beach, Whites Beach, North Piha Beach, Piha Beach, Kitekite Falls, Mercer Bay, Karekare Beach, Karekare Falls, Whatipu Beach, Hamiltons Gap, and Karioitahi Beach. These sites are shown in Figure 4-3. Of note, a number of the sites are located within or adjacent to regional parks.

This study area is divided into two sections: the beaches, lakes, and waterfalls between the Kaipara Harbour and Manukau Harbour, and the beaches between the mouth of the Manukau Harbour and the Waikato River (see Figure 4-3). The sites north of the Manukau Harbour are between 20 and 30 km from Henderson, and approximately 40 km from the centre of Auckland. Rimmer Road, Muriwai Beach and Maukatia (Maori Bay) are situated in the Rodney Ward (population 54,879; Statistics New Zealand, 2013), while the sites between O'Neill Bay and Whatipu Beach are in the Waitakere Ward (population 156,081). Hamiltons Gap and Karioitahi Beach are situated approximately 28 km southwest of Pukekohe in the Franklin Ward (population 65,332).

While all the sites are located some distance from large population centres, the sites with the largest resident populations are Muriwai Beach and Piha, which are home to 1,131 and 861 permanent residents respectively (Statistics New Zealand, 2013). Smaller populations reside at Te Henga (Bethells Beach) and Karekare Beach, with few dwellings at the other sites. Muriwai Beach and Piha contain a range of amenities, such as general stores, cafés, and a range of accommodation options, including campgrounds, holiday houses, and luxury accommodation. Limited amenities and accommodation are available at Te Henga (Bethells Beach), Karekare Beach, and Karioitahi Beach.

A range of public facilities, as well as substantial car parking, are provided at Muriwai Beach, Maukatia (Maori Bay), Te Henga (Bethells Beach), North Piha Beach, Piha Beach, Karekare Beach, Whatipu Beach, and Karioitahi Beach. Public toilets and car parking are more limited and/or situated a considerable distance from the other beaches, lakes, and waterfalls. Access to the sites is typically well marked, and there is often a range of warning and information signage along the access tracks, though some is in a dilapidated state.


Figure 4-3: Beaches, lakes, and waterfalls on the west coast investigated as part of the supervision and surveillance assessment of the Auckland region.

### 4.2.2 North Shore beaches and lakes

The beaches and lakes investigated on the North Shore include: Torpedo Bay, Cheltenham Beach, Narrowneck Beach, St Leonards Beach, Takapuna Beach, Lake Pupuke, Thorne Bay, Milford Beach, Castor Bay, Kennedy Park, Campbells Bay, Mairangi Bay, Murrays Bay, Rothesay Bay, Browns Bay, Waiake Bay, Winstones Cove, Toroa Point, Long Bay, and Grannys Bay. Of note, Long Bay and Grannys Bay are located within Long Bay Regional Park. These sites are shown in Figure 4-4.

The beaches and lakes between and inclusive of Torpedo Bay and Kennedy Park are situated in the North Shore Ward, which has a population of 137,964 people. Sites from Campbells Bay to Grannys Bay (as well as nearly all of the Whangaparaoa beaches), are situated in the Albany Ward, which has 143,502 permanent residents (Statistics New Zealand, 2013). A wide range of accommodation options are available along the North Shore, including camping grounds, Airbnb, and hotels. Beaches on the North Shore are also easily accessible to the wider population, with public transport routes within close proximity of all sites, in particular Torpedo Bay, Narrowneck Beach, Murrays Bay, Waiake Bay, and Long Bay.

A wide range of facilities are provided at beaches on the North Shore, including car parking, public toilets, changing rooms, grass reserves, and playgrounds. Boat ramps are provided at a considerable of beaches along the North Shore. Vehicle and trailer parking, as well as boating safety signage, is typically provided at sites with a boat ramp. Café and food outlets are situated near many of the beaches on the North Shore, with shopping centres at Takapuna Beach, Browns Bay, and Mairangi Bay.


Figure 4-4: Beaches and lakes on the North Shore investigated as part of the supervision and surveillance assessment of the Auckland region.

### 4.2.3 Whangaparaoa beaches

The beaches investigated on the Whangaparaoa include: Arkles Bay, Little Manly Bay, Matakatia Bay, Okoromai Bay, Te Haruhi Bay, Army Bay, Waiau Bay (Tindalls Beach), Big Manly Bay (Polkinghornes Bay), Stanmore Bay, Red Beach, Orewa Beach, Hatfields Beach, Waiwera Beach, and Wenderholm Beach. Okoromai Bay, Te Haruhi Bay, and Army Bay are situated in Shakespear Regional Park, while Wenderholm Beach is located within Wenderholm Regional Park. The sites are shown in Figure 4-5.

All of the Whangaparaoa beaches are situated in the Albany Ward, with the exception of Wenderholm Beach, which is in the Rodney Ward. However, Wenderholm Beach is located considerably closer to the population of the Albany Ward. A wide range of accommodation options, including camping grounds, Airbnb, and hotels, are available along the Whangaparaoa, particularly at Orewa Beach. Beaches on the Whangaparaoa are also easily accessible to the wider population, with public transport routes within close proximity of some sites.

A wide range of facilities are also provided at beaches on the Whangaparaoa, including car parking, public toilets, changing rooms, grass reserves, and playgrounds. Boat ramps are provided at all beaches along the Whangaparaoa except Okoromai Bay and Te Haruhi Bay; vehicle and trailer parking, as well as boating safety signage is also typically provided. Café and food outlets are situated near several beaches on the Whangaparaoa, with shopping centres at Stanmore Bay and Orewa Beach.


Figure 4-5: Beaches on the Whangaparaoa investigated as part of the supervision and surveillance assessment of the Auckland region (except Long Bay, which is shown for reference to Figure 4-4).

### 4.2.4 Northeast coast beaches

As outlined in Figure 4-6, the beaches investigated on the northeast coast include: Martins Bay, Scandretts Bay, Algies Bay, Snells Beach, Sandspit, Baddeleys Beach (Millon Bay), Campbells Bay (Millon Bay), Jones Bay, Anchor Bay, Omaha Beach, Matheson Bay, Goat Island, Pakiri Beach, Forestry, Te Arai, and Black Swamp. Scandretts Bay, Jones Bay, and Anchor Bay are situated within regional parks, while Goat Island is situated in a marine reserve.

The northeast coast beaches are situated in the Rodney Ward, and many are adjacent to small permanent residential settlements (Algies Bay, Snells Beach, Omaha Beach, and Leigh), holiday houses and/or camping grounds (Martins Bay, Sandspit, Anchor Bay, Omaha Beach, and Pakiri Beach) or sparse development. Beaches on the northeast coast are also accessible to the wider population, but this largely limited to private vehicles. A number of the settlements contain general stores, cafés, or other shops.

A range of public facilities, as well as substantial car parking, are provided at Martins Bay, Algies Bay, Snells Beach, Anchor Bay, Omaha Beach, and Goat Island. Public toilets and car parking are more limited at other sites.


Figure 4-6: Beaches on the northeast coast investigated as part of the supervision and surveillance assessment of the Auckland region.

## 4.3 Coastal geomorphology

The beaches, lakes, and waterfalls of the Auckland region are diverse in geology, geomorphology, and hydrodynamics. The beaches vary from high energy wave-dominated beaches to low energy tide-modified beaches, and from pocket beaches to long expansive beaches. A number of beaches are also influenced by streams or the mouths of large harbours.

### 4.3.1 West coast beaches, lakes, and waterfalls

The beaches on the west coast of the Auckland region are classified as dissipative (see Table 4-1), based on the classifications of Wright and Short (1984). As such, they are characterised by a wide, gently sloping beachface composed of fine sand (see Figure 4-7 to Figure 4-9). The nearshore zones are characterised by multiple shore-parallel sand bars separated by deep channels.

West coast beaches are exposed to high energy ocean swell from the Tasman Sea, which approaches from the south through to the west. Based on data recorded at Piha Beach, the west coast experiences modal wave heights of 1.5 to 2.5 m (Pickrill and Mitchell, 1979, King et al., 2006). However, during storms, waves can reach heights of up to 6.5 m, and the width of the surf zone can extend up to 500 m offshore (King et al., 2006). The summertime wave profile on west coast beaches, as categorised by surf lifeguards, shows a modal recorded wave height of 1.0 to 1.5 m (Surf Life Saving New Zealand, 2016). The mean spring tide on west coast beaches ranges from a low of 0.4 m to a high of 3.3 m (Land Information New Zealand, 2017b).

The large waves on west coast beaches also generate rip currents, which pose a risk to water users who may be swept out to sea. Permanent rip currents form adjacent to headlands, rocky outcrops, and streams, but can also develop anywhere along the length of the coast. Rip currents shift frequently, and are stronger during large surf and/or an outgoing tide. Large waves may also overcome water users, particularly when combined with an incoming tide that can rapidly increase the reach of waves onto the beach. Strong currents are also evident at the mouths of the Manukau and Kaipara Harbours.

Users of Lake Wainamu, Kitekite Falls, and Karekare Falls are exposed to different hazards (see Figure 4-7 to Figure 4-8). From the edge of Lake Wainamu, the bank slopes steeply into deep water and discoloured water limits visibility. Both waterfalls have plunge pools at their base, and may experience currents. Kitekite falls also has pools over a number of elevations, with users exposed to falls from height.

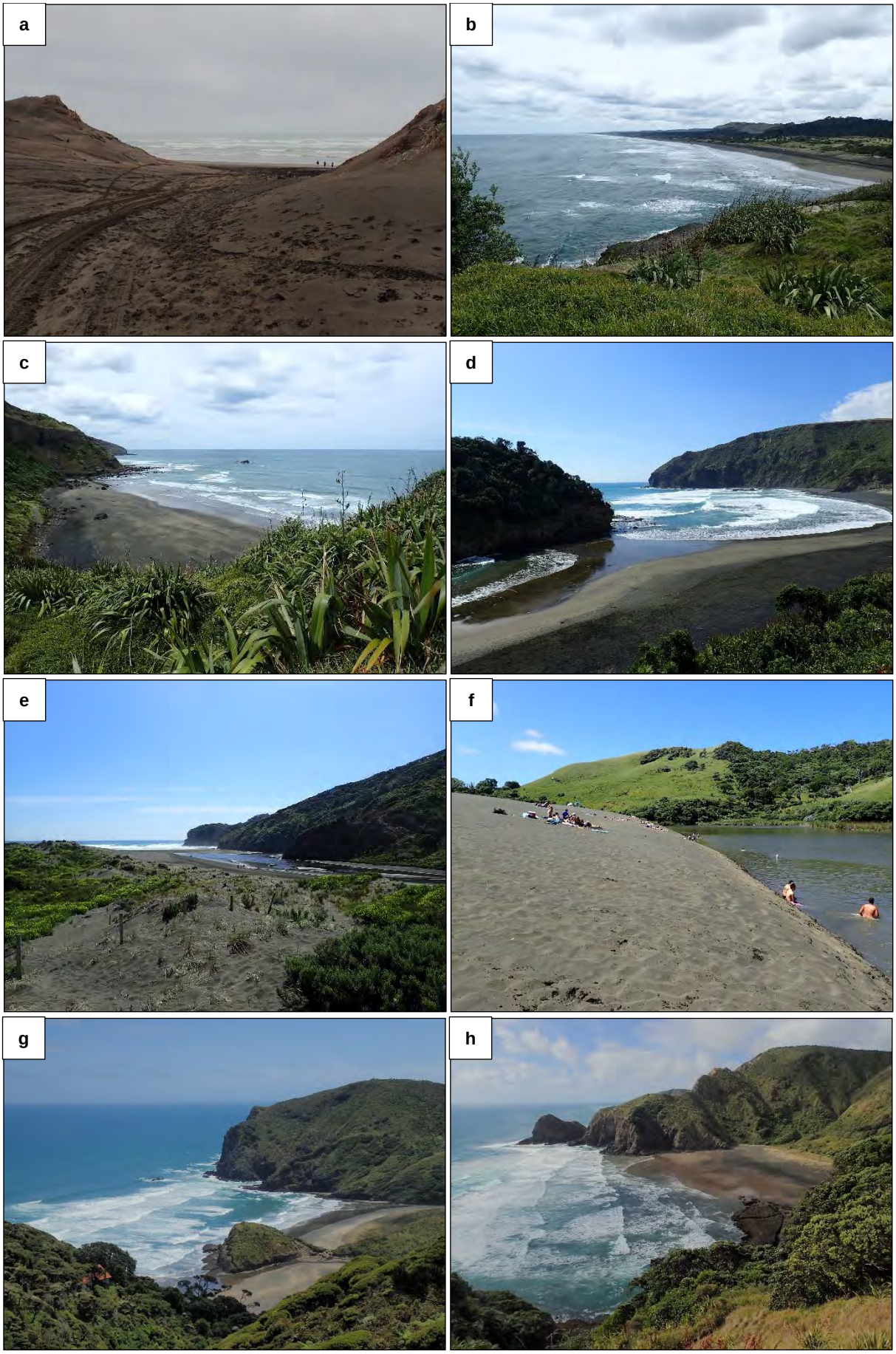



Figure 4-7: (a) Rimmer Road, (b) Muriwai Beach, (c) Maukatia (Maori Bay), (d) O'Neill Bay, (e) Te Henga (Bethells Beach), (f) Lake Wainamu, (g) Anawhata Beach, and (h) Whites Beach.


Figure 4-8: (a) North Piha Beach, (b) Piha Beach, (c) Kitekite Falls, (d) Mercer Bay, (e) Karekare Beach, (f) Karekare Falls, (g) Whatipu Beach, and (h) Hamiltons Gap.

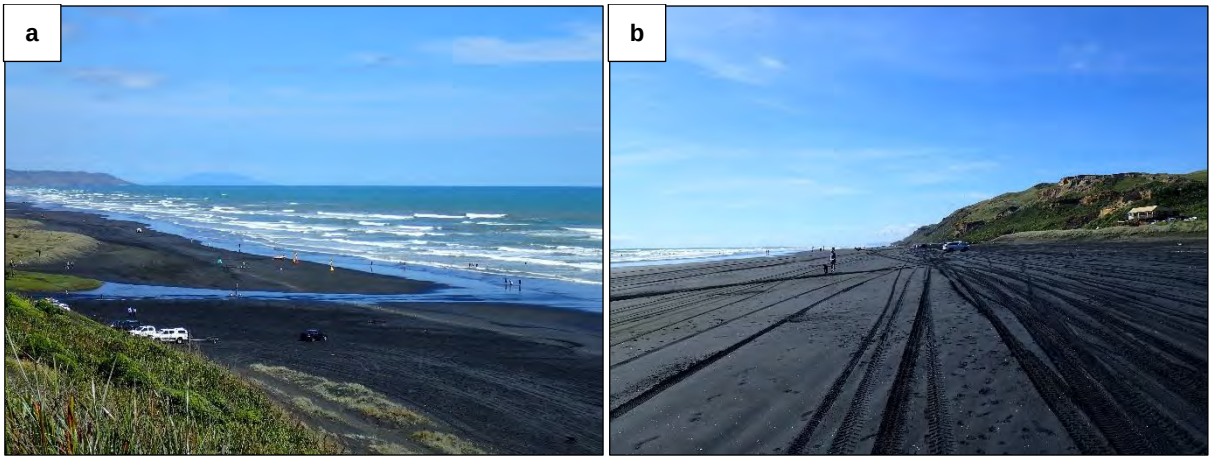


Figure 4-9: Karioitahi Beach.

Table 4-1: Classification of beaches, waterfalls, and lakes on the west coast. Of note, for sites that extend a considerable distance alongshore, the length that is primarily used is indicated in italics.

| Site | Morphology | Wave height* | Length | Geological and geomorphic features |
|---|---|---|---|---|
| Rimmer Road | Dissipative Beach | 1.0-1.5 m** | 5 km | Long beach composed of fine sand, unstable sand dunes |
| Muriwai Beach<br>*Otakamiro Point to Okiritoto Stream* | Dissipative Beach | 1.0-1.5 m | 50 km<br>*3 km* | Headland, shore platforms, stream, unstable sand dunes |
| Maukatia (Maori Bay) | Dissipative Beach | 1.0-1.5 m** | 0.47 km | Headlands, shore platforms, unstable cliffs |
| O'Neill Bay | Dissipative Beach | 1.0-1.5 m** | 1 km | Headlands, shore platforms, island, unstable sand dunes |
| Te Henga (Bethells Beach) | Dissipative Beach | 1.0-1.5 m | 1.8 km | Headlands, shore platforms, island, stream, unstable cliffs and sand dunes |
| Lake Wainamu (northwestern lakeshore) | Lake | - | 0.25 km | Stream, unstable sand dunes |
| Anawhata Beach | Dissipative Beach | 1.0-1.5 m** | 0.68 km | Headlands, shore platforms, unstable and steep cliffs |
| Whites Beach | Dissipative Beach | 1.0-1.5 m** | 0.33 km | Headlands, shore platforms, unstable and steep cliffs |
| North Piha Beach | Dissipative Beach | 1.0-1.5 m | 2.2 km | Headlands (Lion Rock), shore platforms, streams, unstable and steep cliffs |
| Piha Beach | Dissipative Beach | 1.0-1.5 m | 0.6 km | Headlands (Lion Rock), island (Taitomo Island), shore platforms, stream and lagoon (Piha Stream), unstable and steep cliffs |
| Kitekite Falls | Waterfall | - | - | Waterfall, plunge pools, steep cliffs |
| Mercer Bay | Dissipative Beach | 1.0-1.5 m** | 0.5 km | Headlands, shore platforms, caves, unstable and steep cliffs |
| Karekare Beach<br>*Farley Point to Paratahi Island* | Dissipative Beach | 1.0-1.5 m | 8.2 km<br>*1.2 km* | Headlands (Farley Point and Karekare Point), shore platforms, island (Paratahi Island), stream and lagoon (Karekare Stream), unstable and steep cliffs |
| Karekare Falls | Waterfall | - | - | Waterfall, plunge pools, steep cliffs |
| Whatipu Beach | Dissipative Beach | 1.5-2.0 m** | 3 km | Shore platforms and rocky outcrops (Ninepin Rock), island (Paratutae Island), estuary mouth (Manukau Harbour) |
| Hamiltons Gap | Dissipative Beach | 1.0-1.5 m** | 2 km | Shore platforms and rocky outcrops |
| Karioitahi Beach | Dissipative Beach | 1.0-1.5 m | 32 km<br>*2 km* | Shore platforms and rocky outcrops, estuary and river mouth (Manukau Harbour and Waikato River) |

*75$^{th}$ percentile summertime wave height.

**Wave energy is estimated based on the summertime wave energy recorded at nearby beaches with similar exposure.

### 4.3.2 North Shore beaches and lakes

The beaches on the North Shore are oriented to the northeast through southeast, and are largely sheltered from incoming waves by Great Barrier Island, the Coromandel Peninsula, and Rangitoto Island (see Figure 4-10 to Figure 4-12). The beaches typically adopt a tide-modified beach state (see Table 4-2), based on the classifications of Wright and Short (1984), and as such their morphology is influenced by both wave and tidal energy.

The beaches are characterised by a moderately sloping beachface, often backed by a seawall and/or grass reserve. There is limited subaerial beach at high tide at a number of sites. The nearshore morphology is typically characterised by a shore-attached sand bar, and a ridge and runnel configuration; it is dynamic, and changes with wave energy and tidal fluctuation. Beach morphology is also influenced by streams and stormwater runoff, which promote the development of runnels, and as such small rip currents.

Beaches on the North Shore typically receive fetch-limited, short-period wind waves; the greatest fetch is from the northeast. Furthermore, despite there being no available measured wave height data, observations recorded by surf lifeguards indicates that wave height is less than 0.5 m on over 90% of patrolled days over summer. However, beaches can receive larger waves during the passage of extra-tropical cyclones. The mean spring tide ranges from a low of 0.5 m to a high of 2.9 m (Land Information New Zealand, 2017a). Incoming and outgoing tides can generate currents throughout the nearshore zone.

In addition, the sandstone and siltstone cliffs along the North Shore are eroding, and pose a rockfall hazard to beach users. There are also a number of submerged rocks in the nearshore zone. Notably different to the beaches in this area, Lake Pupuke has a steep slope on entry, with discoloured water limiting visibility.


Figure 4-10: (a) Torpedo Bay, (b) Cheltenham Beach, (c) Narrowneck Beach, (d) St Leonards Beach, (e) Takapuna Beach, (f) Lake Pupuke, (g) Thorne Bay, and (h) Milford Beach.


Figure 4-11: (a) Castor Bay, (b) Kennedy Park, (c) Campbells Bay, (d) Mairangi Bay, (e) Murrays Bay, (f) Rothesay Bay, (g) Browns Bay, and (h) Waiake Bay.

Figure 4-12: (a) Winstones Cove, (b) Toroa Point, (c) Long Bay, and (d) Grannys Bay.

Table 4-2: Classification of beaches and lakes on the North Shore.

| Site | Morphology | Wave height* | Length | Geological and geomorphic features |
|---|---|---|---|---|
| Torpedo Bay | Tide-modified Beach | 0-0.5 m** | 0.5 km | Mouth of Waitemata Harbour, groynes, rocky outcrops |
| Cheltenham Beach | Tide-modified Beach | 0-0.5 m** | 0.84 km | Headlands, rocky outcrops, unstable cliffs |
| Narrowneck Beach | Tide-modified Beach | 0-0.5 m** | 0.27 km | Headland, rock shelves, unstable cliffs |
| St Leonards Beach | Tide-modified Beach | 0-0.5 m** | 0.1 km | Unstable cliffs, rocky outcrops |
| Takapuna Beach | Tide-modified Beach | 0-0.5 m | 1.2 km | Headlands, shore platforms, unstable cliffs |
| Lake Pupuke | Lake | - | - | Deep water |
| Thorne Bay | Tide-modified Beach | 0-0.5 m** | 0.1 km | Rocks at either end of the beach and in the nearshore zone; basalt lava flow |
| Milford Beach | Tide-modified Beach | 0-0.5 m | 1.2 km | Headland, shore platform, rock shelves, groyne, stream |
| Castor Bay | Tide-modified Beach | 0-0.5 m** | 0.23 km | Headland, rock shelves, groyne |
| Kennedy Park | Tide-modified Beach | 0-0.5 m** | 0.5 km | Unstable cliffs |
| Campbells Bay | Tide-modified Beach | 0-0.5 m** | 0.5 km | Rock shelves, stream |
| Mairangi Bay | Tide-modified Beach | 0-0.5 m | 0.4 km | Rock shelves, stream, unstable cliffs |
| Murrays Bay | Tide-modified Beach | 0-0.5 m** | 0.27 km | Rock shelves, stream, unstable cliffs |
| Rothesay Bay | Tide-modified Beach | 0-0.5 m** | 0.31 km | Rock shelves, stream, unstable cliffs |
| Browns Bay | Tide-modified Beach | 0-0.5 m | 0.9 km | Rock shelves, stream, unstable cliffs |
| Waiake Bay | Tide-modified Beach | 0-0.5 m** | 0.31 km | Rock shelves, stream, unstable cliffs |
| Winstones Cove | Tide-modified Beach | 0-0.5 m** | 0.1 km | Rock shelves, unstable cliffs |
| Toroa Point | Tide-modified Beach | 0-0.5 m** | 0.06 km | Rock shelves, unstable cliffs |
| Long Bay | Tide-modified Beach | 0-0.5 m | 1.4 km | Streams, unstable cliffs |
| Grannys Bay | Tide-modified Beach | 0-0.5 m** | 0.17 km | Rock shelves, unstable cliffs |

*75$^{th}$ percentile summertime wave height.

**Wave energy is estimated based on the summertime wave energy recorded at nearby beaches with similar exposure.

### 4.3.3 Whangaparaoa beaches

The beaches of the Whangaparaoa are oriented from the southwest through to the northeast, and are largely sheltered from incoming waves by the Whangaparaoa Peninsula and/or Great Barrier Island. Similar to North Shore beaches, Whangaparaoa beaches typically adopt a tide-modified beach state (see Table 4-3), based on the classifications of Wright and Short (1984), and as such their morphology is influenced by both wave and tidal energy (see Figure 4-13 and Figure 4-14). However, there is greater water and sediment movement at some sites due to the influence of river and/or estuarine systems, in particular at Orewa Beach, Waiwera Beach, and Wenderholm Beach.

The beaches are characterised by a sloping beachface, while the morphology of the nearshore zone varies. At high tide, a number of beaches slope steeply into deeper water, while sand bar and channel features may be exposed at low tide. For example, at Orewa Beach and Red Beach, a shore-attached sand bar and ridge and runnel configuration are exposed at low tide. At other sites, such as Okoromai Bay, the beach is fronted by a wide sand flat. The nearshore morphology of all sites can be dynamic and change with wave energy and tidal fluctuation. There is limited subaerial beach at high tide at a number of sites.

Whangaparaoa beaches typically receive fetch-limited, short-period wind waves; the greatest fetch is from the northeast. Despite there being no available measured wave height data, observations recorded by surf lifeguards indicates that wave height is less than 0.5 m on over 90% of patrolled days over summer. However, beaches can receive larger waves during the passage of extra-tropical cyclones. The mean spring tide on Whangaparaoa beaches ranges from a low of 0.3 m to a high of 3.0 m (Land Information New Zealand, 2017a).

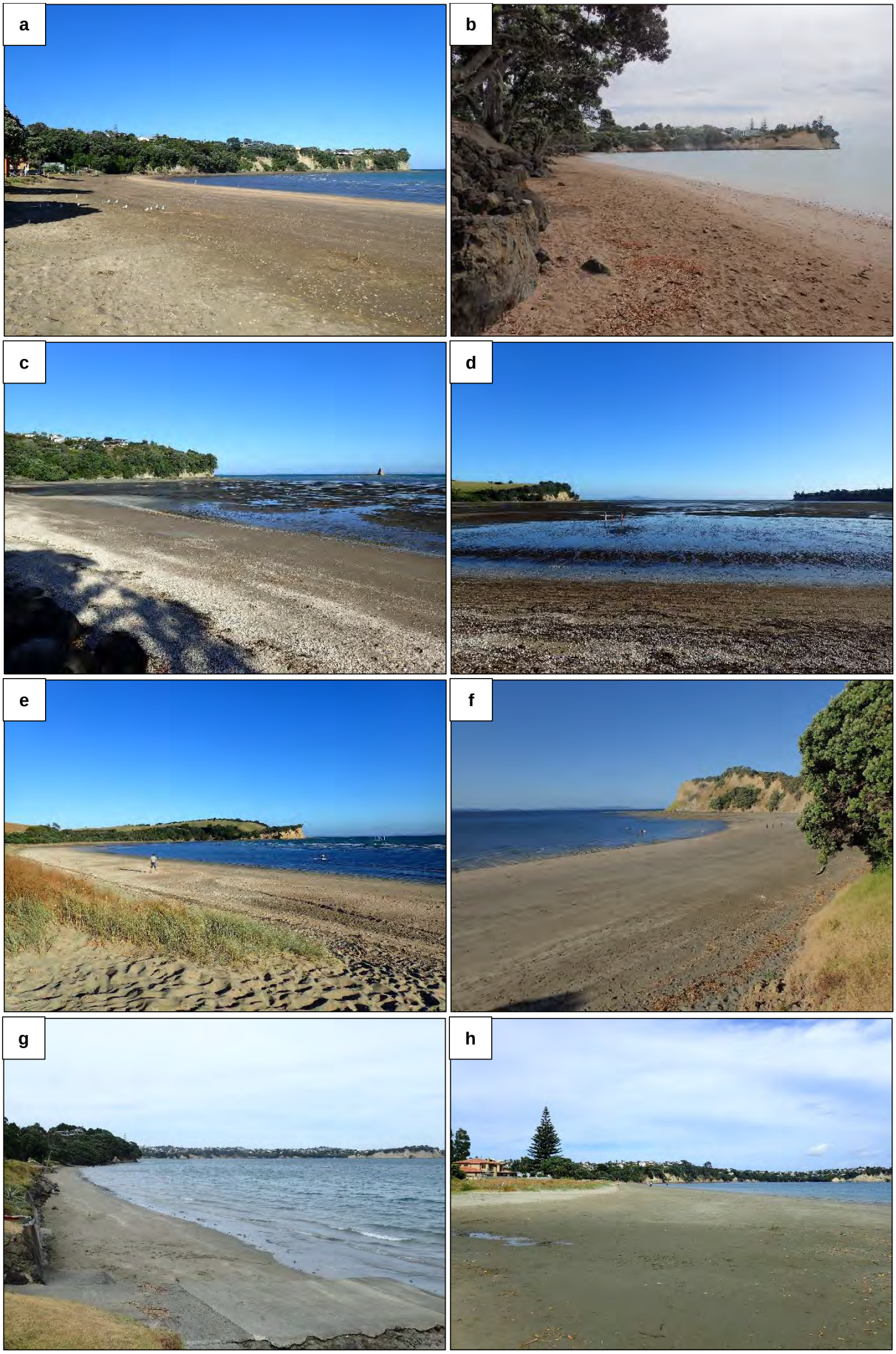



Figure 4-13: (a) Arkles Bay, (b) Little Manly Bay, (c) Matakatia, (d) Okoromai Bay, (e) Te Haruhi Bay, (f) Army Bay, (g) Waiau Bay, and (h) Big Manly Bay.

Figure 4-14: (a) Stanmore Bay, (b) Red Beach, (c) Orewa Beach, (d) Hatfields Beach, (e) Waiwera Beach, and (f) Wenderholm Beach.

Table 4-3: Classification of beaches on the Whangaparaoa.

| Site | Morphology | Wave height* | Length | Geological and geomorphic features |
|---|---|---|---|---|
| Arkles Bay | Tide-modified Beach | 0-0.5 m** | 0.62 km | Headlands, rocky shelves |
| Little Manly Bay | Tide-modified Beach | 0-0.5 m** | 0.31 km | Headlands, rock shelves |
| Matakatia Bay | Tide-modified Beach | 0-0.5 m** | 0.69 km | Headlands, rock shelves, offshore island |
| Okoromai Bay | Tide-modified Beach | 0-0.5 m** | 0.57 km | Headlands, rock shelves, mud flats |
| Te Haruhi Bay | Tide-modified Beach | 0-0.5 m** | 1.15 km | Headlands, rock shelves |
| Army Bay | Tide-modified Beach | 0-0.5 m** | 0.87 km | Rock shelves, unstable cliffs |
| Waiau Bay (Tindalls Beach) | Tide-modified Beach | 0-0.5 m** | 0.72 km | Headland, rock shelves, unstable cliffs |
| Big Manly Bay (Polkinghornes Bay) | Tide-modified Beach | 0-0.5 m** | 1.38 km | Headland, rock shelves, unstable cliffs |
| Stanmore Bay | Tide-modified Beach | 0-0.5 m** | 2.04 km | Headland, rock shelves, stream, unstable cliffs |
| Red Beach | Tide-modified Beach | 0-0.5 m | 0.85 km | Headland, rock shelves, stream, unstable cliffs |
| Orewa Beach | Tide-modified Beach | 0-0.5 m** | 3.20 km | Headland, rock shelves, groyne, river, stream, unstable cliffs |
| Hatfields Beach | Tide-modified Beach | 0-0.5 m** | 1.10 km | Headland, rock shelves, stream, unstable cliffs |
| Waiwera Beach | Tide-modified Beach | 0-0.5 m** | 0.77 km | Headland, rock shelves, river, offshore island, unstable cliffs |
| Wenderholm Beach | Tide-modified Beach | 0-0.5 m | 0.90 km | Headland, rock shelves, river, unstable cliffs |

*75$^{th}$ percentile summertime wave height.

**Wave energy is estimated based on the summertime wave energy recorded at nearby beaches with similar exposure.

### 4.3.4 Northeast coast beaches

The beaches on the northeast coast of the Auckland region are classified as either tide-modified, or wave-dominated intermediate or reflective (see Table 4-4), based on the classifications of Wright and Short (1984). Tide-modified beaches are exposed to low wave energy and are largely situated around Kawau Bay (sheltered by Kawau Island, the Tawharanui Peninsula, and a number of offshore islands; see Figure 4-15 and Figure 4-16). Jones Bay is the only reflective beach in this area; it is also sheltered by the Tawharanui Peninsula but adopts this different morphology due to its coarser sediment.

Beaches on the northern side of the Tawharanui Peninsula and to the north typically adopt moderate to higher energy forms of the intermediate beach states, including longshore bar and trough, rhythmic bar and beach, or transverse bar and rip morphologies (see Figure 4-15 and Figure 4-16). The nearshore zones are characterised by a sand bar running parallel to the shoreline, separated from the beach by a channel or a shore-attached sand bar, with inshore holes and/or channels alongshore.

The intermediate beaches are characterised by a moderate to high wave energy environment. Beaches receive swell from the north, northeast, east, and southeast, though the greatest fetch is from the north to northeast. While no directly measured wave height data is available, observations recorded by surf lifeguards indicates that the wave height is often between 0.5 m and 1.0 m over summer, with wave heights also between 1.0 and 1.5 m, and sometimes over 1.5 m; wave exposure is greatest at Pakiri Beach, Forestry, Te Arai, and Black Swamp. The mean spring tide ranges from a low of 0.4 m to a high of 3.3 m (Land Information New Zealand, 2017a).

Rip currents are prominent in the nearshore zone of intermediate beaches on the northeast coast, particularly around headlands, rocky outcrops or groynes, rivers or streams. Rip currents shift frequently with sediment movement and are stronger during large surf and/or outgoing tides. In addition, waves may break heavily during outgoing tides, as the water depth on the sand bar becomes increasingly shallow. Waves may also break heavily on the shore during high tide at some beaches.

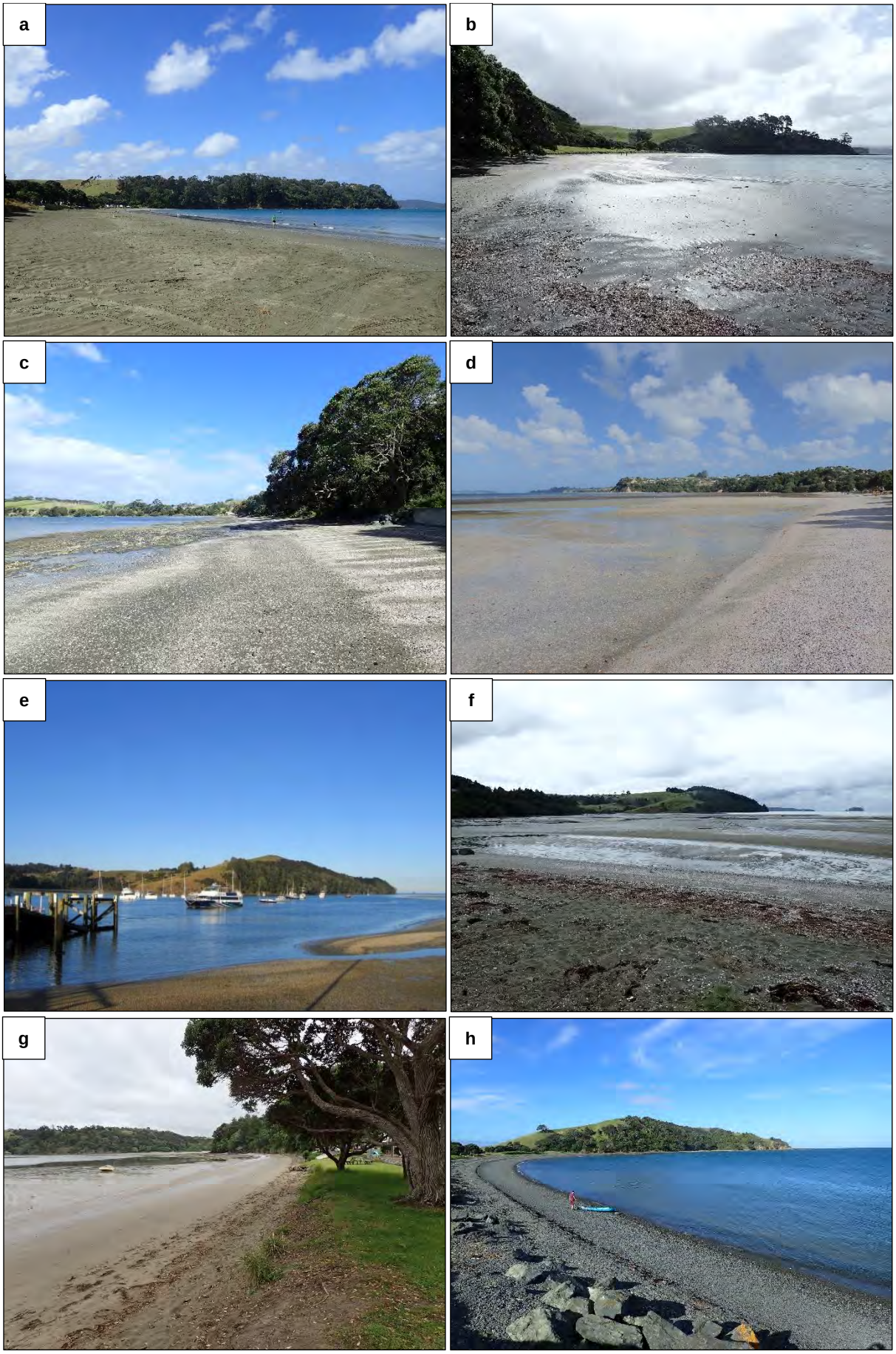



Figure 4-15: (a) Martins Bay, (b) Scandretts Bay, (c) Algies Bay, (d) Snells Beach, (e) Sandspit, (f) Baddeleys Beach (Millon Bay), (g) Campbells Bay (Millon Bay), and (h) Jones Bay.


Figure 4-16: (a) Anchor Bay, (b) Omaha Beach, (c) Matheson Bay, (d) Goat Island, (e) Pakiri Beach, (f) Forestry, (g) Te Arai, and (h) Black Swamp.

Table 4-4: Classification of beaches on the northeast coast.

| Site | Morphology | Wave height* | Length | Geological and geomorphic features |
|---|---|---|---|---|
| Martins Bay | Tide-modified Beach | 0-0.5 m** | 0.91 km | Headland, stream |
| Scandretts Bay | Tide-modified Beach | 0-0.5 m** | 0.45 km | Headlands, rock shelves, streams |
| Algies Bay | Tide-modified Beach | 0-0.5 m** | 0.92 km | Headlands |
| Snells Beach | Tide-modified Beach | 0-0.5 m** | 2.08 km | Headlands, streams |
| Sandspit | Tide-modified Beach | 0-0.5 m** | - | Inlet mouth, groynes |
| Baddeleys Beach (Millon Bay) | Tide-modified Beach | 0-0.5 m** | 0.22 km | Stream |
| Campbells Bay (Millon Bay) | Tide-modified Beach | 0-0.5 m** | 0.31 km | Stream |
| Jones Bay | Reflective Beach | 0-0.5 m** | 0.55 km | Headland, shore platform |
| Anchor Bay | Intermediate Beach | 0.5-1.0 m** | 2.77 km | Headland, shore platforms, rocky outcrops, stream |
| Omaha Beach | Intermediate Beach | 0.5-1.0 m | 4.10 km | Headland, shore platform, groyne, river |
| Matheson Bay | Tide-modified Beach | 0-0.5 m** | 0.16 km | Headland, rocky outcrop, offshore island, stream |
| Goat Island | Intermediate Beach | 0-0.5 m** | 0.35 km | Shore platform, rocky outcrops, offshore island |
| Pakiri Beach | Intermediate Beach | 1.0-1.5 m | 3.40 km | Headland, shore platform, river, streams |
| Forestry | Intermediate Beach | 1.0-1.5 m** | 0.55 km | Headland, shore platform, stream |
| Te Arai | Intermediate Beach | 1.0-1.5 m** | 0.55 km | Headland, shore platform, stream |
| Black Swamp | Intermediate Beach | 1.0-1.5 m** | 0.40 km | Stream |

*75$^{th}$ percentile summertime wave height.

**Wave energy is estimated based on the summertime wave energy recorded at nearby beaches with similar exposure.

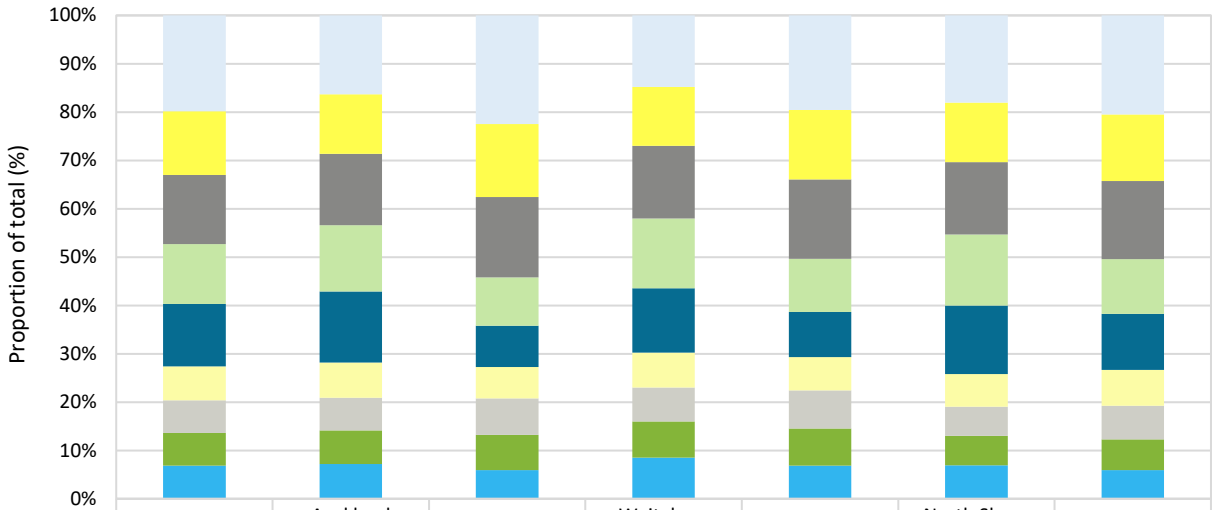
## 4.4 Population demographics

The Auckland region is home to a third of New Zealand's population, with 1,415,550 permanent residents (Statistics New Zealand, 2013); the region is also undergoing considerable population growth. However, population distribution and demographics differ throughout the Auckland region, and within the four coastal areas investigated as part of this supervision and surveillance assessment.

West coast beaches, lakes, and waterfalls between O'Neill Bay and the mouth of the Manukau Harbour are located in the Waitakere Ward (156,081 permanent residents), while beaches south of the harbour are in the Franklin Ward (65,332 permanent residents). On the east coast, beaches and lakes from Torpedo Bay to Kennedy Park are in the North Shore Ward (137,964 permanent residents), while beaches from Campbells Bay to Waiwera Beach are in the Albany Ward (143,502 permanent residents). Wenderholm Beach, beaches on the northeast coast, and beaches north of Maukatia (Maori Bay) on the west coast are in the Rodney Ward (54,879 permanent residents).

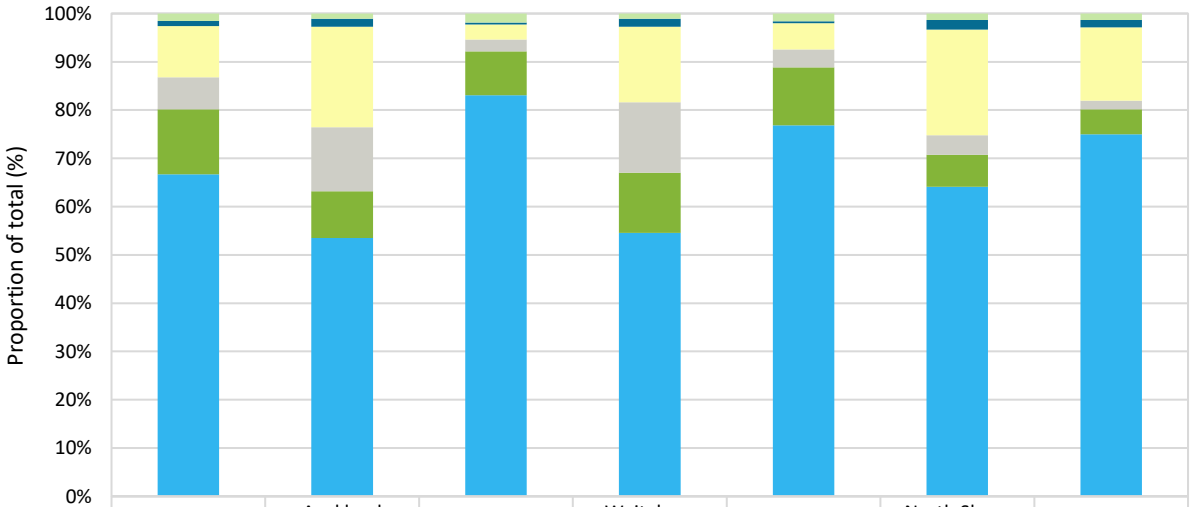
The age distribution of the Auckland region is broadly similar to the national trend, but some differences between the wards are observed (Figure 4-17). The Waitakere Ward and North Shore Ward follows a similar trend, with a slightly larger proportion of young children and fewer elderly people. In contrast, the Franklin, Albany, and Rodney Wards have fewer young to middle-aged adults, and an aging population sees a great proportion of residents aged 60 years or older.

Considerably greater ethnic diversity is present in the Auckland region when compared to national statistics. In particular, there are greater proportions of people identifying as Asian (20.8%) or Pacific Island (13.2%) ethnic origins (see Figure 4-18), but fewer of New Zealand European (53.5%) or Maori (9.7%) ethnic origins. However, considerable variation exists across the region. The Waitakere Ward is similar to the Auckland region, but with a higher proportion of Maori and fewer of Asian ethnic origins. The Franklin and Rodney Wards contain higher proportions identifying as New Zealand European (≥76.9%), with fewer identifying as Asian or Pacific Island. The North Shore and Albany Wards are characterised by moderate to high proportions of New Zealand Europeans, with notable proportions of people of Asian ethnic origins (≥15.2%).




| | New Zealand | Auckland region | Rodney Ward | Waitakere Ward | Franklin Ward | North Shore Ward | Albany Ward |
|---|---|---|---|---|---|---|---|
| ≥ 60 years | 19.8% | 16.3% | 22.5% | 14.8% | 19.6% | 18.0% | 20.5% |
| 50-59 years | 13.2% | 12.3% | 15.1% | 12.2% | 14.4% | 12.4% | 13.7% |
| 40-49 years | 14.3% | 14.7% | 16.6% | 15.0% | 16.4% | 15.0% | 16.2% |
| 30-39 years | 12.4% | 13.7% | 10.0% | 14.5% | 11.0% | 14.7% | 11.4% |
| 20-29 years | 12.9% | 14.7% | 8.5% | 13.3% | 9.3% | 14.2% | 11.6% |
| 15-19 years | 7.0% | 7.3% | 6.5% | 7.2% | 6.9% | 6.7% | 7.4% |
| 10-14 years | 6.8% | 6.8% | 7.6% | 7.0% | 7.9% | 6.0% | 6.9% |
| 5-9 years | 6.8% | 6.9% | 7.3% | 7.5% | 7.7% | 6.1% | 6.4% |
| 0-4 years | 6.9% | 7.2% | 5.9% | 8.5% | 6.9% | 6.9% | 5.9% |

Figure 4-17: Resident population by age: New Zealand, Auckland region, Rodney Ward, Waitakere Ward, Franklin Ward, North Shore Ward, and Albany Ward (Statistics New Zealand, 2013).




| | New Zealand | Auckland region | Rodney Ward | Waitakere Ward | Franklin Ward | North Shore Ward | Albany Ward |
|---|---|---|---|---|---|---|---|
| Other | 1.5% | 1.1% | 1.9% | 1.1% | 1.6% | 1.3% | 1.3% |
| MELAA* | 1.1% | 1.7% | 0.4% | 1.7% | 0.4% | 2.0% | 1.5% |
| Asian | 10.6% | 20.8% | 3.1% | 15.6% | 5.5% | 21.9% | 15.2% |
| Pacific Peoples | 6.6% | 13.2% | 2.5% | 14.6% | 3.7% | 4.1% | 1.8% |
| Māori | 13.5% | 9.7% | 9.1% | 12.5% | 12.0% | 6.6% | 5.2% |
| European | 66.7% | 53.5% | 83.1% | 54.6% | 76.9% | 64.1% | 75.0% |

Figure 4-18: Resident population by ethnicity: New Zealand, Auckland region, Rodney Ward, Waitakere Ward, Franklin Ward, North Shore Ward, and Albany Ward (Statistics New Zealand, 2013).

## 4.5 Site use and recreation

The beaches, lakes, and waterfalls on the west coast, Whangaparaoa, North Shore, and northeast coast are used by a considerable number of Auckland residents, as well as domestic and international tourists. The sites are used for a range of different recreational activities by people of a wide range of socio-demographic backgrounds; this is influenced by the varied physical environments (beach morphologies and hydrodynamic regimes) and composition of the surrounding and visiting populations. Furthermore, the typical hazard awareness and competence of the water users varies across these socio-demographic and activity user groups; as such, the risk of drowning and injury varies throughout the season and across the hours of the day with changes in the water user profiles. The activity and water user profiles also influence the type and level of supervision or surveillance that may be suitable for a site.

This section first presents a risk matrix for evaluating the risk associated with different recreational activities. The activity and water user profiles for each of the four coastal areas are then described, with tables displaying the calculated risk for each relevant activity.

### 4.5.1 Risk analysis of recreational activities

The recreational activities that are popular at each beach, lake, and waterfall on the west coast, North Shore, Whangaparaoa, and northeast coast have been identified and are shown with accompanying risk values in Table 4-8, Table 4-9, Table 4-10, and Table 4-11. The risk associated with each activity has been calculated based on the estimated severity of impact (I) and probability (P) of occurrence within a three year period; a value between 1 and 5 was assigned for each (Table 4-5 and Table 4-6). The risk value is a multiplication of I x P, and indicates the severity of the risk as outlined in the risk assessment matrix below (Table 4-7).

Of note, the risk assessment considers the socio-demographic background of those engaged in the recreational activities, as well as the hazard awareness and competence of the typical users; these have also been informed by a review of the fatal and non-fatal incident statistics (see Section 5).

Table 4-5: Impact (I) description for the risk assessment.

| Score | Classification | Description |
|---|---|---|
| 1 | Insignificant | No injury |
| 2 | Minor | Minor injury such as first aid |
| 3 | Moderate | Medical treatment or time off work |
| 4 | Serious | Serious injury, such as permanent disability |
| 5 | Fatal | Fatality |

Table 4-6: Probability (P) of occurrence description for the risk assessment.

| Score | Probability of occurrence | Classification | Description |
|---|---|---|---|
| 1 | 1-10% | Highly unlikely | May occur only in exceptional circumstances |
| 2 | 11-40% | Unlikely | Could occur at some time |
| 3 | 41-60% | May or may not occur | Might occur some time |
| 4 | 61-90% | Likely | Probably occur in most circumstances |
| 5 | 91-99% | Highly likely | Expected to occur in most circumstances |

Table 4-7: Risk assessment matrix.

Impact

| Probability of occurrence | Insignificant | Minor | Moderate | Serious | Fatal |
|---|---|---|---|---|---|
| Highly unlikely | 1 | 2 | 3 | 4 | 5 |
| Unlikely | 2 | 4 | 6 | 8 | 10 |
| May or may not occur | 3 | 6 | 9 | 12 | 15 |
| Likely | 4 | 8 | 12 | 16 | 20 |
| Highly likely | 5 | 10 | 15 | 20 | 25 |

| | |
|---|---|
| 1 - 2 | Very low |
| 3 - 4 | Low |
| 5 - 9 | Medium |
| 10 - 19 | High |
| 20 - 25 | Very high |

### 4.5.2 Structure of the recreational activities and interaction of activities tables

The site is specified in the first column of Table 4-8, Table 4-9, Table 4-10, and Table 4-11. The risk associated with each activity has been calculated for off-peak (columns 2-9) and peak (columns 10-17) scenarios for each site. Descriptions of any water-based interactions are provided in column 18, followed by the calculated risk associated with these interactions at off-peak and peak times (columns 19-20). Details of land-based interactions follow in columns 21-23.

### 4.5.3 West coast beaches, lakes, and waterfalls

Beaches, lakes, and waterfalls on the west coast are used by a considerable number of people from varied socio-demographic backgrounds who engage in a range of recreational activities. The varying activity and water user profiles for both the peak and off-peak periods are described below, followed by a discussion of the interaction between different recreational activities. The calculated risk associated with the different recreational activities for the peak and off-peak periods are displayed in Table 4-8.

#### 4.5.3.1 Peak water use

Over the peak period, from mid-December to the end of February, beaches, lakes, and waterfalls on the west coast are used by residents from throughout the Auckland region, as well as domestic and international tourists. Water user groups include families with children, groups of young adults, individuals, and couples. The water users are of a range of ethnic origins, though in recent years there has been a notable increase in the number of water users of Indian ethnic origins. These water users most commonly engage in wading, swimming, bodysurfing, and bodyboarding, and in many cases have little awareness of hazards and limited competence in the surf.

Families with young children typically visit beaches patrolled by surf lifeguards and swim and bodyboard between the red and yellow flags. Children may get into difficulty if they are overcome by a large wave and/or swept out of their depth. Families with teenage children also often swim at patrolled beaches, but the teenagers may overestimate their ability relative to the surf conditions, or go beyond their abilities while learning to surf. Parents, or those of middle age, may also get into difficulty after being overcome by waves; some may overestimate their existing level of fitness and competence (which may have previously been greater). All these user groups are considered to be at risk of drowning and injury, but the risk can usually be managed as they typically swim at patrolled beaches (Figure 4-19a).

However, some of these groups may be at greater risk, particularly those who enter the water in clothing as this further limits their competence; these water users are often of Maori, Pacific Island, and Indian ethnic origins. Furthermore, many of those who are less resilient reside outside of the Waitakere Ward, and typically arrive at the sites after 1:00 pm; these users often stay later into the evening, well beyond the conclusion of existing patrols at 5:00 pm.

Furthermore, many teenagers and young adults (particularly males) go beyond their abilities and competence in the water, and tend to misjudge the level of risk and potential consequences. They may swim outside the red and yellow flags at patrolled beaches (i.e. Waitakere Bay at Te Henga), or seek out secluded locations such as Lake Wainamu, Anawhata Beach, and Mercer Bay (see Figure 4-19b, c, d). These groups are also more likely to consume alcohol; some of these behaviours may be influenced by peer pressure and social media (Mulcahy and Lowe, 2016). These groups are highly represented in the fatal and non-fatal incident statistics.


Figure 4-19: (a) Water users of a range of ages, ethnicities, and residence, swimming between the red and yellow flags at Piha Beach, (b) a group of young adults swimming in clothing, outside of the red and yellow flags at Piha Beach, (c) a group of young males and females swimming in large surf in Waitakere Bay outside of surf lifeguarding service hours, and (d) a number of young adults sunbathing, drinking alcohol, listening to music, and swimming at Lake Wainamu.

A number of people also fish in the swash zone where they are exposed to an unpredictable environment with high wave energy (see Figure 4-20a, b, c); as such, they are considered to be at very high risk of drowning. These users include rock fishers on shore platforms, and surf casters and drag netters in the swash zone. Those fishing off shore platforms are often males of Pacific Island, Maori, and Asian ethnic origins aged from their mid to late twenties through to middle age and older. Those drag netting are typically of Pacific Island ethnic origins, and this activity is often undertaken by a number of family members working together. Fishers often wear heavy clothing, in particular high visibility waterproof pants and jackets, and gumboots. Few fishers were observed wearing lifejackets along the west coast during multiple recent visits (less than 10% reportedly wear lifejackets in some locations; Mulcahy and Lowe, 2017b). These users also may fish in secluded locations, far from water-based support, i.e. Whatipu Beach. However, Auckland Council has installed water safety signage and public rescue equipment at a number of fishing spots (Figure 4-20d).


Figure 4-20: (a) Otakamiro Point (Flat Rock), Muriwai Beach, (b) Ninepin Rock, Whatipu Beach, and (c) Whatipu Beach, showing fishers dressed in heavy clothing fishing from rocks or within the surf zone without wearing lifejackets, and (d) identified hazard signage as well as a lifebuoy and throw rope on the seaward cliff at Otakamiro Point.

Many people surf or use other water craft during the peak period on west coast beaches; however, during this period an increased proportion of surfers and craft users are learners, and as such many have less awareness and competence in the surf. This is evident in the non-fatal statistics, with a number of these users rescued by surf lifeguards. Many of those learning are teenagers and young adults through to middle-aged males. However, although a number of these users are rescued, they are less likely to drown as they have a form of flotation; other competent surfers and/or surf lifeguards often assist.

Finally, some people also launch and operate recreational boats off west coast beaches and are exposed to considerable risk. The operators are typically male and some only operate their boat infrequently. Some may also have come close to getting into difficulty a number of times and/or become complacent about the risk. Furthermore, some do not wear appropriate personal protective equipment, i.e. lifejackets.

#### 4.5.3.2 Off-peak water use

Those using beaches, lakes, and waterfalls on the west coast outside of the times of highest use are typically more aware of the hazards and more competent; furthermore, a larger proportion of the users are regular users. Water users may also be less spread out along the beach due to a lower volume of water users.

In addition, a larger proportion of the water users are competent surfers and craft users who surf regularly and reside in the Auckland region; many of these users are young to middle-

aged males. However, some of these users may still underestimate the size of the surf, or the conditions may change. If they get into difficulty, assistance may be further away. Furthermore, a considerable number of people continue to fish outside of the peak period and are still at considerable risk; these user demographics also see little change throughout the year. A considerable number of fatal drowning incidents involving rock fishers have occurred over autumn, winter, and spring on west coast beaches (see Section 5).

Finally, those walking around and exploring the beaches, lakes, and waterfalls on the west coast outside the peak period may be exposed to risk, particularly if they are unable to appropriately identify hazards, i.e. waves overtopping shore platforms at Muriwai Beach, or if they access hazardous areas despite barriers and warning signs (Figure 4-21a, b). There are numerous walking tracks along the west coast, including the Hillary Trail; many of them are relatively isolated, with limited to no cell phone coverage.

The use of vehicles by inexperienced drivers on Muriwai Beach and Karioitahi Beach, and/or excessive speed, has also resulted in a number of deaths. A number of paragliders have also crashed and died at Maukatia (Maori Bay) and Karioitahi Beach. These incidents can occur at any time of the year.

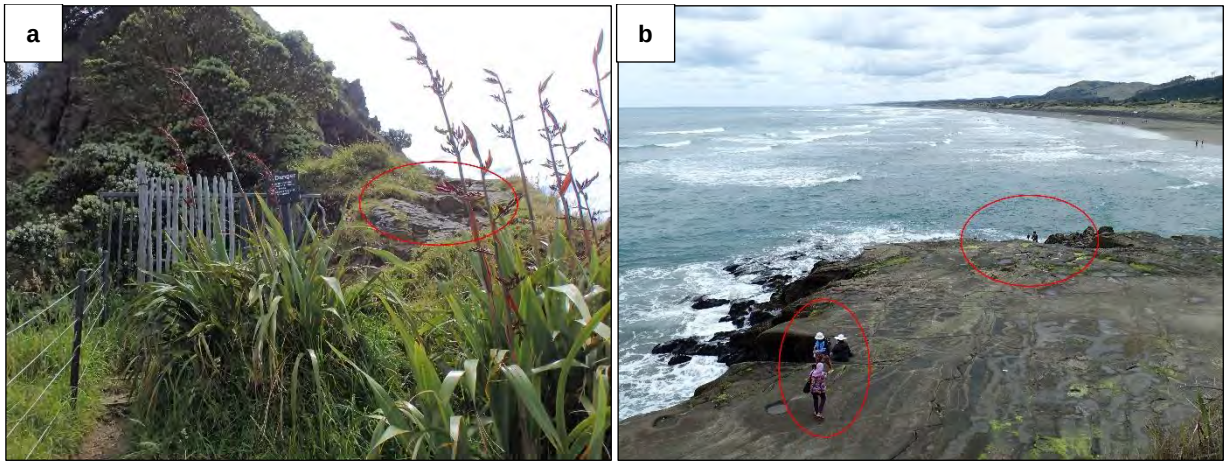



Figure 4-21: Informal access (red circle), around a barrier to the top of Lion Rock (Piha Beach), and (b) a number of international tourists sitting and/or taking photos with their backs to the incoming waves (red circles) on Otakamiro Point (Muriwai Beach), seemingly unaware of the hazards.

#### 4.5.3.3 Interaction of recreational activities

The interaction between recreational activities also poses risk to water users, particularly in the case of a collision (see Table 4-8). The activities posing the greatest risk of collision at beaches on the west coast include the launching and landing of recreational boats near swimmers and surfers in the surf zone, as well as the use of fishing contiki, which can be swept alongshore towards other water users. On the beach, the highest risk of collision is posed by vehicles at Muriwai Beach and Karioitahi Beach; they may collide with other vehicles or other beach users.

In addition, there is considerable risk of collisions between those using surf craft over the peak summer period, particularly at Muriwai Beach, Maori Bay, and Piha Beach. Surf craft users also pose some risk to those swimming outside of the red and yellow flags, but their presence can also be beneficial, as they can provide assistance should other water users get into difficulty, i.e. be swept out by a rip current.

Table 4-8: Recreational activities and the interaction of activities at beaches, lakes, and waterfalls on the west coast. The risk of various groups has been calculated following semi-quantitative risk assessment; this is based on the typical socio-demographics, residence, level of hazard awareness, and water competence under off-peak and peak water use scenarios; the subsequent values have been coloured according to the calculated risk.

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Rimmer Road | 5 | 5 | 6 | - | - | - | - | 15 | 10 | 10 | 12 | - | - | - | - | 15 | Swimmers, fishing contiki, surfers | 6 | 6 | Walkers, horses, dirt bikes, four-wheel drive vehicles | 7.5 | 12.5 |
| Muriwai Beach | 20 | 25 | 9 | 12 | 8 | 12 | - | 20 | 25 | 25 | 16 | 15 | 10 | 20 | - | 20 | Swimmers, surf craft, kite surfers, recreational boats | 5 | 10 | Beach users, horses, and four-wheel drive vehicles | 7.5 | 12.5 |
| Maukatia (Maori Bay) | 15 | - | 9 | - | - | - | - | 12 | 20 | - | 16 | - | - | - | - | 12 | Swimmers and surfers | 6 | 6 | Paragliders, paraponters, hang gliders | 6 | 9 |
| O'Neill Bay | 10 | 15 | 9 | - | - | - | - | 8 | 15 | 15 | 16 | - | - | - | - | 6 | Swimmers and surfers | 6 | 6 | | 2 | 3 |
| Te Henga (Bethells Beach) | 15 | 20 | 9 | - | 8 | 12 | - | 9 | 20 | 25 | 16 | - | 10 | 20 | - | 12 | Swimmers, fishing contiki, surfers, recreational boats | 5 | 10 | Beach users, horses, four-wheel drive vehicles | 5 | 10 |
| Lake Wainamu | 7.5 | - | - | 6 | - | - | - | 8 | 10 | - | - | 8 | - | - | - | 8 | Swimmers | 4 | 4 | | 2 | 4 |
| Anawhata Beach | 7.5 | 7.5 | - | - | - | - | - | 9 | 10 | 12.5 | - | - | - | - | - | 12 | | 2 | 2 | | 1 | 2 |
| Whites Beach | 7.5 | 7.5 | - | - | - | - | - | 9 | 10 | 12.5 | - | - | - | - | - | 12 | | 2 | 2 | | 1 | 2 |
| North Piha Beach | 20 | 25 | 9 | - | 8 | - | - | 16 | 25 | 25 | 16 | - | 10 | - | - | 20 | Swimmers, surf craft, kite surfers | 6 | 6 | Beach users, dogs | 4 | 6 |
| Piha Beach | 20 | 25 | 9 | - | - | 12 | - | 16 | 25 | 25 | 16 | - | - | 20 | - | 20 | Swimmers, surf craft, recreational boats | 5 | 10 | Beach users, dogs | 4 | 6 |
| Kitekite Falls | 5 | - | - | - | - | - | - | 16 | 10 | - | - | - | - | - | - | 20 | | 2 | 2 | | 1 | 2 |
| Mercer Bay | 5 | 10 | - | - | - | - | - | 12 | 10 | 15 | - | - | - | - | - | 15 | | 2 | 2 | | 1 | 2 |
| Karekare Beach | 15 | 20 | 6 | - | - | - | - | 12 | 20 | 20 | 12 | - | - | - | - | 16 | Swimmers, surf craft | 4 | 6 | | 2 | 4 |

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Karekare Falls | 5 | - | - | - | - | - | - | 8 | 5 | - | - | - | - | - | - | 8 | | 2 | 3 | | 1 | 2 |
| Whatipu Beach | 10 | 25 | 9 | - | - | 12 | - | 12 | 15 | 25 | 16 | - | - | 20 | - | 16 | | 2 | 4 | | 1 | 2 |
| Hamiltons Gap | 7.5 | 7.5 | 6 | - | - | - | - | 20 | 10 | 10 | 12 | - | - | - | - | 20 | | 2 | 4 | Beach users, dirt bikes, four-wheel drive vehicles | 7.5 | 12.5 |
| Karioitahi Beach | 15 | 20 | 9 | - | 8 | 12 | - | 20 | 20 | 20 | 16 | - | 10 | 20 | - | 20 | Swimmers, fishing contiki, surf craft, recreational boats | 5 | 10 | Beach users, dogs, land yachts, vehicles, paragliders | 12.5 | 17.5 |

### 4.5.4 North Shore beaches and lakes

Beaches and lakes on the North Shore are used by a considerable number of people from different socio-demographic backgrounds who engage in a wide range of recreational activities. The varying activity and water user profiles for both the peak and off-peak periods are described below, followed by a discussion of the interaction between different recreational activities. The calculated risk associated with the different recreational activities for the peak and off-peak periods are displayed in Table 4-9.

#### 4.5.4.1 Peak water use

Over the peak period, from mid-December to the end of February, beaches and lakes on the North Shore are largely used by residents of the North Shore and Albany Wards, as well as other nearby wards.

Firstly, beaches on the North Shore are popular among families of New Zealand European and Asian ethnic origins. These users often wade, swim, and bodyboard at the beach closest to where they reside. These water users typically stay close to shore, but many may be unaware of water depth changes, currents, or the risk posed by offshore winds; subsequently, parents may also provide insufficient supervision of children. One such incident highlighting this underestimation of risk and lack of supervision resulted in the fatal drowning of siblings and an attempted rescuer at Browns Bay (see Mulcahy and Lowe, 2018a). Those with teenage children may also use paddle craft, such as kayaks and stand up paddleboards; these users are prone to being blown offshore.

Some beaches on the North Shore have a more diverse socio-demographic profile, in particular, Long Bay, which has extensive facilities as a regional park, and Murrays Bay, which has a wharf for jumping off and is within close proximity of public transport routes. A number of large groups of families and friends of Maori, Pacific Island, and Indian ethnic origins also use Long Bay. Groups of children, teenagers, and young adults jump off the wharf at Murrays Bay (Figure 4-22a). Many of these users have limited competence in the water, and often swim in clothing (Figure 4-22b); these groups are considered to be high risk.

Those using paddle craft at North Shore beaches over the peak summer period are often inexperienced male teenagers and young adults of New Zealand European ethnic origins (see Figure 4-22c). These users often underestimate the wind strength and have insufficient skills and ability to manage their safety. However, due to these users having a form of flotation, surf lifeguards or other water users are often able to assist prior to them getting into a life-threatening situation.

Yachting is also popular off North Shore beaches, with many children, teenagers, and adults of New Zealand European ethnic origins doing so as part of yachting clubs. Yachting clubs typically have safety practices in place, such as the use of personal protective equipment and supporting safety vessels. Those not affiliated with a club may be more prone to underestimating the environmental conditions or suffering equipment failure. Similarly, windsurfing and kitesurfing are popular, and these users can be prone to equipment failure, the loss of equipment, or being unable to return to shore.

Finally, those operating recreational boats off North Shore beaches are often males in their thirties to middle age and older; many head offshore to fish in the Hauraki Gulf. A number of vessel operators have considerable experience, but others only operate their vessels over the peak summer period; these users are often less aware of hazardous environmental conditions

and safety precautions, and may not have undertaken thorough checks of their vessels prior to heading out.


Figure 4-22: (a) Water users of diverse socio-demographic backgrounds jumping off the wharf at Murrays Bay, (b) a group of young adults of Indian ethnic origins swimming in clothing at Long Bay, (c) paddle craft users off Takapuna Beach, and (d) members of the public walking along the concrete-encased sewer pipeline between Campbells Bay and Mairangi Bay, which has been overtopped by water at high tide.

#### 4.5.4.2 Off-peak water use

Outside of summer, water users are typically more aware of hazards and competent in the water (see Table 4-9). A larger proportion of those swimming at these times are regular users; however, a number of these regular users are of older age and are prone to health-related issues, i.e. cardiac arrest.

In addition, those using paddle craft and sail craft outside of the peak summer period are often more competent and/or do so with others or as part of a club. Recreational vessels also continue to head offshore, and can still be prone to equipment failure and changes in the conditions.

Finally, those walking around sections of the North Shore coastline at any time of year are exposed to hazards. Those walking below cliffs are exposed to rock fall, those walking along the basalt lava flows of Takapuna Reef are exposed to falls from height, while those walking atop the sewer pipeline between Campbells Bay and Murrays Bay are exposed to accidental immersion (see Figure 4-22). Accidental immersion is of particular risk to young children, as evidenced by the recent drowning of a child after reportedly falling off Torpedo Bay Wharf.

#### 4.5.4.3 Interaction of recreational activities

A number of recreational activities on North Shore beaches may interact and pose a risk of collision (see Table 4-9). Of particular note, the use of recreational boats poses some risk to other water users, but this is typically well managed through the use of vessel access lanes. However, greater risk of collision is posed to ocean swimmers; a recent death occurred after a swimmer was struck by a vessel (New Zealand Herald, 2017; Mulcahy and Lowe, 2018e).

In addition, the interaction of paddle craft, sail craft, and recreational boats while heading alongshore and/or offshore poses some risk to all users.

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Table 4-9: Recreational activities and the interaction of activities at beaches and lakes on the North Shore. The risk of various groups has been calculated following semi-quantitative risk assessment; this is based on the typical socio-demographics, residence, level of hazard awareness, and water competence under off-peak and peak water use scenarios; the subsequent values have been coloured according to the calculated risk.

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Torpedo Bay | 5 | 5 | - | 9 | 9 | 4 | - | 5 | 7.5 | 10 | - | 12 | 12 | 6 | - | 10 | Swimmers, fishers, recreational boats | 12.5 | 17.5 | Beach users, dogs, wharf users (fishers) | 2 | 4 |
| Cheltenham Beach | 5 | - | - | 6 | 6 | 4 | - | 4 | 7.5 | - | - | 8 | 8 | 6 | - | 6 | Swimmers, paddle craft, kite surfers, recreational boats | 7.5 | 12.5 | Beach users, dogs | 3 | 5 |
| Narrowneck Beach | 5 | - | - | 6 | 9 | 4 | - | 6 | 10 | - | - | 8 | 12 | 6 | - | 9 | Swimmers, paddle craft, yachts, recreational boats | 7.5 | 12.5 | Beach users, dogs, four-wheel drive vehicles | 3 | 5 |
| St Leonards Beach | 5 | - | - | - | - | - | - | 6 | 7.5 | - | - | - | - | - | - | 9 | | 2 | 2 | | 2 | 4 |
| Takapuna Beach | 10 | 6 | 4.5 | 9 | 9 | 6 | 6 | 6 | 15 | 9 | 6 | 12 | 12 | 9 | 8 | 9 | Swimmers, paddle craft, sail craft, recreational boats | 12.5 | 17.5 | Beach users, dogs, four-wheel drive vehicles | 6 | 9 |
| Lake Pupuke | 10 | - | - | 9 | 6 | - | 8 | 5 | 15 | - | - | 12 | 8 | - | 10 | 10 | Paddle craft, yachts | 4 | 4 | | 2 | 4 |
| Thorne Bay | 5 | - | - | - | - | - | 6 | 6 | 7.5 | - | - | - | - | - | 8 | 10 | | 2 | 2 | | 2 | 4 |
| Milford Beach | 5 | 6 | 4.5 | 6 | 9 | 4 | 6 | 6 | 10 | 9 | 6 | 8 | 12 | 6 | 8 | 9 | Swimmers, paddle craft, sail craft, recreational boats | 7.5 | 12.5 | Beach users, dogs, four-wheel drive vehicles | 3 | 5 |
| Castor Bay | 5 | - | - | 6 | 6 | 4 | - | 6 | 10 | - | - | 8 | 8 | 6 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 7.5 | 12.5 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Kennedy Park | 5 | - | - | - | - | - | - | 6 | 7.5 | - | - | - | - | - | - | 10 | | 1 | 1 | | 1 | 4 |
| Campbells Bay | 5 | 8 | - | 6 | 6 | - | - | 6 | 10 | 8 | - | 8 | 8 | - | - | 10 | Swimmers, paddle craft, sail craft | 3 | 5 | Beach users, dogs | 3 | 5 |
| Mairangi Bay | 5 | 8 | - | 9 | 6 | 4 | - | 6 | 10 | 8 | - | 12 | 8 | 6 | - | 10 | Swimmers, paddle craft, sail craft, recreational boats | 7.5 | 12.5 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Murrays Bay | 5 | 5 | - | 6 | 9 | 4 | - | 5 | 10 | 10 | - | 8 | 12 | 6 | - | 10 | Swimmers, paddle craft, yachts, recreational boats | 7.5 | 12.5 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Rothesay Bay | 5 | - | - | 6 | 6 | 4 | - | 6 | 7.5 | - | - | 8 | 8 | 6 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 7.5 | 12.5 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Browns Bay | 5 | - | - | 9 | 9 | 6 | - | 6 | 15 | - | - | 12 | 12 | 9 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 12.5 | 17.5 | Beach users, dogs, four-wheel drive vehicles | 6 | 9 |
| Waiake Bay | 5 | 6 | - | 6 | 9 | 4 | 6 | 6 | 10 | 9 | - | 8 | 12 | 6 | 8 | 9 | Swimmers, paddle craft, sail craft, recreational boats | 7.5 | 12.5 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Winstones Cove | 5 | - | - | - | - | - | 6 | 6 | 7.5 | - | - | - | - | - | 8 | 10 | | 2 | 2 | | 1 | 4 |
| Toroa Point | 5 | - | - | - | - | - | 6 | 6 | 7.5 | - | - | - | - | - | 8 | 10 | | 2 | 2 | | 1 | 4 |
| Long Bay | 10 | - | 4.5 | 9 | 6 | 4 | 8 | 6 | 15 | - | 6 | 12 | 8 | 6 | 10 | 9 | Swimmers, paddle craft, sail craft | 6 | 9 | | 3 | 5 |
| Grannys Bay | 5 | - | - | - | - | - | 8 | 6 | 7.5 | - | - | - | - | - | 10 | 9 | | 2 | 2 | | 1 | 4 |

### 4.5.5 Whangaparaoa beaches

Beaches on the Whangaparaoa are used by a considerable number of people from different socio-demographic backgrounds who engage in a wide range of recreational activities. The varying activity and water user profiles for both the peak and off-peak periods are described below, followed by a discussion of the interaction between different recreational activities. The calculated risk associated with the different recreational activities for the peak and off-peak periods are displayed in Table 4-10.

#### 4.5.5.1 Peak water use

Over the peak period, from mid-December to the end of February, a considerable proportion of the users of many Whangaparaoa beaches are residents of the Albany Ward, while some reside in other nearby wards.

Beaches on the Whangaparaoa are popular among families of New Zealand European and Asian ethnic origins. These users often wade, swim, and bodyboard at the beach closest to where they reside. These water users typically stay close to shore, but some may be unaware of water depth changes, currents, or the risk posed by offshore winds. Some parents may also provide insufficient supervision of children. Teenagers also swim out to the floating pontoons, which are provided off some beaches, i.e. Stanmore Bay (see Figure 4-22a), but some may underestimate the distance or overestimate their competence in the water.

Some beaches on the Whangaparaoa have a more diverse socio-demographic profile. Firstly, Orewa Beach attracts a wider range of users due to its close proximity to public transport routes and extensive accommodation. As such, the site is used by a number of people residing further from the site, as well as domestic and international tourists. Those entering the water near Orewa Beach Holiday Park, the largest accommodation provider, are exposed to strong currents due to the proximity of the Orewa River. Furthermore, teenagers and young adults also jump off the jetty in Orewa Estuary (Figure 4-22c), and some float or are swept towards the river mouth; these users are at risk of impact injuries and drowning.

In addition, Okoromai Bay, Te Haruhi Bay, and Wenderholm Beach have extensive facilities as regional parks. A number of groups of families and friends of Maori and Pacific Island ethnic origins use these sites, as well as Army Bay and Hatfields Beach, for swimming, shellfish gathering, and drag netting. A number of these users travel from south Auckland, and some use the site at night or early in the morning for drag netting (Figure 4-22b). Many of the user groups of the regional parks are less familiar with the sites and are likely less aware of the hazards. These users may also lack competence in the water, swim in clothing, and are considered to be at high risk.


Figure 4-23: (a) Floating pontoon off Stanmore Bay, (b) members of a family from south Auckland drag netting and collecting shellfish at Wenderholm Beach, (c) children and teenagers jump off the jetty in the Orewa Estuary, and (d) kitesurfers and windsurfers off Te Haruhi Bay.

Those using paddle craft, such as kayaks and stand up paddleboards, at beaches on the Whangaparaoa over the peak summer period are often inexperienced teenagers and young adults of New Zealand European ethnic origins. These users often underestimate the wind strength and may have insufficient skills and ability to effectively manage their safety. However, due to these users having a form of flotation, surf lifeguards or other water users are often able to assist prior to them getting into a life-threatening situation. In addition, some people use surf craft; of note, bodyboarders are prone to getting into difficulty at 'The Cove' (a pocket beach between the Orewa River and the northern end of Red Beach), where strong currents persist.

Sail craft are popular off Whangaparaoa beaches; kitesurfing and windsurfing are particularly popular at Orewa Beach and Te Haruhi Bay (see Figure 4-22d). These users can be prone to equipment failure, the loss of equipment, or being unable to return to shore. In addition, yachting is popular of Whangaparaoa beaches, with many children, teenagers, and adults of New Zealand European ethnic origins doing so as part of yachting clubs; however, yachting clubs typically have safety practices in place, such as the use of personal protective equipment and supporting safety vessels. Those not affiliated with a club may be more prone to underestimating the environmental conditions or suffering equipment failure.

Finally, those operating recreational boats off Whangaparaoa beaches are often males in their thirties to middle age and older; many head offshore to fish in the Hauraki Gulf. A number of vessel operators have considerable experience, but others only operate their vessels over the

peak summer period. These users may be less aware of hazardous environmental conditions, safety precautions, and may not have undertaken thorough checks of their vessels prior to heading out.

#### 4.5.5.2 Off-peak water use

At times of lower use, water users are typically more aware of hazards and competent in the water (see Table 4-10). A larger proportion of those swimming at these times are regular users; however, a number of these regular users may be of older age and prone to health-related issues, i.e. cardiac arrest.

In addition, those using paddle craft and sail craft are often more competent outside of the peak summer period and/or do so with others or as part of clubs. Recreational vessels also continue to head offshore, but can still be prone to equipment failure and changes in the conditions. Finally, those walking below unstable cliffs are exposed to rock fall; this has the potential to cause serious injury or death.

#### 4.5.5.3 Interaction of recreational activities

A number of the interactions between different recreational activities pose some risk of collision to water users (see Table 4-10). Of particular note, the use of recreational boats poses risk to other water users, but this is often managed through the use of vessel access lanes. There is also a risk of collision between recreational boats and other water users in or near rivers and estuaries.

In addition, the interaction of paddle craft, sail craft, and recreational boats poses considerable risk at times; the risk is greatest at Orewa Beach due to the wide range of activities and large number of water users. In particular, kite surfers pose considerable risk when they sail within close proximity of swimmers, surfers, and other craft users; they may also collide with each another. There can be more than 100 kite surfers off Orewa Beach at times, with a considerable number also using Te Haruhi Bay. In addition, paddle craft and surf craft interact with one another at Orewa Beach, and pose some risk of collision with those swimming outside the red and yellow flags.

Table 4-10: Recreational activities and the interaction of activities at beaches on the Whangaparaoa. The risk of various groups has been calculated following semi-quantitative risk assessment; this is based on the typical socio-demographics, residence, level of hazard awareness, and water competence under off-peak and peak water use scenarios; the subsequent values have been coloured according to the calculated risk.

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Arkles Bay | 5 | 5 | - | 6 | 6 | 4 | - | 6 | 7.5 | 7.5 | - | 8 | 8 | 6 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Little Manly Bay | 5 | - | - | 6 | 6 | 4 | 6 | 6 | 7.5 | - | - | 8 | 8 | 6 | 8 | 9 | Swimmers, paddle craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Matakatia Bay | 5 | 5 | - | 6 | 6 | 4 | - | 6 | 7.5 | 7.5 | - | 8 | 8 | 6 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Okoromai Bay | 5 | 7.5 | - | - | - | - | - | 6 | 7.5 | 7.5 | - | - | - | - | - | 9 | Swimmers, fishers | 4 | 6 | | 1 | 2 |
| Te Haruhi Bay | 5 | - | - | 6 | 9 | - | - | 6 | 10 | - | - | 8 | 12 | - | - | 9 | Swimmers, paddle craft, kite surfers | 8 | 12 | Beach users, kite surfers | 4.5 | 7.5 |
| Army Bay | 5 | 7.5 | 4.5 | 6 | 6 | 6 | 6 | 6 | 10 | 15 | 6 | 8 | 8 | 9 | 8 | 9 | Swimmers, fishers, paddle craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 6 | 9 |
| Waiau Bay | 5 | - | - | 6 | 6 | 4 | 6 | 6 | 7.5 | - | - | 8 | 8 | 6 | 8 | 9 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Big Manly Bay | 5 | - | - | 6 | 9 | 4 | 6 | 6 | 7.5 | - | - | 8 | 12 | 6 | 8 | 9 | Swimmers, paddle craft, yachts, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Stanmore Bay | 5 | - | - | 9 | 9 | 6 | 6 | 6 | 7.5 | - | - | 12 | 12 | 9 | 8 | 9 | Swimmers, paddle craft, yachts, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 6 | 9 |
| Red Beach | 5 | - | 6 | 9 | 6 | 4 | 6 | 6 | 7.5 | - | 6 | 12 | 8 | 6 | 8 | 9 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Orewa Beach | 10 | 10 | 9 | 9 | 9 | 9 | - | 6 | 15 | 15 | 10.5 | 12 | 12 | 12 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 12.5 | 17.5 | Beach users, dogs, kite surfers, vehicles | 6 | 9 |
| Hatfields Beach | 5 | 10 | - | 6 | 6 | 4 | - | 6 | 7.5 | 15 | - | 8 | 8 | 6 | - | 9 | Swimmers, fishers, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Waiwera Beach | 10 | 10 | 6 | 9 | 6 | 4 | 6 | 6 | 15 | 15 | 8 | 12 | 8 | 6 | 8 | 9 | Swimmers, fishers, paddle craft, recreational boats | 5 | 10 | | 1 | 2 |

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Wenderholm Beach | 10 | 10 | - | 6 | 6 | 4 | 6 | 6 | 15 | 15 | - | 8 | 8 | 6 | 8 | 9 | Swimmers, fishers, paddle craft, recreational boats | 5 | 10 | | 1 | 2 |

### 4.5.6 Northeast coast beaches

The beaches on the northeast coast are situated a greater distance from much of the population of the Auckland region. These sites are also less developed when compared to beaches, lakes, and waterfalls on the west coast, North Shore, and Whangaparaoa. However, these beaches are currently experiencing a considerable increase in water use, as evidenced by car counter data recorded on the Tawharanui Peninsula and at Te Arai.

Beaches on the northeast coast are used by people from varied socio-demographic backgrounds who engage in a range of recreational activities. The varying activity and water user profiles for both the peak and off-peak periods are described below, followed by a discussion of the interaction between different recreational activities. The calculated risk associated with the different recreational activities for the peak and off-peak periods are displayed in Table 4-11.

#### 4.5.6.1 Peak water use

Over the peak period, from mid-December to the end of February, beaches on the northeast coast are used by residents from throughout the Auckland region, as well as domestic and international tourists. Water user groups include families with children, groups of young adults, individuals, and couples. The water users are of a range of ethnic origins, though in recent years there has been a notable increase in the number of water users of Indian ethnic origins. These water users most commonly engage in wading, swimming, bodysurfing, and bodyboarding, and in many cases have little awareness of hazards and limited competence in the surf.

Families with young children visit a number of beaches on the northeast coast, only two of which are patrolled (Omaha Beach and Pakiri Beach). Water users at Omaha Beach are typically of New Zealand European and Asian ethnic origins (see Figure 4-24a), whereas there is greater ethnic diversity among those using Pakiri Beach. At beaches patrolled by surf lifeguards, these groups often swim and bodyboard between the red and yellow flags. However, the ethnically diverse groups of families also use a number of moderate to high energy intermediate beaches that are not patrolled, in particular Anchor Bay and Goat Island (see Figure 4-24b). At these beaches, they are exposed to sudden changes in water depth and rip currents, and are at risk of drowning if not closely supervised.

Families with teenage children may also swim outside of the patrolled area at Omaha Beach, and as well as at other unpatrolled beaches, such as Te Arai. Furthermore, some teenagers may overestimate their ability relative to the surf conditions, or go beyond their abilities while snorkelling, bodyboarding, or learning to surf. Parents, or those of middle age, may also get into difficulty after being overcome by waves. All these user groups are considered to be at risk of drowning and injury.

In addition, young adults (particularly males) may overestimate their competence in the water, and tend to misjudge the level of risk and potential consequences. They often seek out more secluded locations such as Anchor Bay, Forestry, and Te Arai (Figure 4-24c). These groups are also more likely to consume alcohol. These groups are highly represented in the incident statistics, particularly fatal drowning incidents (see Section 5.1).

Many people surf or use other water craft during the peak period on northeast coast beaches; however, during this period an increased proportion of surfers and craft users are learners, and as such they many have less awareness and competence in the surf. This is evident in

the non-fatal incident statistics, with a number of these users rescued by surf lifeguards at Omaha Beach and Pakiri Beach. A number of people have also been assisted by surfers and/or surf school instructors, i.e. at Te Arai (Burnett, C., Aotearoa Surf School, personal communication, 5 March 2017). Those learning are typically teenagers and young adults through to middle-aged males. However, although a number of these users are rescued, they are less likely to drown as they have a form of flotation.

In addition, those engaged in underwater recreational activities, such as snorkelling and scuba diving, are at risk of drowning. The risk is particularly high at Goat Island, where these activities are most popular. Goat Island is used by a wide socio-demographic profile, including domestic and international tourists (see Figure 4-24d). People may get into difficulty due to inexperience, unfamiliarity of the site, and a lack of hazard awareness and/or competence in the water. In some cases, a lack of sufficient health and fitness can contribute to incidents (particularly for scuba divers). As a result, a considerable number of people have been assisted by personnel from the Glass Bottom Boat and members of the public; a number of fatal drowning incidents have also occurred (see Section 5.1).


Figure 4-24: (a) Families with children of New Zealand European and Asian ethnic origins swimming between the red and yellow flags at Omaha Beach, (b) water users at Anchor Bay, (c) teenagers and young adults jump into the water in 'the quarry' at Te Arai, and (d) a wide socio-demographic profile of water users at Goat Island.

Similar to beaches on the North Shore and Whangaparaoa, the use of paddle craft, such as kayaks and stand up paddleboards, is popular at beaches on the northeast coast over the peak summer period. These users are often inexperienced teenagers and young adults of New Zealand European ethnic origins. These activities are popular at Omaha Beach and in Whangateau Harbour, as well as at lower energy tide-dominated beaches such as Martins

Bay, Algies Bay, and Snells Beach. These users may underestimate the wind strength and may have insufficient skills and ability to always manage their safety. However, due to these users having a form of flotation, and many sites being relatively low energy, they may be able to return to shore or be assisted by other water users prior to getting into a life-threatening situation.

Finally, the use of sail craft (in particular yachts) and recreational boats is popular on the northeast coast. A considerable number of vessels launch from beaches between Martins Bay and Sandspit, as well as from Whangateau Harbour and Leigh (Omaha Cove). These vessels are often operated by males in their thirties to middle age or older. When sailing in Kawau Bay, vessel operators are exposed to less risk from the environmental conditions, if appropriately skilled and equipped. However, those sailing beyond Kawau Bay (and the shelter of Great Barrier Island and the Coromandel Peninsula), become increasingly exposed to wind and swell; these users may underestimate the environmental conditions and are exposed to greater risk should equipment failure occur, i.e. engine breakdown.

#### 4.5.6.2 Off-peak water use

Outside of summer, water users are typically more aware of hazards and more competent in the water (see Table 4-11). Furthermore, a larger proportion of those swimming at these times are regular users. In addition, a large proportion of surfers and craft users who use the water at these times are competent and surf regularly; many are young to middle-aged males. However, some of these users may still underestimate the size of the surf, or the conditions may change. If they get into difficulty, assistance may be further away.

Members of the public continue to head offshore in yachts and recreational boats, but a larger proportion of the operators outside the peak summer period are regular users with more experience. However, these vessels can still be prone to equipment failure and changes in the conditions.

#### 4.5.6.3 Interaction of recreational activities

Those who engage in various recreational activities are at risk of collision with other water users (see Table 4-11). The use of recreational boats poses some risk, but this is typically managed through the use of access lanes. Of note, the use of the Glass Bottom Boat among swimmers at Goat Island poses risks to those swimming, snorkelling, and scuba diving; however, the operator also provides informal surveillance of those using the surrounding environment, and has reportedly assisted a considerable number of water users who were in difficulty.

In addition, the potential for interactions and collisions between paddle craft, sail craft, and recreational boats while heading alongshore and/or offshore poses some risk to all users. This is higher at sites where these activities are most popular, such as beaches, rivers, and estuaries in Kawau Bay.

Furthermore, collisions may occur between those using surf craft over the peak summer period at popular wave-dominated beaches, such as Anchor Bay, Omaha Beach, Pakiri Beach, Forestry, and Te Arai. Surfers and craft users also pose some risk to swimmers, particularly where the absence of red and yellow flags may result in these groups being intermixed. However, surfers and craft users often provide assistance to swimmers that get into difficulty; this helps reduce the risk of drowning at unpatrolled beaches.

Table 4-11: Recreational activities and the interaction of activities at beaches on the northeast coast. The risk of various groups has been calculated following semi-quantitative risk assessment; this is based on the typical socio-demographics, residence, level of hazard awareness, and water competence under off-peak and peak water use scenarios; the subsequent values have been coloured according to the calculated risk.

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Martins Bay | 5 | 6 | - | 6 | 6 | 4 | - | 6 | 10 | 9 | - | 8 | 8 | 6 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Scandretts Bay | 5 | - | - | - | - | - | - | 6 | 7.5 | - | - | - | - | - | - | 9 | | 2 | 2 | | 1 | 2 |
| Algies Bay | 5 | 6 | - | 6 | 6 | 4 | - | 6 | 7.5 | 9 | - | 8 | 8 | 6 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Snells Beach | 5 | 6 | - | 6 | 6 | 4 | - | 6 | 7.5 | 9 | - | 8 | 8 | 6 | - | 9 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 4.5 | 7.5 |
| Sandspit | 5 | - | - | 6 | 6 | 4 | - | 6 | 7.5 | - | - | 8 | 8 | 6 | - | 9 | Paddle craft, sail craft, recreational boats | 5 | 10 | Beach users, dogs, four-wheel drive vehicles | 3 | 5 |
| Baddeleys Beach | 5 | - | - | 4.5 | 4.5 | 3 | - | 6 | 7.5 | - | - | 6 | 6 | 4.5 | - | 8 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 5 | Beach users, dogs, four-wheel drive vehicles | 2 | 4 |
| Campbells Bay | 5 | - | - | 4.5 | 4.5 | 3 | - | 6 | 7.5 | - | - | 6 | 6 | 4.5 | - | 8 | Swimmers, paddle craft, sail craft, recreational boats | 5 | 5 | Beach users, dogs, four-wheel drive vehicles | 2 | 4 |
| Jones Bay | 5 | 5 | - | 9 | - | - | 6 | 5 | 7.5 | 7.5 | - | 12 | - | - | 8 | 15 | | 2 | 2 | | 1 | 2 |
| Anchor Bay | 15 | - | 6 | 9 | - | - | 12 | 9 | 20 | - | 12 | 12 | - | - | 15 | 12 | Swimmers, surfers, paddle craft, snorkellers | 6 | 9 | Beach users | 4 | 6 |
| Omaha Beach | 15 | 10 | 6 | 9 | 7.5 | 6 | 8 | 6 | 20 | 15 | 12 | 12 | 10 | 8 | 10 | 9 | Swimmers, surf craft, paddle craft, sail craft | 5 | 10 | Beach users, dogs | 4 | 6 |
| Matheson Bay | 5 | 6 | - | 6 | 6 | 4 | 12 | 4 | 7.5 | 9 | - | 8 | 8 | 6 | 15 | 6 | Swimmers, paddle craft, sail craft, scuba divers | 5 | 10 | Beach users, dogs | 3 | 5 |
| Goat Island | 15 | 10 | 6 | 9 | - | 4 | 16 | 9 | 20 | 15 | 12 | 12 | - | 6 | 20 | 12 | Snorkellers, scuba divers, paddle craft, boats | 12.5 | 17.5 | Beach users | 4 | 6 |
| Pakiri Beach | 12.5 | 10 | 6 | 9 | 7.5 | - | 8 | 6 | 20 | 10 | 12 | 12 | 10 | - | 10 | 9 | Swimmers, fishing contiki, surfers, paddle craft | 3 | 6 | Beach users | 3 | 5 |

| Site | Recreational activities | | | | | | | | | | | | | | | | Interactions between recreational activities | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Off-peak | | | | | | | | Peak | | | | | | | | Water-based interactions | | | Land-based interactions | | |
| | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail craft | Recreational boats | Underwater activities | Land-based activities | Description | Off-Peak | Peak | Description | Off-peak | Peak |
| Forestry | 7.5 | 7.5 | 6 | - | - | - | 8 | 4 | 10 | 10 | 12 | - | - | - | 10 | 6 | | 3 | 6 | | 1 | 2 |
| Te Arai | 12.5 | 10 | 9 | 9 | - | - | 12 | 9 | 20 | 15 | 16 | 12 | - | - | 15 | 12 | Swimmers, surf craft | 3 | 6 | Beach users | 3 | 5 |
| Black Swamp | 5 | - | 6 | - | - | - | - | 6 | 7.5 | - | 12 | - | - | - | - | 8 | | 3 | 3 | | 1 | 2 |

## 4.6 Existing supervision and surveillance

Surf lifeguarding services are currently provided, or have recently been provided, at sixteen beaches across the Auckland region. These services use red and yellow flags to define the patrolled areas, and in some instances provided surveillance alongshore.

Surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service patrol on weekdays, some public holidays, and weekends at some sites from mid to late December to early February (summer school holidays). Weekday services on some west coast beaches extend considerably longer, such as at Piha Beach where the service runs from the beginning of December to mid-March. These services typically operate from 10:00 am or 11:00 am to 6:00 pm, and are supported by Auckland Council. Surf lifeguards from Surf Life Saving Clubs in the Auckland region typically patrol on weekends and some public holidays from late October (Labour Day weekend) to mid to late April. These services are largely delivered from 10:00 am or 11:00 am to 5:00 pm across the region.

The following sections provide a summary of the surf lifeguarding services that have been provided around the Auckland region over recent years. The patrol start and end times listed were determined based on a review of data collected between July 2006 and June 2016.

### 4.6.1 West coast beaches

Surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service patrol Muriwai Beach and Piha Beach on weekdays and some public holidays from the beginning of December to mid-March. Patrols at Te Henga (Bethells Beach), North Piha Beach, Karekare Beach, and Karioitahi Beach are typically delivered from mid-December to mid to late February (Table 4-12). Service at these sites are typically provided between 10:00 am and 6:00 pm or 7:00 pm.

Surf lifeguards from Muriwai Volunteer Lifeguard Service, Bethells Beach Surf Life Saving Patrol, United North Piha Lifeguard Service, Piha Surf Life Saving Club, Karekare Surf Life Saving Club, and Surf Life Saving Kariaotahi typically patrol the respective beaches on weekends and some public holidays from late October (Labour Day weekend) to mid or late April (Table 4-12). These services typically operate from 10:00 am or 11:00 am to 5:00 pm.

Table 4-12: Existing surf lifeguarding services on west coast beaches.

| Site | Weekdays | Hours | Weekends | Hours |
|---|---|---|---|---|
| Muriwai Beach | Beginning of December to mid-March | 10:00 - 19:00 | Late October (Labour Day weekend) to mid to late April | 10:00 - 17:00 |
| Te Henga (Bethells Beach) | Mid-December to the end of February | 10:00 - 18:00 | Late October (Labour Day weekend) to mid to late April | 10:00 - 17:00 |
| North Piha Beach | Mid-December to the end of February | 10:00 - 18:00 | Late October (Labour Day weekend) to mid to late April | 11:00 - 17:00 |
| Piha Beach | Beginning of December to mid-March | 10:00 - 19:00 | Late October (Labour Day weekend) to mid to late April | 10:00 - 17:00 |
| Karekare Beach | Mid-December to mid-February | 10:00 - 18:00 | Late October (Labour Day weekend) to mid to late April | 10:00 - 17:00 |
| Karioitahi Beach | Mid-December to mid-February | 10:00 - 18:00 | Late October (Labour Day weekend) to mid-April | 10:00 - 17:00 |

### 4.6.2 North Shore beaches

Surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service have typically patrolled Takapuna Beach, Milford Beach, Mairangi Bay, Browns Bay, and Long Bay on weekdays and some public holidays from mid-December to early February. These services are typically provided between 10:00 am and 6:00 pm (Table 4-13). However, during the 2017/18 season, weekday services at Milford Beach and Browns Bay were cut due to funding shortfalls.

Surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service and Mairangi Bay Surf Life Saving Club also patrol Takapuna Beach, Milford Beach, Browns Bay, and Long Bay on weekends from mid-December to early February. This service is typically provided from 11:00 am to 6:00 pm.

Surf lifeguards from Mairangi Bay Surf Life Saving Club patrol Mairangi Bay from late October (Labour Day weekend) to mid or late April. This service has typically operated from 11:00 am to 5:00 pm.

Table 4-13: Existing surf lifeguarding services on North Shore beaches.

| Site | Weekdays | Hours | Weekends | Hours |
|---|---|---|---|---|
| Takapuna Beach | Mid-December to early February | 10:00 - 18:00 | Mid-December to early February | 11:00 - 18:00 |
| Milford Beach | Mid-December to early February | 10:00 - 18:00 | Mid-December to early February | 11:00 - 18:00 |
| Mairangi Bay | Mid-December to early February | 10:00 - 18:00 | Late October (Labour Day weekend) to mid to late April | 11:00 - 17:00 |
| Browns Bay | Mid-December to early February | 10:00 - 18:00 | Mid-December to early February | 11:00 - 18:00 |
| Long Bay | Mid-December to early February | 10:00 - 18:00 | Mid-December to early February | 11:00 - 18:00 |

### 4.6.3 Whangaparaoa beaches

Surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service typically patrol Red Beach on weekdays and some public holidays from mid-December to mid-January, and Orewa Beach from mid-December to early to mid-February. These services are typically provided between 10:00 am and 6:00 pm (Table 4-14). There has been no consistent weekday surf lifeguarding service at Wenderholm Beach.

Surf lifeguards from Red Beach Surf Life Saving Club and Orewa Surf Life Saving Club patrol Red Beach and Orewa Beach on weekends and some public holidays from late October (Labour Day weekend) to mid or late April. These services have typically operated from 11:00 am to 4:00 pm or 5:00 pm. Surf lifeguards from Orewa Surf Life Saving Club have also patrolled Wenderholm Beach on weekends between 11:00 am and 5:00 pm from mid-December to mid-January.

Table 4-14: Existing surf lifeguarding services on Whangaparaoa beaches.

| Site | Weekdays | Hours | Weekends | Hours |
|---|---|---|---|---|
| Red Beach | Mid-December to mid-January | 10:00 - 18:00 | Late October (Labour Day weekend) to mid to late April | 11:00 - 16:00/17:00 |
| Orewa Beach | Mid-December to early to mid-February | 10:00 - 18:00 | Late October (Labour Day weekend) to mid to late April | 11:00 - 16:00/17:00 |
| Wenderholm Beach | n/a | n/a | Mid-December to mid-January | 11:00 - 17:00 |

### 4.6.4 Northeast coast beaches

Surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service typically patrol Omaha Beach and Pakiri Beach on weekdays and some public holidays from mid-December to early February. Weekday services have sometimes been extended until late February at Omaha Beach. These services are typically provided between 10:00 am and 6:00 pm at Omaha Beach and Pakiri Beach (Table 4-15).

Surf lifeguards from Omaha Surf Life Saving Club patrol Omaha Beach on weekends and some public holidays from late October (Labour Day weekend) to mid or late April, while surf lifeguards from Red Beach Surf Life Saving Club patrol Pakiri Beach from mid-December to mid-February. These services have typically operated from 11:00 am to 4:00 pm or 5:00 pm.

Table 4-15: Existing surf lifeguarding services on northeast coast beaches.

| Site | Weekdays | Hours | Weekends | Hours |
|---|---|---|---|---|
| Omaha Beach | Mid-December to early to late February | 10:00 - 18:00 | Late October (Labour Day weekend) to mid to late April | 11:00 - 16:00/17:00 |
| Pakiri Beach | Mid-December to early February | 10:00 - 18:00 | Mid-December to mid-February | 11:00 - 17:00 |

# 5 Fatal and non-fatal incidents

The analysis of fatal and non-fatal incident statistics assists in understanding the socio-demographic profile of water users who get into difficulty at beaches, lakes, and waterfalls in the Auckland region, and the types of activities that are most often associated with these incidents. For this analysis, fatal drowning incident statistics were sourced from Water Safety New Zealand's DrownBase™ database, and data on rescues performed by surf lifeguards were gathered from Surf Life Saving New Zealand's Patrol and Memberships (PAM) database.

The data are displayed in tables and graphs and described below; the different socio-demographic and activity profiles associated with the beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region can be clearly seen. This helps inform recommendations on the appropriate types and levels of supervision and surveillance.

## 5.1 Fatal drowning incidents

Since 1980, there have been 562 unintentional fatal drowning incidents in coastal and nearshore waters in the Auckland region. Of note, this excludes incidents that occurred as a result of suicide, on private property, in swimming pools, or in water bodies situated a considerable distance inland; coastal lakes such as Lake Wainamu are included in their relevant coastal area.

The fatal drowning data was analysed for trends in the time of year of incidence, age, gender, ethnicity, residence, activity, and contributing factors. This assists with the identification of particular groups that are overrepresented and may be particularly vulnerable, as well as the activities and other factors that are strongly associated with fatal drowning incidents.

### 5.1.1 Fatal drowning occurrence by month

Fatal drowning incidents in the Auckland region most commonly occur in January (17.3%), and December and February (both 11.9%); however, a considerable number of incidents continue to occur at other times of year (Table 5-1).

There is considerable variation in the monthly distribution of incidents that occur in different coastal areas. Of particular note, incidents at Karioitahi Beach most commonly occur in October (38.9%) and February (33.3%), suggesting there is considerable risk at this site outside the typical peak period of water use (summer school holidays). On west coast beaches, a notable proportion of drowning incidents also occur in October (15.5%), but considerable proportions also occur throughout the summer months.

In contrast, fatal drowning incidents at beaches and lakes on the North Shore and Whangaparaoa most commonly occur in January; 30.8% and 31.8% of incidents respectively. On northeast coast beaches, most fatal drowning incidents occur in summer or early autumn.

Table 5-1: Fatal drowning occurrence by month: Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Water Safety New Zealand, 2017).

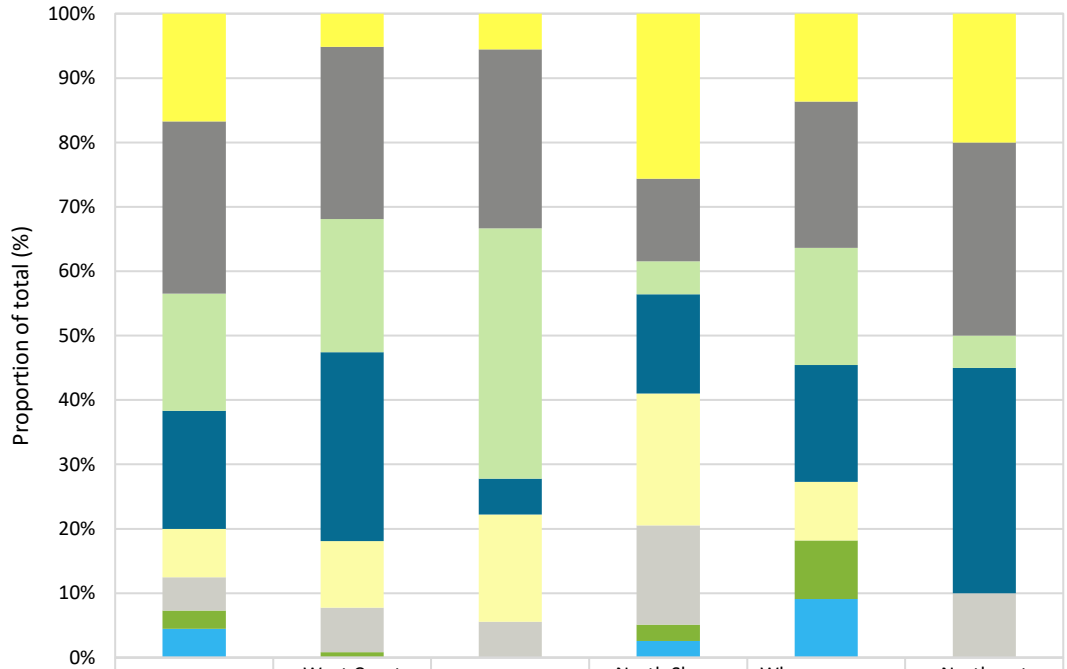
| Month | Auckland region (n = 562) | West coast beaches (n = 116) | Karioitahi Beach (n = 18) | North Shore beaches (n = 39) | Whangaparaoa beaches (n = 22) | Northeast coast beaches (n = 20) |
|---|---|---|---|---|---|---|
| July | 4.3% | 4.3% | 0.0% | 7.7% | 0.0% | 0.0% |
| August | 5.0% | 1.7% | 0.0% | 2.6% | 4.5% | 0.0% |
| September | 4.8% | 1.7% | 0.0% | 5.1% | 0.0% | 5.0% |
| October | 11.4% | 15.5% | 38.9% | 7.7% | 0.0% | 5.0% |
| November | 6.9% | 6.0% | 0.0% | 5.1% | 9.1% | 10.0% |
| December | 11.9% | 12.1% | 5.6% | 12.8% | 13.6% | 15.0% |
| January | 17.3% | 17.2% | 5.6% | 30.8% | 31.8% | 15.0% |
| February | 11.9% | 12.9% | 33.3% | 15.4% | 18.2% | 20.0% |
| March | 8.9% | 9.5% | 5.6% | 5.1% | 0.0% | 15.0% |
| April | 8.2% | 9.5% | 0.0% | 7.7% | 18.2% | 5.0% |
| May | 5.9% | 6.0% | 11.1% | 0.0% | 0.0% | 0.0% |
| June | 3.6% | 3.4% | 0.0% | 0.0% | 4.5% | 10.0% |

### 5.1.2 Fatal drowning occurrence by age

Fatal drowning incidents in the Auckland region most commonly involve middle-aged to older people (Figure 5-1). The most highly represented age category is 41 to 60 year olds (26.7%); however, when the data is adjusted for the number of years in each category, a higher proportion of 21 to 30 year olds have drowned (18.4%).

The age profile of fatal drowning victims also varies across the different coastal areas of Auckland. Relative to other areas, fatal drowning incidents on Whangaparaoa beaches more commonly involve children under 11 years of age (18.2%), while the remaining incidents are relatively evenly spread across the remaining age categories. In contrast, the age profile of drowning victims at Karioitahi Beach is strongly skewed towards the older categories, with 72.3% of victims aged over 30 years old. This aligns with the high use of Karioitahi Beach by people boating or fishing; these users are typically older.

On west coast beaches and northeast coast beaches, 21 to 30 year olds are highly represented in the fatal drowning statistics (29.3% and 35.0% of incidents respectively). Finally, drowning incidents on North Shore beaches have involved considerable proportions of older children, teenagers, and young adults (51.3%), fewer middle-aged adults, and a considerable proportion of older adults (25.6% of victims were aged over 60 years).



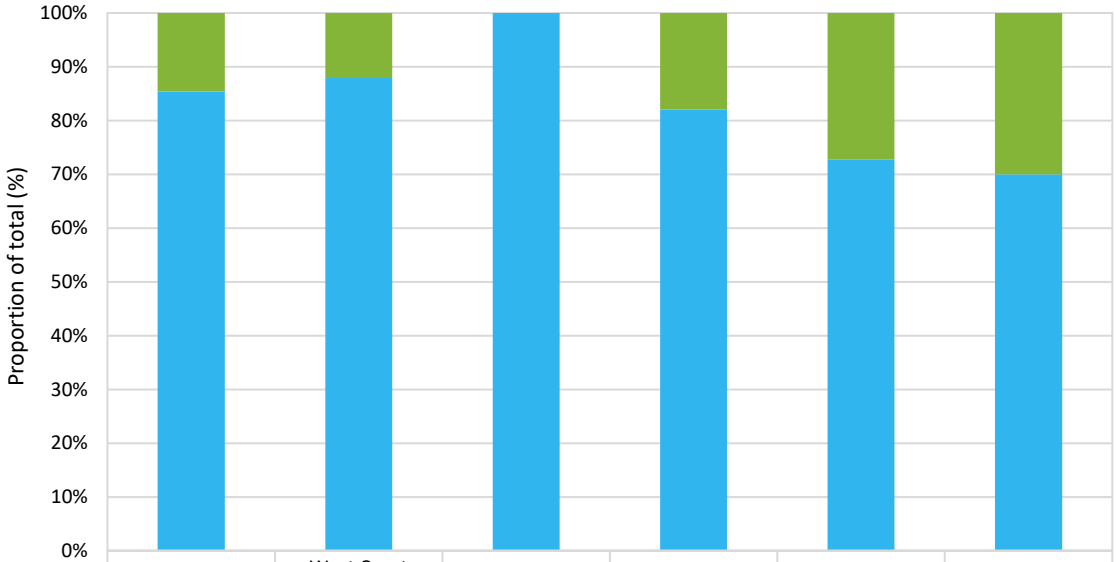

| | Auckland region (n = 561) | West Coast beaches (n = 116) | Karioitahi Beach (n = 18) | North Shore beaches (n = 39) | Whangaparaoa beaches (n = 22) | Northeast coast beaches (n = 20) |
|---|---|---|---|---|---|---|
| > 60 years | 16.8% | 5.2% | 5.6% | 25.6% | 13.6% | 20.0% |
| 41-60 years | 26.7% | 26.7% | 27.8% | 12.8% | 22.7% | 30.0% |
| 31-40 years | 18.2% | 20.7% | 38.9% | 5.1% | 18.2% | 5.0% |
| 21-30 years | 18.4% | 29.3% | 5.6% | 15.4% | 18.2% | 35.0% |
| 16-20 years | 7.5% | 10.3% | 16.7% | 20.5% | 9.1% | 0.0% |
| 11-15 years | 5.2% | 6.9% | 5.6% | 15.4% | 0.0% | 10.0% |
| 6-10 years | 2.9% | 0.9% | 0.0% | 2.6% | 9.1% | 0.0% |
| 0-5 years | 4.5% | 0.0% | 0.0% | 2.6% | 9.1% | 0.0% |

Figure 5-1: Fatal drowning occurrence by age: Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Water Safety New Zealand, 2017).

### 5.1.3 Fatal drowning occurrence by gender

Males are more highly represented in the fatal drowning statistics than females in all the coastal areas investigated in this report (Figure 5-2). Across the Auckland region, males comprise 85.4% of all victims in coastal and nearshore waters, but are even more highly represented at Karioitahi Beach (100%) and on west coast beaches (87.9%). This may be due to males being more likely to overestimate their competence in the water and/or underestimate the conditions, or take part in high risk activities, such as rock fishing.

On North Shore beaches, Whangaparaoa beaches, and northeast coast beaches, a greater proportion of females have been involved in fatal drowning incidents, with northeast coast beaches having the highest proportion of female drowning victims (30.0%).




| | Auckland region (n = 562) | West Coast beaches (n = 116) | Karioitahi Beach (n = 18) | North Shore beaches (n = 39) | Whangaparaoa beaches (n = 22) | Northeast coast beaches (n = 20) |
|---|---|---|---|---|---|---|
| Female | 14.6% | 12.1% | 0.0% | 17.9% | 27.3% | 30.0% |
| Male | 85.4% | 87.9% | 100.0% | 82.1% | 72.7% | 70.0% |

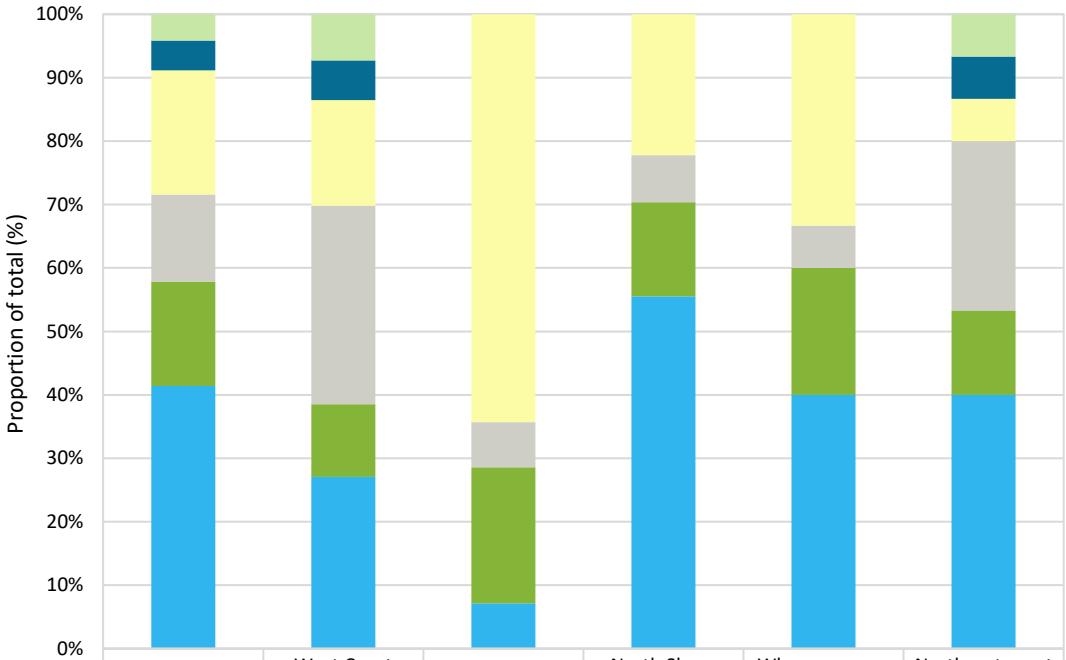
Figure 5-2: Fatal drowning occurrence by gender: Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Water Safety New Zealand, 2017).

### 5.1.4 Fatal drowning occurrence by ethnicity

People of New Zealand European ethnic origins comprise the largest proportion of fatal drowning victims in coastal and nearshore waters in the Auckland region (41.4%), followed by those of Pacific Island ethnic origins (19.6%); however, this varies considerably across the different coastal areas (Figure 5-3).

On west coast beaches, people of Asian ethnic origins are most highly represented in the statistics (31.3%), as well as a large proportion of New Zealand Europeans (27.1%). West coast beaches also have the highest proportion of fatal drowning victims that resided overseas (7.3%). In contrast, fatal drowning incidents at Karioitahi Beach are dominated by persons of Pacific Island ethnic origins (64.4%), followed by a considerable proportion of Maori (21.4%).

In comparison, those of New Zealand European ethnic origins are more highly represented in the fatal drowning statistics for beaches and lakes on the North Shore (55.6%), Whangaparaoa (40.0%), and northeast coast (40.0%). Persons of Pacific Island, Maori, and Asian ethnic origins also comprise a notable proportion of incidents in these areas.




| | Auckland region (n = 408) | West Coast beaches (n = 96) | Karioitahi Beach (n = 14) | North Shore beaches (n = 27) | Whangaparaoa beaches (n = 15) | Northeast coast beaches (n = 15) |
|---|---|---|---|---|---|---|
| Other | 4.2% | 7.3% | 0.0% | 0.0% | 0.0% | 6.7% |
| International | 4.7% | 6.3% | 0.0% | 0.0% | 0.0% | 6.7% |
| Pacific Island | 19.6% | 16.7% | 64.3% | 22.2% | 33.3% | 6.7% |
| Asian | 13.7% | 31.3% | 7.1% | 7.4% | 6.7% | 26.7% |
| Maori | 16.4% | 11.5% | 21.4% | 14.8% | 20.0% | 13.3% |
| NZ European | 41.4% | 27.1% | 7.1% | 55.6% | 40.0% | 40.0% |

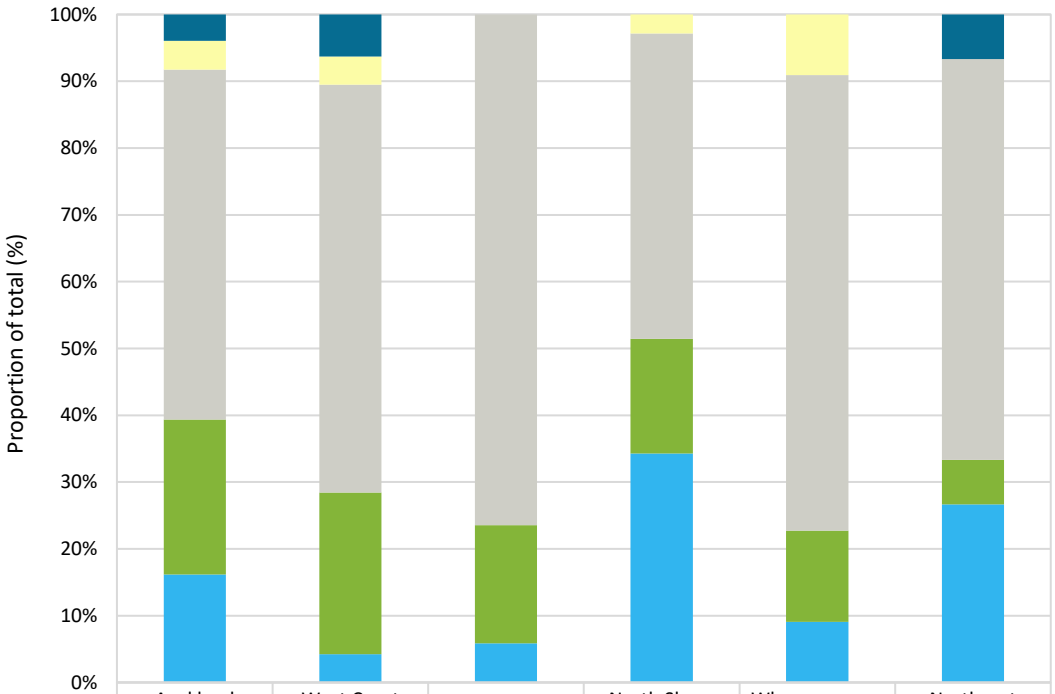
Figure 5-3: Fatal drowning occurrence by ethnicity: Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Water Safety New Zealand, 2017).

### 5.1.5 Fatal drowning occurrence by residence

The place of residence of each person who drowned relative to the incident location was analysed to determine the residence patterns of persons involved in fatal drowning incidents. Each incident was assigned a residence category: (i) if they resided in the same town / suburb as the incident location, (ii) if they resided elsewhere in the ward, (iii) if they resided elsewhere in the Auckland region, outside the ward where the incident took place, (iv) if they resided elsewhere in New Zealand, or (v) if they were an international visitor.

Across the Auckland region, and in each different coastal area, most drowning victims resided within the Auckland region but outside of the ward where the incident took place (Figure 5-4). This suggests that many water users in the Auckland region travel a considerable distance to the sites where they enter the water and recreate; for example, they may choose to travel to specific areas to engage in particular activities, i.e. rock fishing.

However, on the North Shore and northeast coast, notable proportions of local residents have also been involved in fatal drowning incidents (34.3% and 26.7% respectively), with smaller proportions from elsewhere in the local ward. In addition, on Whangaparaoa beaches, 9.1% of fatal drowning victims resided elsewhere in New Zealand, indicating that this area is likely also used by a number of domestic tourists. A small number of international tourists have also been involved in fatal drowning incidents on west coast beaches and northeast coast beaches.




| | Auckland region (n = 483) | West Coast beaches (n = 95) | Karioitahi Beach (n = 17) | North Shore beaches (n = 35) | Whangaparaoa beaches (n = 22) | Northeast coast beaches (n = 15) |
|---|---|---|---|---|---|---|
| International | 3.9% | 6.3% | 0.0% | 0.0% | 0.0% | 6.7% |
| New Zealand | 4.3% | 4.2% | 0.0% | 2.9% | 9.1% | 0.0% |
| Region | 52.4% | 61.1% | 76.5% | 45.7% | 68.2% | 60.0% |
| Ward | 23.2% | 24.2% | 17.6% | 17.1% | 13.6% | 6.7% |
| Town / suburb | 16.1% | 4.2% | 5.9% | 34.3% | 9.1% | 26.7% |

Figure 5-4: Fatal drowning occurrence by residence: Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Water Safety New Zealand, 2017).

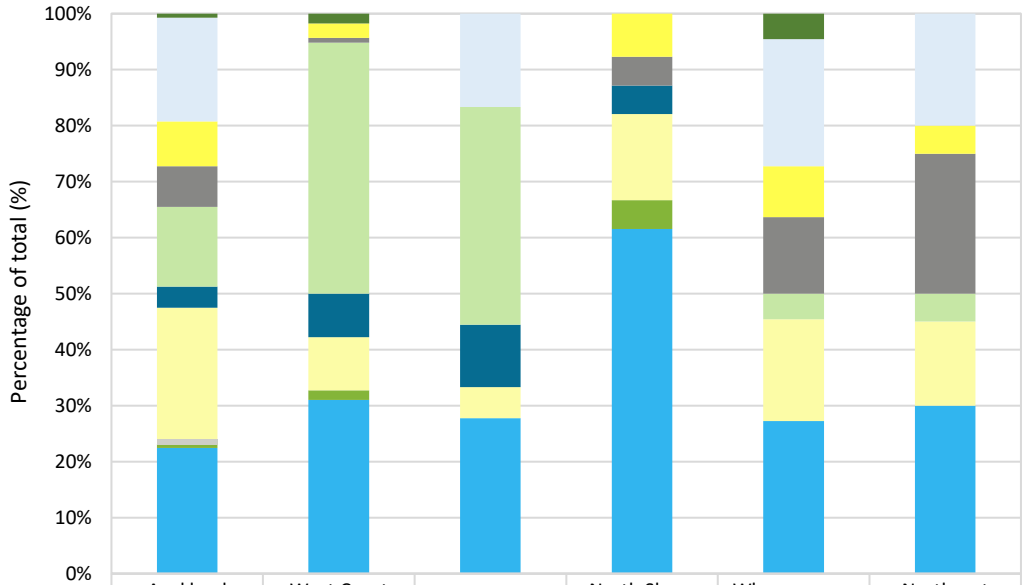
### 5.1.6 Fatal drowning occurrence by activity

The activities that fatal drowning victims were engaged in prior to getting into difficulty can provide valuable insight into both the activity profile of different areas and the types of activities that are commonly associated with fatal drowning incidents (Figure 5-5).

Across the Auckland region, the largest proportions of victims drowned after they were immersed accidentally (23.5%) or were swimming (22.4%). A considerable number of others were sailing or boating (18.5%) or engaged in land-based fishing (14.2%) prior to incidence. Of note, the data for the Auckland region also includes incidents that occurred in other coastal areas, i.e. Waitemata Harbour, that are not considered in this report.

On west coast beaches and at Karioitahi Beach, the largest proportions of victims were engaged in land-based fishing prior to incidence (44.8% and 38.9% respectively). This is followed by considerable proportions of swimmers (31.0% and 27.8%), while at Karioitahi Beach a number of victims were also sailing or boating. In contrast, almost two thirds of fatal drowning victims on North Shore beaches were swimming prior to incidence (61.5%).

Drowning victims on Whangaparaoa beaches and northeast coast beaches were engaged in a wider range of activities prior to getting into difficulty; swimming, accidental immersion, snorkelling / diving, and sailing / boating are listed as the most common activities.




| | Auckland region (n = 562) | West Coast beaches (n = 116) | Karioitahi Beach (n = 18) | North Shore beaches (n = 39) | Whangaparaoa beaches (n = 22) | Northeast coast beaches (n = 20) |
|---|---|---|---|---|---|---|
| Other recreation | 0.7% | 1.7% | 0.0% | 0.0% | 4.5% | 0.0% |
| Sailing / boating | 18.5% | 0.0% | 16.7% | 0.0% | 22.7% | 20.0% |
| Paddle / sail craft | 8.0% | 2.6% | 0.0% | 7.7% | 9.1% | 5.0% |
| Snorkelling / diving | 7.3% | 0.9% | 0.0% | 5.1% | 13.6% | 25.0% |
| Land-based fishing | 14.2% | 44.8% | 38.9% | 0.0% | 4.5% | 5.0% |
| Rescuing others | 3.7% | 7.8% | 11.1% | 5.1% | 0.0% | 0.0% |
| Accidental immersion | 23.5% | 9.5% | 5.6% | 15.4% | 18.2% | 15.0% |
| Diving / jumping | 0.9% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Bodyboarding | 0.7% | 1.7% | 0.0% | 5.1% | 0.0% | 0.0% |
| Swimming | 22.4% | 31.0% | 27.8% | 61.5% | 27.3% | 30.0% |

Figure 5-5: Fatal drowning occurrence by activity: Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Water Safety New Zealand, 2017).

## 5.2 Non-fatal incidents

Surf lifeguards throughout the Auckland region recorded 3,272 rescues, 870 searches, and 4,851 first aid incidents from July 2006 to June 2016. Most of these incidents are documented during the patrolling period. There are also likely to be a number of other incidents that were not formally recorded, i.e. members of the public who have rescued other water users.

The rescue (non-fatal) data complements the fatal drowning data and provides additional insight into the demographics and behaviours of persons who often find themselves in difficulty in the water. In particular, due to the larger size of the dataset, some trends can be interpreted with greater confidence. However, the dataset and subsequent analysis is limited to those rescues that are formally recorded, and as such is clustered around the peak summer period.

The rescue data for each coastal area was analysed for trends in the time of year of incidence, age, gender, ethnicity, residence, activity, and contributing factors. All are compared with the broader trends across the Auckland region and New Zealand.

### 5.2.1 Rescue occurrence by month

As may be expected, most rescue incidents recorded by surf lifeguards occurred in the peak summer period when the beach is patrolled. Across New Zealand, the Auckland region, and each of the coastal areas, most rescues occur in January (Table 5-2). This is most pronounced on northeast coast and North Shore beaches, where rescues in January account for 51.3% and 47.7% of incidents respectively.

The rescue statistics are more broadly spread across the months for west coast beaches and Karioitahi Beach, with considerable proportions also recorded in December, February, and March. Whangaparaoa beaches have the highest proportion of rescues recorded in April (6.4%) and June (4.5%); incidents recorded outside the patrolling period are likely to be afterhours emergency callouts.

Table 5-2: Rescue occurrence by month: New Zealand, Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Surf Life Saving New Zealand, 2016).

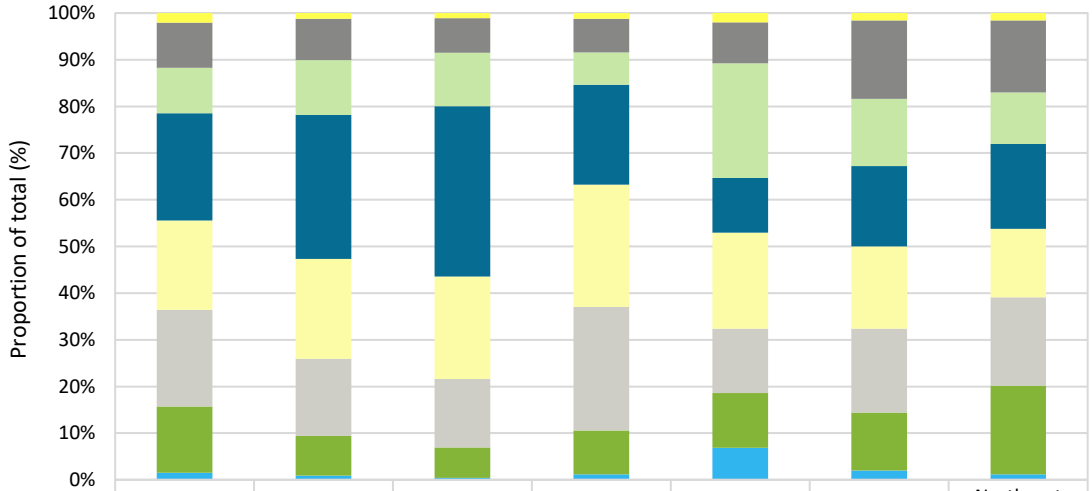
| Month | New Zealand (n = 11,885) | Auckland region (n = 3,272) | West coast beaches (n = 2,255) | Karioitahi Beach (n = 350) | North Shore beaches (n = 109) | Whangapa-raoa beaches (n = 267) | Northeast coast beaches (n = 273) |
|---|---|---|---|---|---|---|---|
| July | 0.3% | 0.5% | 0.7% | 0.0% | 0.0% | 0.0% | 0.0% |
| August | 0.3% | 0.2% | 0.2% | 0.0% | 0.0% | 0.7% | 0.4% |
| September | 0.4% | 0.4% | 0.2% | 0.0% | 0.0% | 2.6% | 0.0% |
| October | 2.0% | 2.4% | 2.0% | 2.3% | 2.8% | 4.5% | 2.9% |
| November | 4.1% | 4.5% | 4.2% | 5.7% | 7.3% | 5.6% | 2.9% |
| December | 19.9% | 18.0% | 16.5% | 23.4% | 32.1% | 17.2% | 20.1% |
| January | 45.8% | 38.2% | 35.9% | 37.7% | 47.7% | 40.8% | 51.3% |
| February | 15.0% | 18.6% | 20.9% | 20.9% | 9.2% | 10.5% | 10.3% |
| March | 8.6% | 10.8% | 12.5% | 7.7% | 0.9% | 6.4% | 8.1% |
| April | 2.7% | 4.8% | 5.3% | 2.3% | 0.0% | 6.4% | 3.7% |
| May | 0.5% | 0.6% | 0.8% | 0.0% | 0.0% | 0.7% | 0.0% |
| June | 0.4% | 0.9% | 0.8% | 0.0% | 0.0% | 4.5% | 0.4% |

### 5.2.2 Rescue occurrence by age

The age of those rescued can provide insights into the likely age profile of water users. Across New Zealand, the age group most commonly rescued by surf lifeguards are those aged 21 to 30 years old (23.0%), closely followed by 11 to 15 year olds (20.7%) and 16 to 20 year olds (19.1%). Few people under six years of age or over 60 years have been rescued by surf lifeguards (1.5% and 2.1% respectively). This may indicate that these age groups do not use patrolled beaches in large numbers, or that they usually use them safely.

Across the Auckland region, the rescue statistics are similarly dominated by young adults, teenagers, and children; 78.3% of rescues involve those aged 30 years or less (Figure 5-6). In contrast, the fatal drowning data for the Auckland region is dominated by those over 30 years old (61.7%). This may indicate that some older adults use aquatic environments and engage in risk-taking activities away from areas where surf lifeguards provide supervision and/or outside of the patrolled period.

The age profile varies slightly between the different coastal areas considered in this report. On west coast beaches, the most highly represented category is the 21 to 30 year olds (36.5%), while at Karioitahi Beach the rescue statistics are dominated by 11 to 15 and 16 to 20 year olds. North Shore beaches have the highest proportion of very young children rescued (6.9%), with rescues split relatively evenly across the other categories. Whangaparaoa beaches also have an even spread across the age groups, while on northeast coast beaches, a notable proportion of children aged between 6 and 10 years old are rescued (19.0%).

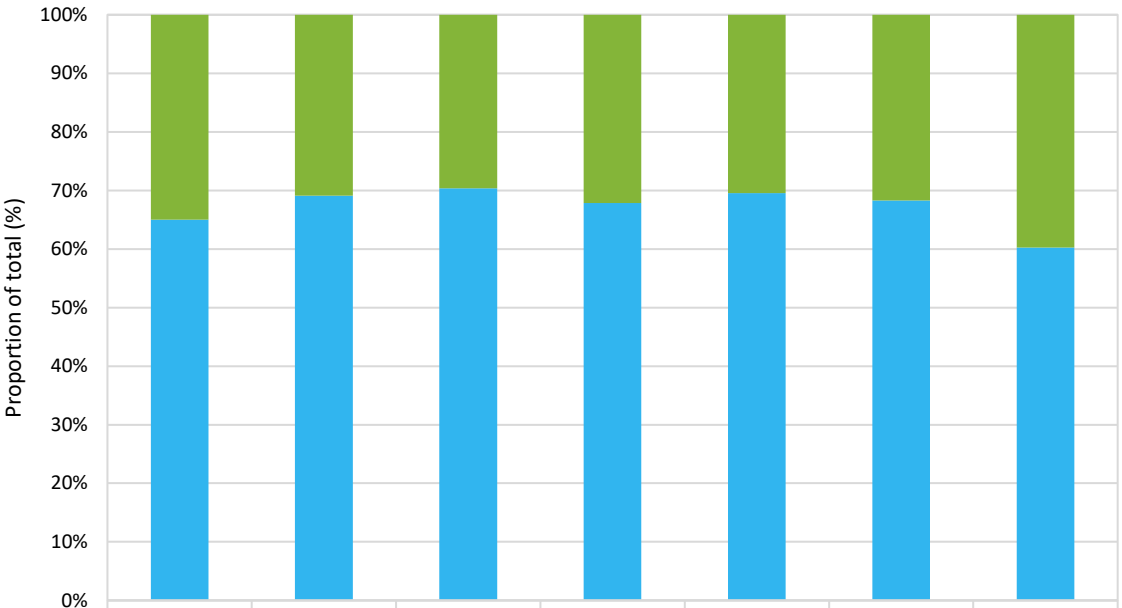



| | New Zealand (n = 11,102) | Auckland region (n = 3,081) | West coast beaches (n = 2,127) | Karioitahi Beach (n = 332) | North shore beaches (n = 102) | Whangaparaoa beaches (n = 250) | Northeast coast beaches (n = 253) |
|---|---|---|---|---|---|---|---|
| > 60 years | 2.1% | 1.2% | 1.1% | 1.2% | 2.0% | 1.6% | 1.6% |
| 41-60 years | 9.6% | 8.9% | 7.4% | 7.2% | 8.8% | 16.8% | 15.4% |
| 31-40 years | 9.7% | 11.7% | 11.5% | 6.9% | 24.5% | 14.4% | 11.1% |
| 21-30 years | 23.0% | 30.9% | 36.5% | 21.4% | 11.8% | 17.2% | 18.2% |
| 16-20 years | 19.1% | 21.5% | 21.9% | 26.2% | 20.6% | 17.6% | 14.6% |
| 11-15 years | 20.7% | 16.5% | 14.7% | 26.5% | 13.7% | 18.0% | 19.0% |
| 6-10 years | 14.2% | 8.5% | 6.5% | 9.3% | 11.8% | 12.4% | 19.0% |
| 0-5 years | 1.5% | 0.9% | 0.4% | 1.2% | 6.9% | 2.0% | 1.2% |

Figure 5-6: Rescue occurrence by age: New Zealand, Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Surf Life Saving New Zealand, 2016).

### 5.2.3 Rescue occurrence by gender

Similar to the fatal drowning statistics, the majority of rescues in the Auckland region and throughout New Zealand involve males (Figure 5-7). The coastal area with the highest proportion of males rescued is west coast beaches (70.3%), followed by North Shore beaches (69.6%) and Whangaparaoa beaches (68.3%). The area with the highest proportion of females rescued is northeast coast beaches (39.7%).



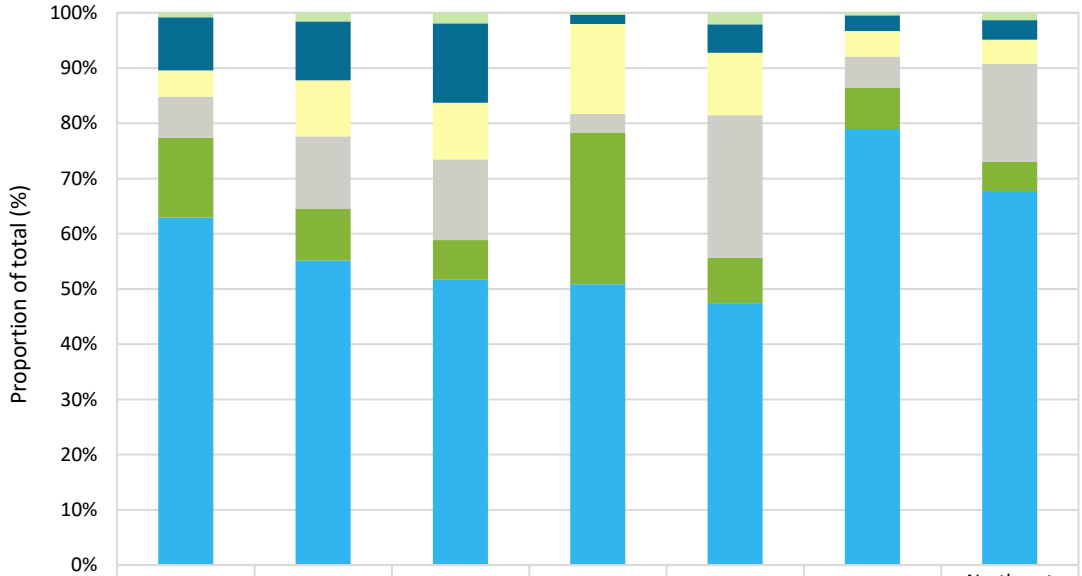

| | New Zealand (n = 10,491) | Auckland region (n = 2,742) | West coast beaches (n = 1,885) | Karioitahi Beach (n = 311) | North Shore beaches (n = 92) | Whangaparaoa beaches (n = 224) | Northeast coast beaches (n = 214) |
|---|---|---|---|---|---|---|---|
| Female | 35.0% | 30.9% | 29.7% | 32.2% | 30.4% | 31.7% | 39.7% |
| Male | 65.0% | 69.1% | 70.3% | 67.8% | 69.6% | 68.3% | 60.3% |

Figure 5-7: Rescue occurrence by gender: New Zealand, Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Surf Life Saving New Zealand, 2016).

### 5.2.4 Rescue occurrence by ethnicity

Most rescues across New Zealand and the Auckland region involve people of New Zealand European ethnic origins (62.9% and 55.1% respectively; Figure 5-8). The drowning statistics for the Auckland region are broadly similar (see Section 5.1.4); however, those of Maori, Asian, and Pacific ethnic origins are overrepresented in the fatal drowning statistics by comparison (see Figure 5-3). This may indicate that those of New Zealand European ethnic origins are more likely to use beaches that are patrolled by surf lifeguards, or use them in high numbers over the peak summer period.

Across the Auckland region, there is considerable variation in the ethnicities of those rescued. While New Zealand Europeans are most highly represented across all coastal areas (particularly on Whangaparaoa beaches where they comprise 79% of rescues), the second most common category varied. On beaches on the west coast, North Shore, and northeast coast, considerable proportions of people of Asian ethnic origins are also rescued (13.2%, 25.8%, and 17.7% respectively). At Karioitahi Beach and on Whangaparaoa beaches, people of Maori ethnic origins comprise the second most common category (27.5% and 7.5%). A notable proportion of those rescued on west coast beaches reside overseas (14.4%).




| | New Zealand (n = 9,667) | Auckland region (n = 2,611) | West coast beaches (n = 1,762) | Karioitahi Beach (n = 295) | North Shore beaches (n = 97) | Whangaparaoa beaches (n = 214) | Northeast coast beaches (n = 226) |
|---|---|---|---|---|---|---|---|
| Other | 0.8% | 1.5% | 1.9% | 0.3% | 2.1% | 0.5% | 1.3% |
| International | 9.6% | 10.7% | 14.4% | 1.7% | 5.2% | 2.8% | 3.5% |
| Pacific Island | 4.8% | 10.1% | 10.3% | 16.3% | 11.3% | 4.7% | 4.4% |
| Asian | 7.4% | 13.2% | 14.6% | 3.4% | 25.8% | 5.6% | 17.7% |
| Maori | 14.5% | 9.3% | 7.2% | 27.5% | 8.2% | 7.5% | 5.3% |
| NZ European | 62.9% | 55.1% | 51.6% | 50.8% | 47.4% | 79.0% | 67.7% |

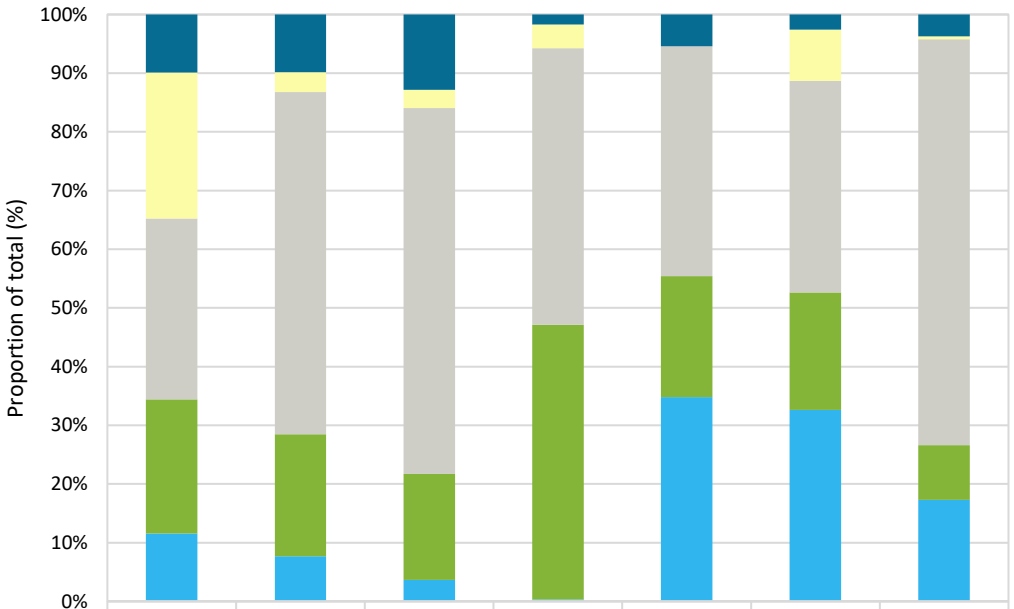
Figure 5-8: Rescue occurrence by ethnicity: New Zealand, Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Surf Life Saving New Zealand, 2016).

### 5.2.5 Rescue occurrence by residence

The place of residence of each person rescued across New Zealand was analysed to determine the residence patterns of persons involved in incidents. Similar to the fatal drowning data, each rescue incident was assigned a residence category: (i) if they resided in the same town / suburb as the incident location, (ii) if they resided elsewhere in the city, district, or ward, (iii) if they resided elsewhere in the region, (iv) if they resided elsewhere in New Zealand, or (v) if they were an international visitor.

Across New Zealand, the residence of persons rescued is broadly spread across all the categories; however, this pattern varies considerably between different regions, areas, and sites. In the Auckland region and in each of the respective coastal areas, the largest proportions of rescues involve people who reside in Auckland but outside the ward where the incident took place (Figure 5-9).

Northeast coast beaches have the highest proportion of people rescued from outside the ward (69.2%) followed by west coast beaches (62.4%). In contrast, rescues on North Shore beaches and Whangaparaoa beaches more regularly involve local residents (34.8% and 32.6% respectively). Karioitahi Beach has almost equal proportions of people rescued from the local ward (Franklin Ward) and from elsewhere in the Auckland region; many of these likely travel to the site from south Auckland.




| | New Zealand (n = 9,444) | Auckland region (n = 2,830) | West coast beaches (n = 1,982) | Karioitahi Beach (n = 297) | North Shore beaches (n = 92) | Whangaparaoa beaches (n = 230) | Northeast coast beaches (n = 214) |
|---|---|---|---|---|---|---|---|
| International | 9.9% | 9.9% | 12.8% | 1.7% | 5.4% | 2.6% | 3.7% |
| New Zealand | 24.9% | 3.4% | 3.1% | 4.0% | 0.0% | 8.7% | 0.5% |
| Region | 30.8% | 58.3% | 62.4% | 47.1% | 39.1% | 36.1% | 69.2% |
| City / district / ward | 22.8% | 20.8% | 18.1% | 46.8% | 20.7% | 20.0% | 9.3% |
| Town / suburb | 11.6% | 7.7% | 3.6% | 0.3% | 34.8% | 32.6% | 17.3% |

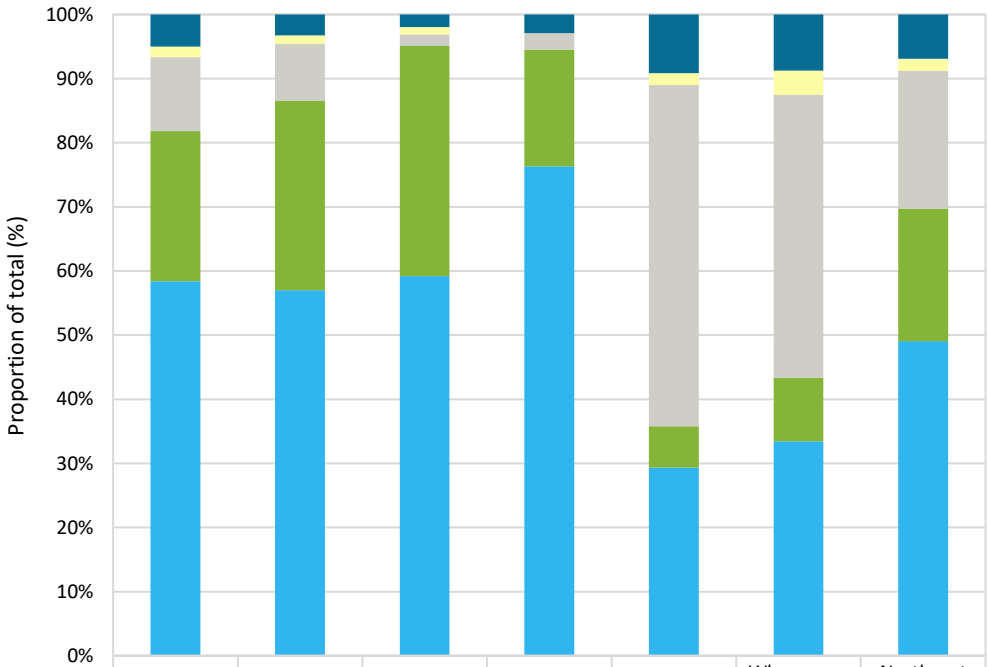
Figure 5-9: Rescue occurrence by residence: New Zealand, Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Surf Life Saving New Zealand, 2016).

### 5.2.6 Rescue occurrence by activity

The activities that persons were engaged in prior to getting into difficulty also vary considerably across the datasets considered (Figure 5-9). Across New Zealand, the most common activities were swimming (58.4%), followed by surfing or bodyboarding (23.4%) and sailing or boating (11.5%). Walking or running and other activities only account for a small proportion of rescues.

In the Auckland region, a distinction in the activity profiles between beaches on the west coast and east coast is evident. The former is dominated by persons who were swimming, bodyboarding, or surfing, while the latter comprises a higher proportion of persons sailing or boating. The activities are clearly linked to the beach type and wave energy of the areas; swimming, bodyboarding, and surfing are popular where wave energy is higher, while the sheltered east coast beaches are more conducive to paddle craft, sail craft, and recreational boating.

Karioitahi Beach has the highest proportion of swimmers rescued (76.3%), while on west coast beaches, a considerable number of bodyboarders or surfers are rescued (35.9%) alongside large numbers of swimmers (59.2%). Rescues involving persons who were sailing or boating are most common on beaches on the North Shore (53.2%) and Whangaparaoa (44.1%). Rescues on the northeast coast are more evenly split across the activities; this is likely a result of the varied morphologies and wave energies experienced in this area.




| | New Zealand (n = 11,433) | Auckland region (n = 3,173) | West coast beaches (n = 2,176) | Karioitahi Beach (n = 346) | North Shore beaches (n = 109) | Whangaparaoa beaches (n = 263) | Northeast coast beaches (n = 261) |
|---|---|---|---|---|---|---|---|
| Other | 5.0% | 3.3% | 2.0% | 2.9% | 9.2% | 8.7% | 6.9% |
| Walking / running | 1.7% | 1.4% | 1.1% | 0.0% | 1.8% | 3.8% | 1.9% |
| Sailing / boating | 11.5% | 8.9% | 1.8% | 2.6% | 53.2% | 44.1% | 21.5% |
| Surfing / bodyboarding | 23.4% | 29.5% | 35.9% | 18.2% | 6.4% | 9.9% | 20.7% |
| Swimming | 58.4% | 57.0% | 59.2% | 76.3% | 29.4% | 33.5% | 49.0% |

Figure 5-10: Rescue occurrence by activity: New Zealand, Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Surf Life Saving New Zealand, 2016).

### 5.2.7 Rescue occurrence by contributing factor

Surf lifeguards also record any factors that they consider to have contributed to an incident's occurrence. As there are often multiple factors that contribute to an incident, i.e. poor swimming and rips / holes, the overall percentages in Table 5-3 (below) add up to more than 100%. Analysis of these factors provides insight into the major environmental hazards in each area, as well as the activities, competencies, and behaviours that may contribute to people getting into difficulty.

Across New Zealand, the most common factors listed as contributing to an incidents' occurrence are rips or holes (60.5%), followed by exhaustion and poor swimming (32.1% and 35.0%; Table 5-3). This indicates that many water users are unable to identify and avoid rips or holes when they enter the water, and that many overestimate their competence or underestimate the conditions. These proportions are similar to the statistics for the Auckland region.

On west coast beaches and Karioitahi Beach, rips or holes are even more frequently recorded as a contributing factor in rescue incidents (77.8% and 70.3% respectively). Furthermore, at Karioitahi Beach, approximately half of all rescues involve persons who were exhausted and/or had poor swimming ability. Strong surf was also often recorded as a common contributing factor on west coast beaches and at Karioitahi Beach.

In contrast, rescues on beaches on the North Shore, Whangaparaoa, and northeast coast frequently listed strong winds (39.4%, 29.2%, and 23.1%) and equipment failure (27.5%, 25.5%, and 17.2%) as contributing factors. This is likely related to the higher proportion of incidents involving sail craft or boats (see Section 5.2.6) that may be blown offshore and/or are prone to equipment failure. Inappropriate equipment was also frequently recorded as a contributing factor on North Shore beaches (32.1%). Of note, while fewer incidents on east coast beaches involved rips, holes, or strong surf, these proportions increased notably towards the north. This aligns with increased wave exposure at beaches on the northeast coast.

Table 5-3: Rescue occurrence by contributing factor: New Zealand, Auckland region, west coast beaches, Karioitahi Beach, North Shore beaches, Whangaparaoa beaches, and northeast coast beaches (Surf Life Saving New Zealand, 2016).

| Factor | New Zealand (n = 11,885) | Auckland region (n = 3,272) | West coast beaches (n = 2,255) | Karioitahi Beach (n = 350) | North Shore beaches (n = 109) | Whangapa-raoa beaches (n = 267) | Northeast coast beaches (n = 273) |
|---|---|---|---|---|---|---|---|
| Rips / holes | 60.5% | 67.1% | 77.8% | 70.3% | 6.4% | 19.5% | 47.6% |
| Strong surf | 29.2% | 30.2% | 33.9% | 32.6% | 3.7% | 14.6% | 22.0% |
| Strong winds | 12.5% | 9.8% | 5.1% | 4.9% | 39.4% | 29.2% | 23.1% |
| Jellyfish sting | 0.1% | 0.2% | 0.2% | 0.0% | 0.0% | 0.0% | 0.4% |
| Exhaustion | 32.1% | 30.7% | 28.9% | 47.0% | 33.0% | 23.6% | 28.5% |
| Poor swimming | 35.0% | 35.5% | 35.5% | 53.6% | 25.7% | 23.2% | 27.0% |
| Cramp | 0.9% | 0.8% | 0.8% | 0.9% | 0.9% | 0.0% | 0.7% |
| Drugs / alcohol | 1.3% | 1.0% | 1.0% | 1.7% | 0.0% | 1.1% | 0.7% |
| Excessive clothing | 3.4% | 4.5% | 4.1% | 11.0% | 2.8% | 1.5% | 3.0% |
| Equipment failure | 8.1% | 7.2% | 3.5% | 2.6% | 27.5% | 25.5% | 17.2% |
| Inappropriate equipment | 6.8% | 7.8% | 6.9% | 8.1% | 32.1% | 5.6% | 6.7% |

# 6 Comparative risk analysis: Auckland region

The beaches, lakes, and waterfalls investigated as part of this supervision and surveillance assessment are highly diverse in their site characteristics (see Section 4.2), physical morphologies (see Section 4.3), and nearby population demographics (see Section 4.4). The use of the sites (see Section 4.5) and history of fatal drowning incidents and non-fatal incidents (Section 5) also vary considerably. These factors assist in understanding the risk of drowning and injury at the sites and provide important context for the development of supervision and surveillance recommendations. However, to quantitatively compare the level of risk at each of the sites, detailed analysis of water use and site hazardousness is required.

This section first describes the variability of water use across different sites in the Auckland region (Section 6.1). These water use values are then adjusted in accordance with the relative risk using established statistical relationships between beach type, wave energy, number of water users, and the probability of rescue (Mulcahy, 2014c). The resulting 'risk-adjusted water use values' are presented in Section 6.2, and thresholds for different types of supervision or surveillance services are identified (Figure 6-1). Finally, the risk-adjusted water use values across all analysed sites are ranked to assist with the prioritisation of sites across the Auckland region (Section 6.3).

Of note, detailed supervision and surveillance assessments have already been completed for the sixteen beaches in the Auckland region that currently or previously have had surf lifeguarding services. These reports provide recommendations on surf lifeguarding season lengths and patrol hours, as well as relevant qualifications and other operational considerations. These sixteen sites are also included in the comparative analysis presented in this chapter, and are used as reference datasets from which to estimate water use at nearby unpatrolled sites.

## 6.1 Volume and frequency of water use

It is widely accepted that surf lifeguard service provision, and by extension any form of supervision or surveillance, should take into account both environmental hazards and water use (World Health Organisation, 2003). This section describes the variation in water use at different sites across the Auckland region, and at different times during spring, summer and autumn.

In the Auckland region, hourly water use is recorded by surf lifeguards during the patrolled periods over spring, summer, and autumn. To identify trends in water use across the season and across the hours of the day, ten years of data held within Surf Life Saving New Zealand's Patrol and Memberships (PAM) database was reviewed. To standardise the data and reduce the influence of weather and other factors on the water use patterns for any particular season, the data was corrected to align weekdays and weekends over the ten year period for analysis. Statistics (minimum, lower quartile, median, upper quartile, and maximum) were then calculated to create summary datasets.

To compare water use between the sites, upper quartile (75$^{th}$ percentile) water use values were calculated for each week and weekend at each site throughout the season (where data was available). For sites where there was no water use data available, i.e. unpatrolled sites, water use has been calculated based on the estimated proportion of water use when compared to a nearby patrolled site. These proportions were determined based on a comparison of car counter data (where available), on-site observations, and counts at

unpatrolled sites with beaches where water use data is available. Discussions with site stakeholders also informed this process.

### 6.1.1 Structure of the upper quartile water use tables

The comparative water use data is presented in Table 6-3 to Table 6-10; there is one table each for weekday and weekend water use for the four coastal areas considered in this report.

The name of each site is outlined in the first row, and an associated abbreviation is provided. For unpatrolled sites, the second row of the weekday water use tables identifies the adjacent patrolled site from which water use is calculated; the third row outlines the percentage used in the calculation.

The fourth row in the weekday water use tables and second row in the weekend water use tables shows the calculated peak summary 75$^{th}$ percentile water use value for weekdays and weekends at each site ($W^{75}$). This summary value enables quantitative comparison between sites, and is calculated as the average of all 75$^{th}$ percentile water use values from December week 4 to January week 4 (weekdays) or December week 3 to February week 4 (weekends); these are considered the peak periods for weekdays and weekends respectively.

The remaining rows display the calculated 75$^{th}$ percentile water use values ($W^{75}$) for each week or weekend at each site throughout the season (where data was available and/or calculated). All values are shaded according to the colours outlined in Table 6-1 to enable visual comparison between the sites. Numbers that are italicised have been calculated using the identified proportions.

Table 6-1: Colour scale used in the 75$^{th}$ percentile water use tables.

| |
|---|
| 0 - 10 |
| 10 - 20 |
| 20 - 30 |
| 30 - 40 |
| 40 - 50 |
| 50 - 60 |
| 60 - 70 |
| 70 - 80 |
| 80 - 90 |
| 90 - 100 |
| 100 - 110 |
| 110 - 120 |
| 120 - 130 |
| 130 - 140 |
| 140 - 150 |
| 150 - 160 |
| 160 - 170 |
| 170 - 180 |
| 180 - 190 |
| 190 - 200 |
| ≥200 |

In addition, the abbreviations outlined in Table 6-2 are used in the upper quartile water use tables below (Table 6-3 to Table 6-10), as well as the risk-adjusted water use tables (Table 6-12 to Table 6-19; see Section 6.2) and comparative ranking tables (Table 6-21 to Table 6-28; see Section 6.3).

Table 6-2: Abbreviations.

| Abbreviation | Description |
|---|---|
| 1 | Labour Day falls within this period |
| 2 | Christmas Day, Boxing Day, New Year's Day, and Day after New Year's Day fall within this period |
| 3 | Auckland Anniversary Day falls within this period |
| 4 | Waitangi Day falls within this period |
| 5 | Good Friday and Easter Monday fall within this period |
| 6 | ANZAC Day falls within this period |
| SH | Schools holidays fall within this period |

Table 6-3: Weekday upper quartile water use ($W^{75}$) calculated for beaches, lakes, and waterfalls, on the west coast.

| Site | Rimmer Road (RR) | Muriwai Beach (MB) | Maukatia (M) | O'Neill Bay (OB) | Te Henga (TH) | Lake Wainamu (LW) | Anawhata Beach (AB) | Whites Beach (WB) | North Piha Beach (NPB) | Piha Beach (PB) | Kitekite Falls (KF) | Mercer Bay (MB) | Karekare Beach (KKB) | Karekare Falls (KKF) | Whatipu Beach (W) | Hamiltons Gap (HG) | Karioitahi Beach (KB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Where site-specific water use data is not available, water use is calculated based on data recorded at this nearby site | MB | - | MB | TH | - | TH | NPB | NPB | - | - | PB | KKB | - | KKB | KKB | KB | - |
| Proportion of water use as proxy (%) | 5% | - | 25% | 30% | - | 40% | 7.5% | 7.5% | - | - | 5% | 7.5% | - | 15% | 25% | 7.5% | - |
| **Site upper quartile value: mid to late December to the end of January** | ***2.8*** | **56.7** | ***14.2*** | ***5.3*** | **17.8** | ***7.1*** | ***2.2*** | ***2.2*** | **29.2** | **57.5** | ***2.9*** | ***0.9*** | **12.2** | ***1.8*** | ***3.0*** | ***1.5*** | **20.2** |
| December week 1: Monday - Friday | *1.2* | 23.8 | *6.0* | | | | | | | 26.9 | *1.3* | | | | | | |
| December week 2: Monday - Friday | *0.8* | 16.1 | *4.0* | | | | | | | 16.1 | *0.8* | | | | | | |
| December week 3: Monday - Friday[SH] | *1.2* | 23.9 | *6.0* | *1.8* | 5.9 | *2.4* | *0.7* | *0.7* | 9.5 | 25.7 | *1.3* | *0.2* | 3.2 | *0.5* | *0.8* | *0.3* | 4.6 |
| **December week 4: Monday - Friday[SH]** | *2.6* | 51.6 | *12.9* | *6.1* | 20.3 | *8.1* | *2.4* | *2.4* | 32.5 | 36.8 | *1.8* | *0.7* | 9.6 | *1.4* | *2.4* | *1.4* | 18.7 |
| **December week 5: Monday - Friday[2, SH]** | *3.4* | 68.1 | *17.0* | *5.7* | 19.0 | *7.6* | *2.5* | *2.5* | 33.0 | 50.9 | *2.5* | *1.0* | 13.0 | *2.0* | *3.3* | *2.2* | 29.8 |
| **January week 1: Monday - Friday[2, SH]** | *3.8* | 75.2 | *18.8* | *6.9* | 23.0 | *9.2* | *3.7* | *3.7* | 49.4 | 91.3 | *4.6* | *1.5* | 19.7 | *3.0* | *4.9* | *1.8* | 23.9 |
| **January week 2: Monday - Friday[SH]** | *2.6* | 52.7 | *13.2* | *5.0* | 16.6 | *6.6* | *1.7* | *1.7* | 22.7 | 63.6 | *3.2* | *1.1* | 14.3 | *2.2* | *3.6* | *1.2* | 15.8 |
| **January week 3: Monday - Friday[SH]** | *1.5* | 30.4 | *7.6* | *2.8* | 9.4 | *3.8* | *0.8* | *0.8* | 11.1 | 40.2 | *2.0* | *0.4* | 5.8 | *0.9* | *1.4* | *0.7* | 9.6 |
| **January week 4: Monday - Friday[3, SH]** | *3.1* | 62.0 | *15.5* | *5.5* | 18.5 | *7.4* | *2.0* | *2.0* | 26.4 | 62.3 | *3.1* | *0.8* | 10.4 | *1.6* | *2.6* | *1.7* | 23.2 |
| February week 1: Monday - Friday[4, SH] | *2.6* | 51.6 | *12.9* | *4.8* | 16.1 | *6.4* | *3.1* | *3.1* | 41.6 | 57.5 | *2.9* | *1.0* | 13.2 | *2.0* | *3.3* | *1.9* | 24.9 |
| February week 2: Monday - Friday[4] | *3.7* | 73.6 | *18.4* | *2.2* | 7.4 | *3.0* | *2.0* | *2.0* | 27.1 | 36.4 | *1.8* | *1.4* | 18.4 | *2.8* | *4.6* | *1.6* | 20.8 |
| February week 3: Monday - Friday | *1.1* | 22.7 | *5.7* | *1.4* | 4.6 | *1.9* | *0.4* | *0.4* | 5.7 | 28.4 | *1.4* | *0.5* | 7.2 | *1.1* | *1.8* | *0.6* | 8.3 |
| February week 4: Monday - Friday | *2.0* | 39.1 | *9.8* | *2.5* | 8.4 | *3.4* | *1.2* | *1.2* | 16.2 | 41.4 | *2.1* | *0.5* | 7.1 | *1.1* | *1.8* | *0.8* | 10.4 |
| March week 1: Monday - Friday | *1.6* | 31.8 | *7.9* | | | | | | | 23.6 | *1.2* | | | | | | |
| March week 2: Monday - Friday | *1.0* | 20.7 | *5.2* | | | | | | | 27.4 | *1.4* | | | | | | |
| March week 3: Monday - Friday | *0.9* | 17.4 | *4.3* | | | | | | | 19.3 | *1.0* | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-4: Weekend upper quartile water use ($W^{75}$) calculated for beaches, lakes, and waterfalls, on the west coast.

| Site | RR | MB | M | OB | TH | LW | AB | WB | NPB | PB | KF | MB | KKB | KKF | W | HG | KB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site upper quartile value: mid-December to the end of February** | *6.1* | 121.6 | *30.4* | *9.9* | 32.9 | *13.2* | *4.8* | *4.8* | 64.3 | 86.3 | *4.3* | *2.1* | 27.4 | *4.1* | *6.9* | *2.8* | 37.8 |
| October week 3: Saturday - Monday[1] | *0.7* | 14.7 | *3.7* | *1.1* | 3.7 | *1.5* | *0.4* | *0.4* | 6.0 | 12.0 | *0.6* | *0.2* | 2.4 | *0.4* | *0.6* | *0.4* | 5.3 |
| October week 4: Saturday - Sunday | *1.5* | 29.7 | *7.4* | *2.5* | 8.4 | *3.4* | *1.9* | *1.9* | 24.8 | 46.3 | *2.3* | *0.4* | 4.8 | *0.7* | *1.2* | *0.8* | 10.2 |
| November week 1: Saturday - Sunday | *1.8* | 36.7 | *9.2* | *5.0* | 16.7 | *6.7* | *2.7* | *2.7* | 35.8 | 29.9 | *1.5* | *0.7* | 9.1 | *1.4* | *2.3* | *0.7* | 9.4 |
| November week 2: Saturday - Sunday | *1.6* | 31.9 | *8.0* | *4.0* | 13.4 | *5.4* | *2.2* | *2.2* | 29.5 | 21.2 | *1.1* | *0.4* | 5.8 | *0.9* | *1.4* | *1.2* | 15.8 |
| November week 3: Saturday - Sunday | *2.4* | 47.3 | *11.8* | *3.4* | 11.4 | *4.6* | *0.7* | *0.7* | 8.7 | 26.2 | *1.3* | *1.0* | 13.7 | *2.1* | *3.4* | *0.5* | 7.2 |
| November week 4: Saturday - Sunday | *2.2* | 45.0 | *11.2* | *4.9* | 16.3 | *6.5* | *1.3* | *1.3* | 17.0 | 39.5 | *2.0* | *0.9* | 11.7 | *1.8* | *2.9* | *1.4* | 18.8 |
| December week 1: Saturday - Sunday | *2.0* | 39.3 | *9.8* | *2.9* | 9.7 | *3.9* | *1.4* | *1.4* | 18.6 | 30.1 | *1.5* | *0.7* | 9.8 | *1.5* | *2.4* | *0.7* | 9.2 |
| December week 2: Saturday - Sunday | *2.7* | 53.8 | *13.5* | *3.7* | 12.4 | *4.9* | *1.3* | *1.3* | 17.8 | 29.5 | *1.5* | *0.7* | 8.7 | *1.3* | *2.2* | *1.0* | 12.9 |
| **December week 3: Saturday - Sunday[SH]** | *3.6* | 72.0 | *18.0* | *7.4* | 24.7 | *9.9* | *2.1* | *2.1* | 28.5 | 48.1 | *2.4* | *1.2* | 15.4 | *2.3* | *3.8* | *1.5* | 20.2 |
| **December week 4: Saturday - Sunday[2, SH]** | *5.1* | 101.4 | *25.3* | *5.8* | 19.4 | *7.8* | *4.5* | *4.5* | 60.5 | 59.4 | *3.0* | *1.4* | 18.0 | *2.7* | *4.5* | *3.5* | 46.9 |
| **December week 5: Saturday - Sunday[2, SH]** | *3.1* | 62.0 | *15.5* | *4.8* | 16.0 | *6.4* | *3.0* | *3.0* | 40.5 | 99.2 | *5.0* | *1.1* | 14.3 | *2.2* | *3.6* | *2.0* | 26.5 |
| **January week 1: Saturday - Sunday[SH]** | *4.9* | 98.3 | *24.6* | *7.7* | 25.6 | *10.2* | *3.8* | *3.8* | 51.0 | 74.4 | *3.7* | *1.7* | 23.1 | *3.5* | *5.8* | *3.0* | 39.8 |
| **January week 2: Saturday - Sunday[SH]** | *9.1* | 181.2 | *45.3* | *10.8* | 35.9 | *14.3* | *8.5* | *8.5* | 112.9 | 130.7 | *6.5* | *3.0* | 40.3 | *6.0* | *10.1* | *2.6* | 35.1 |
| **January week 3: Saturday - Sunday[SH]** | *7.9* | 157.1 | *39.3* | *13.5* | 45.0 | *18.0* | *5.2* | *5.2* | 69.3 | 128.5 | *6.4* | *1.8* | 23.7 | *3.6* | *5.9* | *3.6* | 47.7 |
| **January week 4: Saturday - Sunday[3, SH]** | *9.6* | 191.0 | *47.8* | *13.6* | 45.3 | *18.1* | *4.8* | *4.8* | 64.5 | 72.9 | *3.6* | *3.1* | 41.5 | *6.2* | *10.4* | *3.3* | 43.8 |
| **February week 1: Saturday - Sunday[4, SH]** | *5.6* | 112.9 | *28.2* | *6.4* | 21.5 | *8.6* | *5.0* | *5.0* | 66.3 | 106.8 | *5.3* | *2.1* | 27.4 | *4.1* | *6.8* | *3.0* | 40.1 |
| **February week 2: Saturday - Sunday[4]** | *6.7* | 133.2 | *33.3* | *13.0* | 43.3 | *17.3* | *7.4* | *7.4* | 99.1 | 77.6 | *3.9* | *2.8* | 36.8 | *5.5* | *9.2* | *3.1* | 41.2 |
| **February week 3: Saturday - Sunday** | *5.8* | 116.3 | *29.1* | *14.4* | 48.0 | *19.2* | *2.8* | *2.8* | 36.9 | 96.9 | *4.8* | *2.0* | 26.9 | *4.0* | *6.7* | *1.9* | 25.6 |
| **February week 4: Saturday - Sunday** | *5.6* | 112.0 | *28.0* | *11.2* | 37.3 | *14.9* | *5.8* | *5.8* | 77.4 | 54.7 | *2.7* | *2.6* | 34.3 | *5.1* | *8.6* | *3.7* | 49.4 |
| March week 1: Saturday - Sunday | *3.0* | 59.8 | *14.9* | *4.7* | 15.6 | *6.2* | *3.3* | *3.3* | 44.0 | 29.4 | *1.5* | *1.8* | 23.6 | *3.5* | *5.9* | *1.1* | 14.7 |
| March week 2: Saturday - Sunday | *5.4* | 108.9 | *27.2* | *9.9* | 32.9 | *13.2* | *3.6* | *3.6* | 48.0 | 63.8 | *3.2* | *1.5* | 19.5 | *2.9* | *4.9* | *1.6* | 20.8 |
| March week 3: Saturday - Sunday | *3.9* | 78.3 | *19.6* | *4.2* | 14.0 | *5.6* | *5.7* | *5.7* | 75.9 | 44.0 | *2.2* | *1.0* | 13.2 | *2.0* | *3.3* | *1.2* | 15.8 |
| March week 4: Saturday - Sunday[5] | *3.0* | 60.4 | *15.1* | *6.1* | 20.4 | *8.1* | *1.3* | *1.3* | 17.3 | 83.7 | *4.2* | *1.2* | 16.6 | *2.5* | *4.1* | *1.1* | 15.1 |
| April week 1: Saturday - Sunday[5, SH] | *3.0* | 59.7 | *14.9* | *4.0* | 13.4 | *5.4* | *2.6* | *2.6* | 34.2 | 64.8 | *3.2* | *1.1* | 14.3 | *2.1* | *3.6* | *0.9* | 11.8 |
| April week 2: Saturday - Sunday[5, SH] | *2.3* | 45.6 | *11.4* | *5.3* | 17.5 | *7.0* | *1.9* | *1.9* | 25.4 | 38.8 | *1.9* | *0.6* | 7.6 | *1.1* | *1.9* | *0.8* | 10.3 |
| April week 3: Saturday - Sunday[5, SH] | *2.4* | 47.5 | *11.9* | *4.4* | 14.6 | *5.9* | *0.8* | *0.8* | 10.8 | 47.8 | *2.4* | *1.7* | 23.0 | *3.5* | *5.8* | *0.3* | 4.5 |
| April week 4: Saturday - Sunday[5, 6, SH] | *1.1* | 22.6 | *5.7* | *3.3* | 10.9 | *4.4* | *0.8* | *0.8* | 10.8 | 27.1 | *1.4* | *0.4* | 5.0 | *0.8* | *1.3* | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-5: Weekday upper quartile water use ($W^{75}$) calculated for beaches and lakes on the North Shore.

| Site | Torpedo Bay (TPB) | Cheltenham Beach (CHB) | Narrowneck Beach (NNB) | St Leonards Beach (SB) | Takapuna Beach (TB) | Lake Pupuke (LP) | Thorne Bay (THB) | Milford Beach (MFB) | Castor Bay (CB) | Kennedy Park (KP) | Campbells Bay (CMB) | Mairangi Bay (MB) | Murrays Bay (MRB) | Rothesay Bay (RSB) | Browns Bay (BRB) | Waiake Bay (WB) | Winstones Cove (WNC) | Toroa Point (TP) | Long Bay (LB) | Grannys Bay (GB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Where site-specific water use data is not available, water use is calculated based on data recorded at this nearby site | TB | TB | TB | TB | - | TB | TB | - | MFB | MFB | MB | - | MB | BRB | - | BRB | BRB | BRB | - | LB |
| Proportion of water use as proxy (%) | 12.5% | 20% | 25% | 2.5% | - | 10% | 4% | - | 35% | 5% | 25% | - | 80% | 25% | - | 65% | 15% | 5% | - | 2% |
| **Site upper quartile value: mid to late December to the end of January** | ***6.8*** | ***10.9*** | ***13.6*** | ***1.4*** | **54.3** | ***5.4*** | ***2.2*** | **30.4** | ***10.6*** | ***1.5*** | ***7.5*** | **30.0** | ***24.0*** | ***8.3*** | **33.1** | ***21.5*** | ***5.0*** | ***1.7*** | **86.3** | ***1.7*** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | *1.1* | 4.4 | *3.5* | | | | | | | |
| **December week 4: Monday - Friday[SH]** | *5.4* | *8.6* | *10.8* | *1.1* | 43.0 | *4.3* | *1.7* | 19.9 | *6.9* | *1.0* | *6.6* | 26.2 | *21.0* | *4.8* | 19.4 | *12.6* | *2.9* | *1.0* | 57.7 | *1.2* |
| **December week 5: Monday - Friday[2, SH]** | *8.2* | *13.1* | *16.4* | *1.6* | 65.7 | *6.6* | *2.6* | 27.9 | *9.8* | *1.4* | *6.5* | 26.1 | *20.8* | *8.7* | 34.9 | *22.7* | *5.2* | *1.7* | 112.5 | *2.3* |
| **January week 1: Monday - Friday[2, SH]** | *6.1* | *9.7* | *12.1* | *1.2* | 48.6 | *4.9* | *1.9* | 38.0 | *13.3* | *1.9* | *8.6* | 34.4 | *27.6* | *8.5* | 33.9 | *22.0* | *5.1* | *1.7* | 116.1 | *2.3* |
| **January week 2: Monday - Friday[SH]** | *5.8* | *9.4* | *11.7* | *1.2* | 46.8 | *4.7* | *1.9* | 30.5 | *10.7* | *1.5* | *7.1* | 28.6 | *22.9* | *9.2* | 36.6 | *23.8* | *5.5* | *1.8* | 62.8 | *1.3* |
| **January week 3: Monday - Friday[SH]** | *8.4* | *13.5* | *16.8* | *1.7* | 67.3 | *6.7* | *2.7* | 31.3 | *10.9* | *1.6* | *6.2* | 25.0 | *20.0* | *7.9* | 31.7 | *20.6* | *4.7* | *1.6* | 72.7 | *1.5* |
| **January week 4: Monday - Friday[3, SH]** | *6.8* | *10.9* | *13.7* | *1.4* | 54.6 | *5.5* | *2.2* | 34.8 | *12.2* | *1.7* | *10.0* | 40.0 | *32.0* | *10.6* | 42.3 | *27.5* | *6.3* | *2.1* | 96.1 | *1.9* |
| February week 1: Monday - Friday[4, SH] | *18.1* | *28.9* | *36.1* | *3.6* | 144.5 | *14.5* | *5.8* | 39.5 | *13.8* | *2.0* | *4.6* | 18.5 | *14.8* | *7.6* | 30.5 | *19.9* | *4.6* | *1.5* | 192.5 | *3.9* |
| February week 2: Monday - Friday[4] | *4.4* | *7.0* | *8.7* | *0.9* | 34.9 | *3.5* | *1.4* | 38.4 | *13.5* | *1.9* | *9.2* | 36.6 | *29.3* | *5.2* | 20.9 | *13.6* | *3.1* | *1.0* | 142.5 | *2.9* |
| February week 3: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| February week 4: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-6: Weekend upper quartile water use ($W^{75}$) calculated for beaches and lakes on the North Shore.

| Site | TPB | CHB | NNB | SB | TB | LP | THB | MFB | CB | KP | CMB | MB | MRB | RSB | BRB | WB | WNC | TP | LB | GB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site upper quartile value: mid-December to the end of February** | ***12.7*** | ***20.4*** | ***25.5*** | ***2.5*** | **102.0** | ***10.2*** | ***4.1*** | **45.8** | ***16.0*** | ***2.3*** | ***12.1*** | **48.5** | ***38.8*** | ***11.8*** | **47.2** | ***30.7*** | ***7.1*** | ***2.4*** | **169.0** | ***3.4*** |
| October week 3: Saturday - Monday[1] | *1.2* | *1.9* | *2.3* | *0.2* | *9.3* | *0.9* | *0.4* | *4.0* | *1.4* | *0.2* | *1.0* | 3.9 | *3.2* | *1.0* | *4.0* | *2.6* | *0.6* | *0.2* | *14.6* | *0.3* |
| October week 4: Saturday - Sunday | *3.3* | *5.3* | *6.7* | *0.7* | *26.7* | *2.7* | *1.1* | *11.5* | *4.0* | *0.6* | *2.8* | 11.4 | *9.1* | *2.9* | *11.5* | *7.5* | *1.7* | *0.6* | *42.1* | *0.8* |
| November week 1: Saturday - Sunday | *4.5* | *7.2* | *9.0* | *0.9* | *36.2* | *3.6* | *1.4* | *15.5* | *5.4* | *0.8* | *3.8* | 15.4 | *12.3* | *3.9* | *15.6* | *10.1* | *2.3* | *0.8* | *57.0* | *1.1* |
| November week 2: Saturday - Sunday | *5.7* | *9.2* | *11.5* | *1.1* | *45.9* | *4.6* | *1.8* | *19.7* | *6.9* | *1.0* | *4.9* | 19.5 | *15.6* | *5.0* | *19.8* | *12.9* | *3.0* | *1.0* | *72.3* | *1.4* |
| November week 3: Saturday - Sunday | *5.7* | *9.1* | *11.3* | *1.1* | *45.3* | *4.5* | *1.8* | *19.5* | *6.8* | *1.0* | *4.8* | 19.3 | *15.4* | *4.9* | *19.6* | *12.7* | *2.9* | *1.0* | *71.5* | *1.4* |
| November week 4: Saturday - Sunday | *6.4* | *10.2* | *12.7* | *1.3* | *51.0* | *5.1* | *2.0* | *21.9* | *7.7* | *1.1* | *5.4* | 21.7 | *17.4* | *5.5* | *22.0* | *14.3* | *3.3* | *1.1* | *80.3* | *1.6* |
| December week 1: Saturday - Sunday | *4.7* | *7.5* | *9.4* | *0.9* | *37.7* | *3.8* | *1.5* | *16.2* | *5.7* | *0.8* | *4.0* | 16.1 | *12.8* | *4.1* | *16.3* | *10.6* | *2.4* | *0.8* | *59.4* | *1.2* |
| December week 2: Saturday - Sunday | *3.5* | *5.6* | *7.0* | *0.7* | *28.1* | *2.8* | *1.1* | *12.1* | *4.2* | *0.6* | *3.0* | 12.0 | *9.6* | *3.0* | *12.1* | *7.9* | *1.8* | *0.6* | *44.3* | *0.9* |
| **December week 3: Saturday - Sunday[SH]** | *5.8* | *9.3* | *11.6* | *1.2* | 46.4 | *4.6* | *1.9* | 20.3 | *7.1* | *1.0* | *10.2* | 40.8 | *32.7* | *4.6* | 18.5 | *12.0* | *2.8* | *0.9* | 71.9 | *1.4* |
| **December week 4: Saturday - Sunday[2, SH]** | *8.7* | *14.0* | *17.5* | *1.7* | 69.9 | *7.0* | *2.8* | 43.4 | *15.2* | *2.2* | *9.4* | 37.6 | *30.1* | *12.2* | 48.7 | *31.7* | *7.3* | *2.4* | 282.1 | *5.6* |
| **December week 5: Saturday - Sunday[2, SH]** | *9.8* | *15.7* | *19.6* | *2.0* | 78.6 | *7.9* | *3.1* | 41.3 | *14.5* | *2.1* | *9.2* | 36.7 | *29.3* | *11.4* | 45.5 | *29.6* | *6.8* | *2.3* | 87.3 | *1.7* |
| **January week 1: Saturday - Sunday[SH]** | *15.9* | *25.4* | *31.7* | *3.2* | 126.9 | *12.7* | *5.1* | 59.3 | *20.8* | *3.0* | *11.7* | 46.9 | *37.5* | *13.5* | 54.1 | *35.1* | *8.1* | *2.7* | 183.0 | *3.7* |
| **January week 2: Saturday - Sunday[SH]** | *20.9* | *33.5* | *41.8* | *4.2* | 167.3 | *16.7* | *6.7* | 75.6 | *26.5* | *3.8* | *14.9* | 59.7 | *47.7* | *15.1* | 60.5 | *39.3* | *9.1* | *3.0* | 170.9 | *3.4* |
| **January week 3: Saturday - Sunday[SH]** | *23.6* | *37.7* | *47.2* | *4.7* | 188.7 | *18.9* | *7.5* | 73.7 | *25.8* | *3.7* | *19.4* | 77.8 | *62.2* | *22.5* | 90.2 | *58.6* | *13.5* | *4.5* | 254.8 | *5.1* |
| **January week 4: Saturday - Sunday[3, SH]** | *7.3* | *11.7* | *14.6* | *1.5* | 58.4 | *5.8* | *2.3* | 19.0 | *6.7* | *1.0* | *8.1* | 32.4 | *25.9* | *8.8* | 35.3 | *22.9* | *5.3* | *1.8* | 223.1 | *4.5* |
| **February week 1: Saturday - Sunday[4, SH]** | *9.9* | *15.9* | *19.9* | *2.0* | 79.5 | *7.9* | *3.2* | 34.1 | *11.9* | *1.7* | *8.1* | 32.5 | *26.0* | *6.2* | 24.6 | *16.0* | *3.7* | *1.2* | 79.1 | *1.6* |
| **February week 2: Saturday - Sunday[4]** | *17.9* | *28.7* | *35.9* | *3.6* | *143.6* | *14.4* | *5.7* | *61.7* | *21.6* | *3.1* | *15.3* | 61.1 | *48.9* | *15.5* | *62.0* | *40.3* | *9.3* | *3.1* | *226.3* | *4.5* |
| **February week 3: Saturday - Sunday** | *19.6* | *31.3* | *39.1* | *3.9* | *156.4* | *15.6* | *6.3* | *67.2* | *23.5* | *3.4* | *16.6* | 66.6 | *53.3* | *16.9* | *67.5* | *43.9* | *10.1* | *3.4* | *246.5* | *4.9* |
| **February week 4: Saturday - Sunday** | *12.2* | *19.6* | *24.5* | *2.4* | *98.0* | *9.8* | *3.9* | *42.1* | *14.7* | *2.1* | *10.4* | 41.7 | *33.4* | *10.6* | *42.3* | *27.5* | *6.3* | *2.1* | *154.4* | *3.1* |
| March week 1: Saturday - Sunday | *10.3* | *16.5* | *20.7* | *2.1* | *82.7* | *8.3* | *3.3* | *35.5* | *12.4* | *1.8* | *8.8* | 35.2 | *28.1* | *8.9* | *35.7* | *23.2* | *5.4* | *1.8* | *130.3* | *2.6* |
| March week 2: Saturday - Sunday | *7.7* | *12.3* | *15.4* | *1.5* | *61.5* | *6.1* | *2.5* | *26.4* | *9.2* | *1.3* | *6.5* | 26.2 | *20.9* | *6.6* | *26.5* | *17.2* | *4.0* | *1.3* | *96.9* | *1.9* |
| March week 3: Saturday - Sunday | *6.9* | *11.1* | *13.9* | *1.4* | *55.6* | *5.6* | *2.2* | *23.9* | *8.4* | *1.2* | *5.9* | 23.7 | *18.9* | *6.0* | *24.0* | *15.6* | *3.6* | *1.2* | *87.6* | *1.8* |
| March week 4: Saturday - Sunday[5] | *7.3* | *11.6* | *14.5* | *1.5* | *58.1* | *5.8* | *2.3* | *25.0* | *8.7* | *1.2* | *6.2* | 24.7 | *19.8* | *6.3* | *25.1* | *16.3* | *3.8* | *1.3* | *91.6* | *1.8* |
| April week 1: Saturday - Sunday[5, SH] | *4.2* | *6.8* | *8.5* | *0.8* | *33.9* | *3.4* | *1.4* | *14.6* | *5.1* | *0.7* | *3.6* | 14.4 | *11.5* | *3.7* | *14.6* | *9.5* | *2.2* | *0.7* | *53.5* | *1.1* |
| April week 2: Saturday - Sunday[5, SH] | *8.0* | *12.8* | *16.0* | *1.6* | *64.0* | *6.4* | *2.6* | *27.5* | *9.6* | *1.4* | *6.8* | 27.3 | *21.8* | *6.9* | *27.6* | *18.0* | *4.1* | *1.4* | *100.9* | *2.0* |
| April week 3: Saturday - Sunday[5, SH] | *4.8* | *7.6* | *9.5* | *1.0* | *38.2* | *3.8* | *1.5* | *16.4* | *5.7* | *0.8* | *4.1* | 16.3 | *13.0* | *4.1* | *16.5* | *10.7* | *2.5* | *0.8* | *60.2* | *1.2* |
| April week 4: Saturday - Sunday[5, 6, SH] | *1.8* | *2.9* | *3.7* | *0.4* | *14.7* | *1.5* | *0.6* | *6.3* | *2.2* | *0.3* | *1.6* | 6.3 | *5.0* | *1.6* | *6.3* | *4.1* | *1.0* | *0.3* | *23.1* | *0.5* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-7: Weekday upper quartile water use ($W^{75}$) calculated for beaches on the Whangaparaoa.

| Site | Arkles Bay (AKB) | Little Manly Bay (LMB) | Matakatia Bay (MB) | Okoromai Bay (OKB) | Te Haruhi Bay (THB) | Army Bay (AB) | Waiau Bay (WB) | Big Manly Bay (BMB) | Stanmore Bay (SB) | Red Beach (RB) | Orewa Beach (OB) | Hatfields Beach (HB) | Waiwera Beach (WWB) | Wenderholm Beach (WB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Where site-specific water use data is not available, water use is calculated based on data recorded at this nearby site | OB | OB | OB | OB | OB | OB | OB | OB | OB | - | - | OB | WB | - |
| Proportion of water use as proxy (%) | 14% | 5% | 12% | 16% | 45% | 18% | 11% | 35% | 45% | - | - | 11% | 17.5% | - |
| **Site upper quartile value: mid to late December to the end of January** | ***14.6*** | ***5.2*** | ***12.5*** | ***16.7*** | ***46.9*** | ***18.8*** | ***11.5*** | ***36.5*** | ***46.9*** | **30.6** | **104.3** | ***11.5*** | ***5.3*** | **30.6** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | *2.5* | *0.9* | *2.2* | *2.9* | *8.2* | *3.3* | *2.0* | *6.3* | *8.2* | | 18.1 | *2.0* | | |
| **December week 4: Monday - Friday[SH]** | *6.1* | *2.2* | *5.2* | *7.0* | *19.7* | *7.9* | *4.8* | *15.3* | *19.7* | 23.1 | 43.7 | *4.8* | *2.2* | 12.9 |
| **December week 5: Monday - Friday[2, SH]** | *13.5* | *4.8* | *11.6* | *15.4* | *43.3* | *17.3* | *10.6* | *33.7* | *43.3* | 33.9 | 96.3 | *10.6* | *4.3* | 24.8 |
| **January week 1: Monday - Friday[2, SH]** | *23.6* | *8.4* | *20.2* | *27.0* | *75.9* | *30.4* | *18.5* | *59.0* | *75.9* | 42.1 | 168.6 | *18.5* | *11.5* | 65.9 |
| **January week 2: Monday - Friday[SH]** | *18.8* | *6.7* | *16.1* | *21.5* | *60.5* | *24.2* | *14.8* | *47.1* | *60.5* | 22.0 | 134.5 | *14.8* | *3.3* | 18.7 |
| **January week 3: Monday - Friday[SH]** | *11.2* | *4.0* | *9.6* | *12.8* | *36.0* | *14.4* | *8.8* | *28.0* | *36.0* | | 80.0 | *8.8* | | |
| **January week 4: Monday - Friday[3, SH]** | *14.4* | *5.1* | *12.3* | *16.4* | *46.3* | *18.5* | *11.3* | *36.0* | *46.3* | 37.6 | 102.8 | *11.3* | | |
| February week 1: Monday - Friday[4, SH] | *12.1* | *4.3* | *10.4* | *13.9* | *39.0* | *15.6* | *9.5* | *30.3* | *39.0* | 35.6 | 86.6 | *9.5* | *8.8* | 50.0 |
| February week 2: Monday - Friday[4] | *15.4* | *5.5* | *13.2* | *17.6* | *49.4* | *19.8* | *12.1* | *38.4* | *49.4* | 44.5 | 109.8 | *12.1* | | |
| February week 3: Monday - Friday | *2.5* | *0.9* | *2.2* | *2.9* | *8.1* | *3.3* | *2.0* | *6.3* | *8.1* | | 18.1 | *2.0* | | |
| February week 4: Monday - Friday | *2.8* | *1.0* | *2.4* | *3.2* | *8.9* | *3.6* | *2.2* | *6.9* | *8.9* | | 19.9 | *2.2* | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-8: Weekend upper quartile water use ($W^{75}$) calculated for beaches on the Whangaparaoa.

| Site | AKB | LMB | MB | OKB | THB | AB | WB | BMB | SB | RB | OB | HB | WWB | WB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site upper quartile value: mid-December to the end of February** | ***20.5*** | ***7.3*** | ***17.5*** | ***23.4*** | ***65.8*** | ***26.3*** | ***16.1*** | ***51.2*** | ***65.8*** | **49.2** | **146.2** | ***16.1*** | ***12.1*** | **69.2** |
| October week 3: Saturday - Monday[1] | *1.5* | *0.5* | *1.3* | *1.7* | *4.8* | *1.9* | *1.2* | *3.8* | *4.8* | 5.3 | 10.7 | *1.2* | *0.7* | *4.0* |
| October week 4: Saturday - Sunday | *4.0* | *1.4* | *3.5* | *4.6* | *13.0* | *5.2* | *3.2* | *10.1* | *13.0* | 16.7 | 28.9 | *3.2* | *1.9* | *10.7* |
| November week 1: Saturday - Sunday | *5.4* | *1.9* | *4.6* | *6.2* | *17.4* | *7.0* | *4.3* | *13.5* | *17.4* | 25.4 | 38.7 | *4.3* | *2.5* | *14.4* |
| November week 2: Saturday - Sunday | *4.1* | *1.5* | *3.5* | *4.7* | *13.2* | *5.3* | *3.2* | *10.3* | *13.2* | 27.0 | 29.4 | *3.2* | *1.9* | *10.9* |
| November week 3: Saturday - Sunday | *3.7* | *1.3* | *3.2* | *4.3* | *12.0* | *4.8* | *2.9* | *9.3* | *12.0* | 16.2 | 26.6 | *2.9* | *1.7* | *9.9* |
| November week 4: Saturday - Sunday | *9.9* | *3.5* | *8.5* | *11.3* | *31.7* | *12.7* | *7.8* | *24.7* | *31.7* | 33.9 | 70.5 | *7.8* | *4.6* | *26.2* |
| December week 1: Saturday - Sunday | *8.9* | *3.2* | *7.7* | *10.2* | *28.7* | *11.5* | *7.0* | *22.3* | *28.7* | 48.6 | 63.8 | *7.0* | *2.7* | 15.5 |
| December week 2: Saturday - Sunday | *4.4* | *1.6* | *3.8* | *5.0* | *14.2* | *5.7* | *3.5* | *11.0* | *14.2* | 17.3 | 31.5 | *3.5* | *2.0* | *11.7* |
| **December week 3: Saturday - Sunday[SH]** | *10.3* | *3.7* | *8.8* | *11.8* | *33.2* | *13.3* | *8.1* | *25.8* | *33.2* | 25.3 | 73.7 | *8.1* | *4.1* | 23.6 |
| **December week 4: Saturday - Sunday[2, SH]** | *18.3* | *6.6* | *15.7* | *21.0* | *59.0* | *23.6* | *14.4* | *45.9* | *59.0* | 49.0 | 131.0 | *14.4* | *16.2* | 92.8 |
| **December week 5: Saturday - Sunday[2, SH]** | *16.2* | *5.8* | *13.9* | *18.5* | *52.1* | *20.8* | *12.7* | *40.5* | *52.1* | 43.7 | 115.8 | *12.7* | *12.7* | 72.6 |
| **January week 1: Saturday - Sunday[SH]** | *21.6* | *7.7* | *18.5* | *24.7* | *69.5* | *27.8* | *17.0* | *54.1* | *69.5* | 74.9 | 154.5 | *17.0* | *14.2* | 80.9 |
| **January week 2: Saturday - Sunday[SH]** | *26.5* | *9.5* | *22.8* | *30.3* | *85.3* | *34.1* | *20.9* | *66.4* | *85.3* | 44.5 | 189.6 | *20.9* | *17.1* | 97.5 |
| **January week 3: Saturday - Sunday[SH]** | *21.7* | *7.7* | *18.6* | *24.8* | *69.7* | *27.9* | *17.0* | *54.2* | *69.7* | 78.9 | 154.9 | *17.0* | *8.3* | 47.5 |
| **January week 4: Saturday - Sunday[3, SH]** | *27.2* | *9.7* | *23.3* | *31.1* | *87.5* | *35.0* | *21.4* | *68.1* | *87.5* | 41.7 | 194.5 | *21.4* | *12.7* | *72.3* |
| **February week 1: Saturday - Sunday[4, SH]** | *22.0* | *7.9* | *18.8* | *25.1* | *70.7* | *28.3* | *17.3* | *55.0* | *70.7* | 38.3 | 157.0 | *17.3* | *10.2* | *58.4* |
| **February week 2: Saturday - Sunday[4]** | *24.0* | *8.6* | *20.6* | *27.4* | *77.1* | *30.8* | *18.9* | *60.0* | *77.1* | 49.0 | 171.4 | *18.9* | *11.1* | *63.7* |
| **February week 3: Saturday - Sunday** | *19.0* | *6.8* | *16.3* | *21.8* | *61.2* | *24.5* | *15.0* | *47.6* | *61.2* | 55.3 | 136.0 | *15.0* | *8.8* | *50.6* |
| **February week 4: Saturday - Sunday** | *18.2* | *6.5* | *15.6* | *20.7* | *58.3* | *23.3* | *14.3* | *45.4* | *58.3* | 41.1 | 129.7 | *14.3* | *8.4* | *48.2* |
| March week 1: Saturday - Sunday | *8.2* | *2.9* | *7.0* | *9.4* | *26.4* | *10.5* | *6.4* | *20.5* | *26.4* | 31.0 | 58.6 | *6.4* | *3.8* | *21.8* |
| March week 2: Saturday - Sunday | *10.9* | *3.9* | *9.3* | *12.5* | *35.0* | *14.0* | *8.6* | *27.3* | *35.0* | 32.9 | 77.9 | *8.6* | *5.1* | *28.9* |
| March week 3: Saturday - Sunday | *7.7* | *2.8* | *6.6* | *8.8* | *24.8* | *9.9* | *6.1* | *19.3* | *24.8* | 17.5 | 55.1 | *6.1* | *3.6* | *20.5* |
| March week 4: Saturday - Sunday[5] | *16.4* | *5.9* | *14.1* | *18.8* | *52.8* | *21.1* | *12.9* | *41.0* | *52.8* | 23.4 | 117.3 | *12.9* | *7.6* | *43.6* |
| April week 1: Saturday - Sunday[5, SH] | *5.7* | *2.1* | *4.9* | *6.6* | *18.5* | *7.4* | *4.5* | *14.4* | *18.5* | 11.8 | 41.0 | *4.5* | *2.7* | *15.2* |
| April week 2: Saturday - Sunday[5, SH] | *13.1* | *4.7* | *11.3* | *15.0* | *42.2* | *16.9* | *10.3* | *32.8* | *42.2* | 30.8 | 93.8 | *10.3* | *6.1* | *34.8* |
| April week 3: Saturday - Sunday[5, SH] | *8.0* | *2.9* | *6.9* | *9.2* | *25.8* | *10.3* | *6.3* | *20.1* | *25.8* | | 57.4 | *6.3* | *3.7* | *21.3* |
| April week 4: Saturday - Sunday[5, 6, SH] | *3.2* | *1.1* | *2.7* | *3.6* | *10.1* | *4.1* | *2.5* | *7.9* | *10.1* | | 22.5 | *2.5* | *1.5* | *8.4* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-9: Weekday upper quartile water use ($W^{75}$) calculated for beaches on the northeast coast.

| Site | Martins Bay (MTB) | Scandretts Bay (SB) | Algies Bay (ALB) | Snells Beach (SNB) | Sandspit (S) | Baddeleys Beach (BB) | Campbells Bay (CMB) | Jones Bay (JB) | Anchor Bay (AB) | Omaha Beach (OB) | Matheson Bay (MB) | Goat Island (GI) | Pakiri Beach (PB) | Forestry (F) | Te Arai (TA) | Black Swamp (BS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Where site-specific water use data is not available, water use is calculated based on data recorded at this nearby site | OB | OB | OB | OB | OB | OB | OB | OB | OB | - | OB | OB | - | PB | PB | PB |
| Proportion of water use as proxy (%) | 20% | 7.5% | 17.5% | 22.5% | 10% | 4% | 4% | 5% | 40% | - | 15% | 50% | - | 20% | 80% | 7.5% |
| **Site upper quartile value: mid to late December to the end of January** | ***13.7*** | ***5.1*** | ***12.0*** | ***15.4*** | ***6.9*** | ***2.7*** | ***2.7*** | ***3.4*** | ***27.5*** | **68.6** | ***10.3*** | ***34.3*** | **27.4** | ***5.5*** | ***21.9*** | ***2.1*** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | *1.5* | *0.5* | *1.3* | *1.6* | *0.7* | *0.3* | *0.3* | *0.4* | *2.9* | 7.3 | *1.1* | *3.6* | 2.3 | *0.5* | *1.8* | *0.2* |
| **December week 4: Monday - Friday[SH]** | *4.1* | *1.5* | *3.6* | *4.6* | *2.0* | *0.8* | *0.8* | *1.0* | *8.2* | 20.4 | *3.1* | *10.2* | 5.9 | *1.2* | *4.7* | *0.4* |
| **December week 5: Monday - Friday[2, SH]** | *18.4* | *6.9* | *16.1* | *20.7* | *9.2* | *3.7* | *3.7* | *4.6* | *36.7* | 91.9 | *13.8* | *45.9* | 28.9 | *5.8* | *23.1* | *2.2* |
| **January week 1: Monday - Friday[2, SH]** | *25.8* | *9.7* | *22.6* | *29.0* | *12.9* | *5.2* | *5.2* | *6.5* | *51.6* | 129.1 | *19.4* | *64.5* | 66.2 | *13.2* | *52.9* | *5.0* |
| **January week 2: Monday - Friday[SH]** | *17.2* | *6.5* | *15.1* | *19.4* | *8.6* | *3.4* | *3.4* | *4.3* | *34.5* | 86.2 | *12.9* | *43.1* | 34.0 | *6.8* | *27.2* | *2.6* |
| **January week 3: Monday - Friday[SH]** | *8.7* | *3.3* | *7.6* | *9.8* | *4.3* | *1.7* | *1.7* | *2.2* | *17.4* | 43.4 | *6.5* | *21.7* | 13.6 | *2.7* | *10.9* | *1.0* |
| **January week 4: Monday - Friday[3, SH]** | *8.2* | *3.1* | *7.2* | *9.2* | *4.1* | *1.6* | *1.6* | *2.0* | *16.4* | 40.9 | *6.1* | *20.4* | 15.6 | *3.1* | *12.5* | *1.2* |
| February week 1: Monday - Friday[4, SH] | *7.5* | *2.8* | *6.6* | *8.5* | *3.8* | *1.5* | *1.5* | *1.9* | *15.1* | 37.6 | *5.6* | *18.8* | 15.4 | *3.1* | *12.3* | *1.2* |
| February week 2: Monday - Friday[4] | *4.6* | *1.7* | *4.0* | *5.2* | *2.3* | *0.9* | *0.9* | *1.2* | *9.2* | 23.1 | *3.5* | *11.5* | 6.5 | *1.3* | *5.2* | *0.5* |
| February week 3: Monday - Friday | *1.9* | *0.7* | *1.7* | *2.2* | *1.0* | *0.4* | *0.4* | *0.5* | *3.8* | 9.6 | *1.4* | *4.8* | | | | |
| February week 4: Monday - Friday | *1.1* | *0.4* | *1.0* | *1.2* | *0.6* | *0.2* | *0.2* | *0.3* | *2.2* | 5.5 | *0.8* | *2.8* | | | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-10: Weekend upper quartile water use ($W^{75}$) calculated for beaches on the northeast coast.

| Site | MTB | SB | ALB | SNB | S | BB | CMB | JB | AB | OB | MB | GI | PB | F | TA | BS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site upper quartile value: mid-December to the end of February** | ***24.6*** | ***9.2*** | ***21.5*** | ***27.7*** | ***12.3*** | ***4.9*** | ***4.9*** | ***6.1*** | ***49.2*** | **122.9** | ***18.4*** | ***61.4*** | **36.3** | ***7.3*** | ***29.0*** | ***2.7*** |
| October week 3: Saturday - Monday[1] | *3.0* | *1.1* | *2.6* | *3.3* | *1.5* | *0.6* | *0.6* | *0.7* | *5.9* | 14.8 | *2.2* | *7.4* | *4.4* | *0.9* | *3.5* | *0.3* |
| October week 4: Saturday - Sunday | *2.2* | *0.8* | *2.0* | *2.5* | *1.1* | *0.4* | *0.4* | *0.6* | *4.5* | 11.1 | *1.7* | *5.6* | *3.3* | *0.7* | *2.7* | *0.2* |
| November week 1: Saturday - Sunday | *3.0* | *1.1* | *2.6* | *3.3* | *1.5* | *0.6* | *0.6* | *0.7* | *5.9* | 14.8 | *2.2* | *7.4* | *4.4* | *0.9* | *3.5* | *0.3* |
| November week 2: Saturday - Sunday | *8.8* | *3.3* | *7.7* | *9.9* | *4.4* | *1.8* | *1.8* | *2.2* | *17.5* | 43.9 | *6.6* | *21.9* | *13.1* | *2.6* | *10.5* | *1.0* |
| November week 3: Saturday - Sunday | *3.3* | *1.2* | *2.9* | *3.7* | *1.7* | *0.7* | *0.7* | *0.8* | *6.7* | 16.6 | *2.5* | *8.3* | *5.0* | *1.0* | *4.0* | *0.4* |
| November week 4: Saturday - Sunday | *6.8* | *2.5* | *5.9* | *7.6* | *3.4* | *1.4* | *1.4* | *1.7* | *13.5* | 33.8 | *5.1* | *16.9* | *10.1* | *2.0* | *8.1* | *0.8* |
| December week 1: Saturday - Sunday | *5.8* | *2.2* | *5.1* | *6.6* | *2.9* | *1.2* | *1.2* | *1.5* | *11.7* | 29.2 | *4.4* | *14.6* | *8.7* | *1.7* | *7.0* | *0.7* |
| December week 2: Saturday - Sunday | *6.3* | *2.4* | *5.5* | *7.1* | *3.1* | *1.3* | *1.3* | *1.6* | *12.6* | 31.5 | *4.7* | *15.7* | *9.4* | *1.9* | *7.5* | *0.7* |
| **December week 3: Saturday - Sunday[SH]** | *6.6* | *2.5* | *5.8* | *7.5* | *3.3* | *1.3* | *1.3* | *1.7* | *13.3* | 33.1 | *5.0* | *16.6* | 8.5 | *1.7* | *6.8* | *0.6* |
| **December week 4: Saturday - Sunday[2, SH]** | *17.6* | *6.6* | *15.4* | *19.7* | *8.8* | *3.5* | *3.5* | *4.4* | *35.1* | 87.8 | *13.2* | *43.9* | 38.3 | *7.7* | *30.7* | *2.9* |
| **December week 5: Saturday - Sunday[2, SH]** | *26.7* | *10.0* | *23.3* | *30.0* | *13.3* | *5.3* | *5.3* | *6.7* | *53.3* | 133.3 | *20.0* | *66.6* | 37.3 | *7.5* | *29.9* | *2.8* |
| **January week 1: Saturday - Sunday[SH]** | *48.5* | *18.2* | *42.5* | *54.6* | *24.3* | *9.7* | *9.7* | *12.1* | *97.0* | 242.6 | *36.4* | *121.3* | 37.8 | *7.6* | *30.2* | *2.8* |
| **January week 2: Saturday - Sunday[SH]** | *25.3* | *9.5* | *22.2* | *28.5* | *12.7* | *5.1* | *5.1* | *6.3* | *50.7* | 126.7 | *19.0* | *63.3* | 44.7 | *8.9* | *35.8* | *3.4* |
| **January week 3: Saturday - Sunday[SH]** | *41.2* | *15.4* | *36.0* | *46.3* | *20.6* | *8.2* | *8.2* | *10.3* | *82.4* | 205.9 | *30.9* | *103.0* | 72.6 | *14.5* | *58.1* | *5.4* |
| **January week 4: Saturday - Sunday[3, SH]** | *20.6* | *7.7* | *18.0* | *23.1* | *10.3* | *4.1* | *4.1* | *5.1* | *41.1* | 102.8 | *15.4* | *51.4* | 31.4 | *6.3* | *25.1* | *2.4* |
| **February week 1: Saturday - Sunday[4, SH]** | *31.2* | *11.7* | *27.3* | *35.1* | *15.6* | *6.2* | *6.2* | *7.8* | *62.3* | 155.8 | *23.4* | *77.9* | 23.6 | *4.7* | *18.9* | *1.8* |
| **February week 2: Saturday - Sunday[4]** | *17.6* | *6.6* | *15.4* | *19.8* | *8.8* | *3.5* | *3.5* | *4.4* | *35.2* | 87.9 | *13.2* | *43.9* | 32.1 | *6.4* | *25.7* | *2.4* |
| **February week 3: Saturday - Sunday** | *16.9* | *6.3* | *14.8* | *19.0* | *8.4* | *3.4* | *3.4* | *4.2* | *33.8* | 84.5 | *12.7* | *42.2* | *25.2* | *5.0* | *20.1* | *1.9* |
| **February week 4: Saturday - Sunday** | *18.3* | *6.9* | *16.0* | *20.6* | *9.2* | *3.7* | *3.7* | *4.6* | *36.6* | 91.5 | *13.7* | *45.8* | *27.3* | *5.5* | *21.8* | *2.0* |
| March week 1: Saturday - Sunday | *17.5* | *6.6* | *15.3* | *19.7* | *8.7* | *3.5* | *3.5* | *4.4* | *35.0* | 87.4 | *13.1* | *43.7* | *26.0* | *5.2* | *20.8* | *2.0* |
| March week 2: Saturday - Sunday | *12.9* | *4.8* | *11.3* | *14.5* | *6.4* | *2.6* | *2.6* | *3.2* | *25.8* | 64.5 | *9.7* | *32.2* | *19.2* | *3.8* | *15.4* | *1.4* |
| March week 3: Saturday - Sunday | *6.6* | *2.5* | *5.7* | *7.4* | *3.3* | *1.3* | *1.3* | *1.6* | *13.1* | 32.8 | *4.9* | *16.4* | *9.8* | *2.0* | *7.8* | *0.7* |
| March week 4: Saturday - Sunday[5] | *12.5* | *4.7* | *10.9* | *14.1* | *6.3* | *2.5* | *2.5* | *3.1* | *25.0* | 62.5 | *9.4* | *31.3* | *18.6* | *3.7* | *14.9* | *1.4* |
| April week 1: Saturday - Sunday[5, SH] | *10.4* | *3.9* | *9.1* | *11.7* | *5.2* | *2.1* | *2.1* | *2.6* | *20.8* | 52.1 | *7.8* | *26.0* | *15.5* | *3.1* | *12.4* | *1.2* |
| April week 2: Saturday - Sunday[5, SH] | *29.3* | *11.0* | *25.6* | *32.9* | *14.6* | *5.9* | *5.9* | *7.3* | *58.5* | 146.3 | *21.9* | *73.1* | *43.6* | *8.7* | *34.9* | *3.3* |
| April week 3: Saturday - Sunday[5, SH] | *5.8* | *2.2* | *5.0* | *6.5* | *2.9* | *1.2* | *1.2* | *1.4* | *11.5* | 28.8 | *4.3* | *14.4* | *8.6* | *1.7* | *6.9* | *0.6* |
| April week 4: Saturday - Sunday[5, 6, SH] | *28.8* | *10.8* | *25.2* | *32.3* | *14.4* | *5.8* | *5.8* | *7.2* | *57.5* | 143.8 | *21.6* | *71.9* | *42.8* | *8.6* | *34.3* | *3.2* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

## 6.2 Risk-adjusted water use analysis

As outline in Section 6.1, the provision of supervision and surveillance in aquatic environments should take into account both environmental hazards and water use. The previous section outlined the variation in water use across the sites considered in this assessment and at different times of the season. In this section, the 75$^{th}$ percentile water use values are adjusted based on the calculated risks to enable quantitative comparison.

This analysis uses statistical relationships established in *A surf lifeguard supervision model for New Zealand beaches* (for further details see Mulcahy, 2014c). This model enables consistent evaluation of risks at beaches throughout New Zealand, and as such evidence-based determination of the supervision and surveillance requirements. The model analyses the probability of a person requiring rescue across different beach morphologies, wave energies, and patterns of water use; this is based on data collected by surf lifeguards across New Zealand between July 2004 and June 2014. The calculated probabilities can then be used as a proxy for supervision requirements.

For the purposes of this report, the supervision model has been adjusted so it can also be applied to lakes and waterfalls. Furthermore, it has been adjusted so that it can inform the provision of formal surveillance and informal surveillance, as well as formal supervision. The provision of surveillance requires less human and financial resources when compared to supervision, due to a lower level of calculated risk and/or the types of water use.

The primary components of the surf lifeguard supervision model are outlined below; for further details see Mulcahy (2014c). Following this, the method for calculating the risk-adjusted water use values, and their association with relevant supervision and surveillance thresholds, are described.

### 6.2.1 Influence of environmental factors on the probability of rescue

To determine the influence of environmental factors on risk, the probabilities of an individual requiring rescue at different beach types and under varying wave energy regimes were calculated using linear or exponential regressions (Table 6-11). These values are assumed to be representative of the relative hazardousness of different beach types and wave energies across New Zealand. A hazard factor for each beach type and wave height was then calculated by dividing each probability by the 'base probability' (the probability of rescue when wave height is between 0 and 0.5 m, averaged across all beach types; see Table 6-11a).

As there was no data available for lakes and waterfalls, the hazardousness of these environments was estimated based on the probability of rescue on an analogous beach type: tide-modified beaches. Two hazard factors are used for lakes and waterfalls in this assessment: one for small-scale, shallow, and/or low energy hydrodynamic settings (equivalent to tide-modified beaches where wave energy is between 0 - 0.5 m) and one for large-scale, deep, and/or moderate energy hydrodynamic settings (equivalent to a slightly higher energy tide-modified beach; see Table 6-11f).

The calculated hazard factors will be used to adjust the upper quartile water use values so that risks at sites can be objectively compared, as outlined in Section 6.2.3.

Table 6-11: Probability of rescue and hazard factors for (a) all beaches, (b) dissipative beaches, (c) intermediate beaches, (d) reflective beaches, (e) tide-modified beaches, and (f) lakes and waterfalls.

| (a) All beaches | y = 0.003x + 0.0027 | |
|---|---|---|
| Wave height | Probability | Hazard factor |
| 0 - 0.5 m (0.25 m) | 0.00342* | 1.00 |

*Base probability used to calculate the hazard factors across all beach types.

| (b) Dissipative beaches | y = 0.0031x + 0.0056 | |
|---|---|---|
| Wave height | Probability | Hazard factor |
| 0 - 0.5 m (0.25 m) | 0.00630 | 1.84 |
| 0.5 - 1.0 m (0.75 m) | 0.00785 | 2.29 |
| 1.0 - 1.5 m (1.25 m) | 0.00941 | 2.75 |
| 1.5 - 2.0 m (1.75 m) | 0.01096 | 3.20 |
| 2.0 - 2.5 m (2.25 m) | 0.01251 | 3.65 |
| 2.5 - 3.0 m (2.75 m) | 0.01406 | 4.11 |
| 3.0 - 3.5 m (3.25 m) | 0.01561 | 4.56 |
| 3.5 - 4.0 m (3.75 m) | 0.01716 | 5.01 |
| > 4.0 m (4.25 m) | 0.01871 | 5.47 |

| (c) Intermediate beaches | y = 0.0022x + 0.0027 | |
|---|---|---|
| Wave height | Probability | Hazard factor |
| 0 - 0.5 m (0.25 m) | 0.00329 | 0.96 |
| 0.5 - 1.0 m (0.75 m) | 0.00438 | 1.28 |
| 1.0 - 1.5 m (1.25 m) | 0.00547 | 1.60 |
| 1.5 - 2.0 m (1.75 m) | 0.00656 | 1.92 |
| 2.0 - 2.5 m (2.25 m) | 0.00765 | 2.23 |
| 2.5 - 3.0 m (2.75 m) | 0.00874 | 2.55 |
| 3.0 - 3.5 m (3.25 m) | 0.00983 | 2.87 |
| 3.5 - 4.0 m (3.75 m) | 0.01093 | 3.19 |
| > 4.0 m (4.25 m) | 0.01202 | 3.51 |

| (d) Reflective beaches | y=0.0016(e^1.5703x) | |
|---|---|---|
| Wave height | Probability | Hazard factor |
| 0 - 0.5 m (0.25 m) | 0.00170 | 0.50 |
| 0.5 - 1.0 m (0.75 m) | 0.00529 | 1.55 |
| 1.0 - 1.5 m (1.25 m) | 0.01645 | 4.80 |

| (e) Tide-modified beaches | y = 0.003x + 0.0027 | |
|---|---|---|
| Wave height | Probability | Hazard factor |
| 0 - 0.5 m (0.25 m) | 0.00159 | 0.46 |
| 0 - 0.5 m (0.25 m)** | 0.00260 | 0.76 |
| 0.5 - 1.0 m (0.75 m) | 0.00361 | 1.05 |

**Hazard factor may be increased on tide-modified beaches where streams, estuaries, and/or other hydrodynamic processes are present.

| (f) Lakes and waterfalls | - | |
|---|---|---|
| Hydrodynamic energy | Probability | Hazard factor |
| Small-scale, shallow, and/or low energy waterway: equivalent to 0 - 0.5 m (0.25 m) at a tide-modified beach | 0.00159 | 0.46 |
| Large-scale, deep, and/or moderate energy waterway: halfway between 0 - 0.5 m (0.25 m) and 0.5 - 1.0 m (0.75 m) at a tide-modified beach | 0.00260 | 0.76 |

### 6.2.2 Influence of water use on the probability of rescue

The data was further analysed to determine the influence of water use on the probability of rescue. This analysis found that, irrespective of beach type, the probability of rescue increases as water use increases, but at a gradually declining rate (Mulcahy, 2014c). This relationship is expressed in the following formula (Equation 6-1):

$$\text{Probability of rescue} = (-0.001473 \ln(W) + 0.11924) * W$$

*Where:*
*W = number of people in the water*

Equation 6-1: Calculated probability of rescue based on water use.

This diminishing relationship between water use and probability of rescue indicates that the provision of supervision or surveillance (i.e. the number of personnel providing the service)

does not need to increase directly in proportion with the number of water users. As the number of water users increases, the number of personnel per water user can decrease while still managing the risk to an equivalent level.

### 6.2.3 Calculation of the risk-adjusted water use values

To calculate the risk-adjusted water use values, and as such enable the water use data for all sites in the Auckland region to be quantitatively compared, the relationships between environmental hazards, water use, and the probability of rescue are combined into the following formula (Equation 6-2).

$$Risk\text{-}adjusted\ water\ use\ value = \left(\frac{\left(-0.001473 \ln\left(W^{75}\right)+0.11924\right) * W^{75}}{0.1796}\right) * 25 * H$$

*Where:*
*$W^{75}$ = 75$^{th}$ percentile water use*
*H = hazard factor, based on the beach morphology and wave height*

Equation 6-2: Calculation of risk-adjusted water use values.

The calculated risk-adjusted water use values for all beaches, lakes, and waterfalls considered in this report are presented in Table 6-12 to Table 6-19. The following sections (Section 6.2.4 and Section 6.2.5) assist with the interpretation of these tables.

### 6.2.4 Supervision and surveillance thresholds

To provide consistent guidance on the type of supervision and surveillance that may be appropriate given a particular level of calculated risk, various ranges of risk-adjusted water use values have been related to different types and levels of service. These service types are described in detail in Section 7; the relevant thresholds are outlined below and displayed in Figure 6-1.

The provision of formal supervision, such as a surf lifeguarding service, is recommended where the risk-adjusted water use values are calculated to be equal or greater than 25. This is termed the 'Formal Supervision Threshold'. Furthermore, each subsequent increase of 25 risk-adjusted water use values indicates the need for approximately one additional surf lifeguard (or equivalent personnel).

The lower limit for the provision of formal surveillance has been established at 60% of the formal supervision threshold. As such, the 'Formal Surveillance Threshold' has been established at 15; risk-adjusted water use values above this threshold and below 25 are coloured green. However, formal surveillance may also be appropriate at times when the risk-adjusted water use values are higher than 25; for example, at sites where water users are spread across a large area, a large proportion of water users are highly competent relative to the environmental conditions, or where the environmental conditions are relatively low risk.

The lower limit for the provision of structured informal surveillance (such as a community ranger service; see Section 7) has been set at 30% of the formal supervision threshold. Therefore, the 'Informal Surveillance Threshold: Structured' has been set at 7.5; risk-adjusted water use values above this threshold but below 15 are yellow.

Of note, these categories and associated colours provide objective guidance on the type and level of supervision and surveillance that is likely suitable at a site. However, this categorisation is not definitive, and the final service recommendations (as presented in Section

8) are determined based on both the numerical modelling and site-specific characteristics (as outlined in the earlier sections of this report).

| Type of supervision or surveillance | Risk-adjusted water use value | |
|---|---|---|
| **'Formal Supervision Threshold' ≥25**<br>'Formal Supervision', i.e. surf lifeguarding service<br>▪ Dedicated, flexible, on-call | | ≥400 |
| | | 375 - (400) |
| | | 350 - (375) |
| | | 325 - (350) |
| | | 300 - (325) |
| **'Formal Surveillance Threshold' ≥15**<br>'Formal Surveillance', i.e. aquatic ranger service<br>▪ Dedicated, flexible, on-call<br>▪ Remote surveillance, i.e. CCTV and UAV<br>▪ Roving surveillance, i.e. RWC | | 275 - (300) |
| | | 250 - (275) |
| | | 225 - (250) |
| | | 200 - (225) |
| | | 175 - (200) |
| | | 150 - (175) |
| | | 125 - (150) |
| **'Informal Surveillance Threshold: Structured' ≥7.5**<br>'Informal Surveillance', i.e. community ranger service (community responders and community rangers)<br>▪ Dedicated, flexible, on-call | | 100 - (125) |
| | | 75 - (100) |
| | | 50 - (75) |
| | | 25 - (50) |
| **Informal Surveillance: Unstructured >0**<br>'Informal Surveillance', i.e. incidental surveillance<br>▪ Water safety responders, i.e. surfers and craft users<br>▪ Water safety advisors, i.e. members of angling clubs<br>▪ Water safety ambassadors, i.e. accommodation providers | | 22.5 - (25) |
| | | 20 - (22.5) |
| | | 17.5 - (20) |
| | | 15 - (17.5) |
| | | 12.5 - (15) |
| | | 10 - (12.5) |
| | | 7.5 - (10) |
| | | 0 - (7.5) |

Figure 6-1: Supervision and surveillance thresholds.

### 6.2.5 Structure of the risk-adjusted water use tables

The name of each beach, lake, or waterfall is outlined in the first row of Table 6-12 to Table 6-19, and the associated abbreviation is provided. In the second row of the weekday water use tables, the relevant hazard factor based on the beach type and wave height of the site (see Table 6-11 and Section 4.3 for details) is identified. The third row provides the formula for the risk-adjusted water use calculations.

The fourth row in the weekday water use tables and second row in the weekend water use tables shows the site risk-adjusted water use value calculated for peak weekdays and weekends at each site. This summary value enables quantitative comparison between sites, and is calculated as the average of the risk-adjusted water use values from December week 4 to January week 4 (weekdays) or December week 3 to February week 4 (weekends).

The remaining rows display the calculated risk-adjusted water use values for each week or weekend at each site throughout the season (where data was available and/or calculated). All values are shaded according to the colours outlined in Figure 6-1 to enable visual comparison between the sites and an indication of what is likely to be an appropriate supervision or surveillance service for the site at that time. Numbers that are italicised have been calculated using the identified proportions.

Table 6-12: Weekday risk-adjusted water use values calculated for beaches, lakes, and waterfalls, on the west coast.

| Site | Rimmer Road (RR) | Muriwai Beach (MB) | Maukatia (M) | O'Neill Bay (OB) | Te Henga (TH) | Lake Wainamu (LW) | Anawhata Beach (AB) | Whites Beach (WB) | North Piha Beach (NPB) | Piha Beach (PB) | Kitekite Falls (KF) | Mercer Bay (MB) | Karekare Beach (KKB) | Karekare Falls (KKF) | Whatipu Beach (W) | Hamiltons Gap (HG) | Karioitahi Beach (KB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazard factor (*H*), based on beach morphology and wave environment (see Section 4.3.1) | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 1.05 | 2.75 | 2.75 | 2.75 | 2.75 | 0.76 | 2.75 | 2.75 | 0.46 | 3.20 | 2.75 | 2.75 |
| Risk-adjusted water use calculation (see Section 6.2.3) | $= \left(\frac{(-0.001473 \ln(W^{75}) + 0.11924) * W^{75}}{0.1796}\right) * 25 * H$ | | | | | | | | | | | | | | | | |
| **Site risk-adjusted water use value: mid to late December to the end of January** | ***11.3*** | **129.5** | ***43.4*** | ***19.3*** | **52.3** | ***9.4*** | ***9.0*** | ***9.0*** | **77.6** | **131.0** | ***3.2*** | ***4.2*** | **38.3** | ***1.3*** | ***13.9*** | ***6.5*** | **57.8** |
| December week 1: Monday - Friday | *5.3* | 66.1 | *21.2* | | | | | | | 72.7 | *1.6* | | | | | | |
| December week 2: Monday - Friday | *3.8* | 48.3 | *15.2* | | | | | | | 48.3 | *1.0* | | | | | | |
| December week 3: Monday - Friday[SH] | *5.3* | 66.1 | *21.2* | *7.5* | 21.0 | *3.7* | *3.4* | *3.4* | 31.2 | 70.2 | *1.6* | *1.3* | 12.5 | *0.4* | *4.4* | *1.8* | 17.0 |
| **December week 4: Monday - Friday[SH]** | *10.4* | 120.6 | *40.2* | *21.6* | 58.1 | *10.5* | *9.9* | *9.9* | 84.4 | 93.0 | *2.1* | *3.4* | 31.7 | *1.1* | *11.4* | *6.1* | 54.3 |
| **December week 5: Monday - Friday[2, SH]** | *13.2* | 148.6 | *50.4* | *20.4* | 55.1 | *10.0* | *10.0* | *10.0* | 85.6 | 119.4 | *2.8* | *4.5* | 40.6 | *1.4* | *14.8* | *9.2* | 79.0 |
| **January week 1: Monday - Friday[2, SH]** | *14.3* | 159.9 | *54.6* | *23.9* | 64.2 | *11.7* | *14.2* | *14.2* | 116.7 | 184.2 | *4.7* | *6.4* | 56.9 | *2.0* | *21.0* | *7.6* | 66.3 |
| **January week 2: Monday - Friday[SH]** | *10.6* | 122.7 | *41.0* | *18.2* | 49.5 | *8.9* | *7.2* | *7.2* | 63.5 | 141.2 | *3.4* | *4.9* | 43.9 | *1.5* | *16.0* | *5.3* | 47.6 |
| **January week 3: Monday - Friday[SH]** | *6.6* | 80.2 | *26.0* | *11.2* | 31.1 | *5.5* | *3.9* | *3.9* | 35.5 | 99.7 | *2.3* | *2.2* | 20.6 | *0.7* | *7.3* | *3.4* | 31.5 |
| **January week 4: Monday - Friday[3, SH]** | *12.2* | 138.6 | *46.8* | *19.9* | 53.8 | *9.7* | *8.3* | *8.3* | 71.7 | 139.0 | *3.4* | *3.7* | 33.6 | *1.1* | *12.2* | *7.4* | 64.7 |
| February week 1: Monday - Friday[4, SH] | *10.4* | 120.8 | *40.3* | *17.7* | 48.1 | *8.7* | *12.2* | *12.2* | 102.3 | 130.9 | *3.1* | *4.5* | 41.0 | *1.4* | *14.9* | *7.9* | 68.4 |
| February week 2: Monday - Friday[4] | *14.1* | 157.4 | *53.7* | *9.1* | 25.4 | *4.5* | *8.4* | *8.4* | 73.1 | 92.3 | *2.1* | *6.0* | 53.7 | *1.9* | *19.8* | *6.7* | 59.4 |
| February week 3: Monday - Friday | *5.1* | 63.6 | *20.3* | *6.1* | 17.1 | *3.0* | *2.2* | *2.2* | 20.5 | 76.0 | *1.7* | *2.6* | 24.8 | *0.8* | *8.9* | *3.0* | 28.0 |
| February week 4: Monday - Friday | *8.2* | 97.6 | *32.0* | *10.2* | 28.2 | *5.0* | *5.4* | *5.4* | 48.3 | 101.9 | *2.4* | *2.6* | 24.6 | *0.8* | *8.8* | *3.7* | 33.7 |
| March week 1: Monday - Friday | *6.8* | 83.0 | *26.9* | | | | | | | 65.5 | *1.5* | | | | | | |
| March week 2: Monday - Friday | *4.7* | 59.0 | *18.8* | | | | | | | 73.9 | *1.7* | | | | | | |
| March week 3: Monday - Friday | *4.0* | 51.2 | *16.2* | | | | | | | 55.8 | *1.2* | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-13: Weekend risk-adjusted water use values calculated for beaches, lakes, and waterfalls, on the west coast.

| Site | RR | MB | M | OB | TH | LW | AB | WB | NPB | PB | KF | MB | KKB | KKF | W | HG | KB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site risk-adjusted value: mid-December to the end of February** | ***21.5*** | **225.7** | ***80.1*** | ***32.3*** | **85.3** | ***15.7*** | ***17.7*** | ***17.7*** | **142.4** | **176.8** | ***4.5*** | ***8.5*** | **73.9** | ***2.6*** | ***27.7*** | ***11.3*** | **95.1** |
| October week 3: Saturday - Monday[1] | *3.5* | 44.8 | *14.1* | *5.0* | 14.0 | *2.4* | *2.2* | *2.2* | 21.2 | 37.9 | *0.8* | *1.0* | 9.9 | *0.3* | *3.4* | *2.0* | 19.2 |
| October week 4: Saturday - Sunday | *6.4* | 78.8 | *25.5* | *10.2* | 28.2 | *5.0* | *7.8* | *7.8* | 68.2 | 111.1 | *2.6* | *1.9* | 17.7 | *0.6* | *6.2* | *3.6* | 33.3 |
| November week 1: Saturday - Sunday | *7.7* | 92.8 | *30.3* | *18.3* | 49.7 | *9.0* | *10.7* | *10.7* | 91.0 | 79.0 | *1.8* | *3.3* | 30.3 | *1.0* | *10.9* | *3.4* | 31.0 |
| November week 2: Saturday - Sunday | *6.8* | 83.2 | *27.0* | *15.2* | 41.6 | *7.4* | *9.1* | *9.1* | 78.3 | 60.2 | *1.3* | *2.2* | 20.6 | *0.7* | *7.3* | *5.3* | 47.5 |
| November week 3: Saturday - Sunday | *9.6* | 112.9 | *37.4* | *13.2* | 36.4 | *6.5* | *3.1* | *3.1* | 29.1 | 71.2 | *1.6* | *4.7* | 42.3 | *1.4* | *15.4* | *2.6* | 24.7 |
| November week 4: Saturday - Sunday | *9.2* | 108.7 | *36.0* | *17.9* | 48.7 | *8.8* | *5.6* | *5.6* | 50.4 | 98.4 | *2.3* | *4.1* | 37.2 | *1.3* | *13.5* | *6.2* | 54.7 |
| December week 1: Saturday - Sunday | *8.2* | 98.0 | *32.2* | *11.5* | 31.7 | *5.6* | *6.1* | *6.1* | 54.2 | 79.5 | *1.8* | *3.5* | 32.0 | *1.1* | *11.5* | *3.3* | 30.5 |
| December week 2: Saturday - Sunday | *10.8* | 124.6 | *41.6* | *14.2* | 38.8 | *6.9* | *5.9* | *5.9* | 52.2 | 78.2 | *1.8* | *3.1* | 29.1 | *1.0* | *10.4* | *4.4* | 40.1 |
| **December week 3: Saturday - Sunday[SH]** | *13.8* | 155.0 | *52.8* | *25.4* | 67.9 | *12.4* | *8.8* | *8.8* | 76.2 | 114.3 | *2.7* | *5.2* | 46.4 | *1.6* | *17.0* | *6.6* | 57.9 |
| **December week 4: Saturday - Sunday[2, SH]** | *18.5* | 198.5 | *69.4* | *20.8* | 56.1 | *10.1* | *16.8* | *16.8* | 136.1 | 134.1 | *3.2* | *5.9* | 52.9 | *1.8* | *19.5* | *13.5* | 112.2 |
| **December week 5: Saturday - Sunday[2, SH]** | *12.2* | 138.6 | *46.7* | *17.7* | 48.0 | *8.6* | *11.9* | *11.9* | 100.2 | 195.5 | *5.0* | *4.9* | 43.9 | *1.5* | *16.0* | *8.3* | 71.9 |
| **January week 1: Saturday - Sunday[SH]** | *18.0* | 194.2 | *67.7* | *26.2* | 69.9 | *12.7* | *14.5* | *14.5* | 119.6 | 158.6 | *3.9* | *7.4* | 64.4 | *2.3* | *24.0* | *11.8* | 98.8 |
| **January week 2: Saturday - Sunday[SH]** | *30.1* | 295.7 | *109.3* | *34.7* | 91.2 | *16.8* | *28.4* | *28.4* | 214.3 | 237.3 | *6.3* | *11.9* | 99.8 | *3.6* | *38.2* | *10.6* | 89.6 |
| **January week 3: Saturday - Sunday[SH]** | *26.7* | 268.9 | *97.9* | *41.8* | 108.8 | *20.3* | *18.9* | *18.9* | 150.6 | 234.5 | *6.2* | *7.5* | 65.7 | *2.3* | *24.5* | *13.8* | 113.7 |
| **January week 4: Saturday - Sunday[3, SH]** | *31.4* | 306.0 | *113.8* | *42.0* | 109.3 | *20.4* | *17.8* | *17.8* | 142.8 | 156.4 | *3.9* | *12.2* | 102.2 | *3.7* | *39.2* | *12.8* | 106.5 |
| **February week 1: Saturday - Sunday[4, SH]** | *20.2* | 214.3 | *75.6* | *22.6* | 60.8 | *11.0* | *18.2* | *18.2* | 145.8 | 206.0 | *5.3* | *8.5* | 73.8 | *2.6* | *27.7* | *11.8* | 99.4 |
| **February week 2: Saturday - Sunday[4]** | *23.2* | 240.4 | *86.1* | *40.5* | 105.6 | *19.6* | *25.5* | *25.5* | 195.3 | 163.6 | *4.1* | *11.0* | 93.0 | *3.4* | *35.5* | *12.1* | 101.7 |
| **February week 3: Saturday - Sunday** | *20.7* | 218.7 | *77.4* | *44.0* | 114.2 | *21.3* | *11.0* | *11.0* | 93.2 | 192.2 | *4.9* | *8.4* | 72.7 | *2.6* | *27.3* | *8.0* | 69.9 |
| **February week 4: Saturday - Sunday** | *20.1* | 213.1 | *75.1* | *35.8* | 94.0 | *17.4* | *20.7* | *20.7* | 163.3 | 126.1 | *3.0* | *10.4* | 88.1 | *3.2* | *33.4* | *14.2* | 116.7 |
| March week 1: Saturday - Sunday | *11.8* | 134.9 | *45.4* | *17.2* | 46.9 | *8.4* | *12.8* | *12.8* | 106.8 | 78.0 | *1.8* | *7.5* | 65.6 | *2.3* | *24.5* | *5.0* | 44.8 |
| March week 2: Saturday - Sunday | *19.6* | 209.0 | *73.5* | *32.3* | 85.4 | *15.7* | *13.8* | *13.8* | 114.3 | 141.5 | *3.4* | *6.3* | 56.2 | *2.0* | *20.8* | *6.7* | 59.3 |
| March week 3: Saturday - Sunday | *14.8* | 164.7 | *56.4* | *15.7* | 42.9 | *7.7* | *20.4* | *20.4* | 161.1 | 106.9 | *2.5* | *4.5* | 40.9 | *1.4* | *14.9* | *5.3* | 47.5 |
| March week 4: Saturday - Sunday[5] | *11.9* | 136.0 | *45.8* | *21.6* | 58.3 | *10.6* | *5.7* | *5.7* | 51.2 | 172.9 | *4.3* | *5.5* | 49.3 | *1.7* | *18.1* | *5.1* | 45.7 |
| April week 1: Saturday - Sunday[5, SH] | *11.8* | 134.7 | *45.3* | *15.2* | 41.6 | *7.4* | *10.3* | *10.3* | 87.8 | 143.2 | *3.5* | *4.8* | 43.7 | *1.5* | *16.0* | *4.1* | 37.4 |
| April week 2: Saturday - Sunday[5, SH] | *9.3* | 109.8 | *36.3* | *19.0* | 51.6 | *9.3* | *8.0* | *8.0* | 69.5 | 96.9 | *2.2* | *2.8* | 26.1 | *0.9* | *9.3* | *3.6* | 33.4 |
| April week 3: Saturday - Sunday[5, SH] | *9.7* | 113.3 | *37.6* | *16.4* | 44.6 | *8.0* | *3.8* | *3.8* | 34.6 | 113.9 | *2.7* | *7.3* | 64.3 | *2.3* | *23.9* | *1.7* | 16.7 |
| April week 4: Saturday - Sunday[5, 6, SH] | *5.1* | 63.4 | *20.3* | *12.7* | 35.0 | *6.2* | *3.8* | *3.8* | 34.6 | 73.3 | *1.6* | *1.9* | 18.3 | *0.6* | *6.5* | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-14: Weekday risk-adjusted water use values calculated for beaches and lakes on the North Shore.

| Site | Torpedo Bay (TPB) | Cheltenham Beach (CHB) | Narrowneck Beach (NNB) | St Leonards Beach (SB) | Takapuna Beach (TB) | Lake Pupuke (LP) | Thorne Bay (THB) | Milford Beach (MFB) | Castor Bay (CB) | Kennedy Park (KP) | Campbells Bay (CMB) | Mairangi Bay (MB) | Murrays Bay (MRB) | Rothesay Bay (RSB) | Browns Bay (BRB) | Waiake Bay (WB) | Winstones Cove (WNC) | Toroa Point (TP) | Long Bay (LB) | Grannys Bay (GB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazard factor (*H*), based on beach morphology and wave environment (see Section 4.3.2) | 0.76 | 0.46 | 0.46 | 0.46 | 0.46 | 1.05 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 |
| Risk-adjusted water use calculation (see Section 6.2.3) | $= \left(\frac{(-0.001473 \ln(W^{75}) + 0.11924) * W^{75}}{0.1796}\right) * 25 * H$ | | | | | | | | | | | | | | | | | | | |
| **Site risk-adjusted value: mid to late December to the end of January** | ***6.5*** | ***5.9*** | ***7.1*** | ***1.0*** | **21.2** | ***7.5*** | ***1.5*** | **13.5** | ***5.8*** | ***1.1*** | ***4.3*** | **13.4** | ***11.2*** | ***4.7*** | **14.5** | ***10.3*** | ***3.1*** | ***1.2*** | **29.9** | ***1.2*** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | *0.8* | 2.8 | *2.3* | | | | | | | |
| **December week 4: Monday - Friday[SH]** | *5.4* | *4.9* | *5.9* | *0.8* | 17.7 | *6.2* | *1.2* | 9.7 | *4.1* | *0.8* | *3.9* | 12.0 | *10.1* | *3.0* | 9.5 | *6.7* | *1.9* | *0.7* | 22.2 | *0.9* |
| **December week 5: Monday - Friday[2, SH]** | *7.7* | *6.9* | *8.3* | *1.2* | 24.5 | *8.8* | *1.8* | 12.7 | *5.4* | *1.0* | *3.9* | 12.0 | *10.0* | *4.9* | 15.1 | *10.7* | *3.2* | *1.3* | 36.1 | *1.6* |
| **January week 1: Monday - Friday[2, SH]** | *5.9* | *5.4* | *6.5* | *0.9* | 19.5 | *6.8* | *1.4* | 16.1 | *7.0* | *1.3* | *4.9* | 14.9 | *12.5* | *4.8* | 14.7 | *10.5* | *3.1* | *1.2* | 36.9 | *1.6* |
| **January week 2: Monday - Friday[SH]** | *5.8* | *5.2* | *6.3* | *0.9* | 18.9 | *6.6* | *1.3* | 13.6 | *5.8* | *1.1* | *4.2* | 12.9 | *10.8* | *5.1* | 15.7 | *11.2* | *3.3* | *1.3* | 23.7 | *0.9* |
| **January week 3: Monday - Friday[SH]** | *7.8* | *7.0* | *8.4* | *1.2* | 24.9 | *9.0* | *1.8* | 13.9 | *5.9* | *1.1* | *3.7* | 11.6 | *9.7* | *4.5* | 14.0 | *9.9* | *3.0* | *1.2* | 26.4 | *1.1* |
| **January week 4: Monday - Friday[3, SH]** | *6.6* | *5.9* | *7.1* | *1.0* | 21.3 | *7.6* | *1.5* | 15.1 | *6.5* | *1.2* | *5.5* | 16.8 | *14.1* | *5.8* | 17.5 | *12.5* | *3.8* | *1.5* | 32.3 | *1.4* |
| February week 1: Monday - Friday[4, SH] | *14.6* | *13.0* | *15.5* | *2.3* | 43.0 | *16.9* | *3.5* | 16.6 | *7.2* | *1.4* | *2.9* | 9.1 | *7.6* | *4.4* | 13.6 | *9.7* | *2.9* | *1.1* | 52.0 | *2.5* |
| February week 2: Monday - Friday[4] | *4.5* | *4.1* | *4.9* | *0.7* | 15.1 | *5.2* | *1.0* | 16.3 | *7.0* | *1.4* | *5.1* | 15.7 | *13.2* | *3.2* | 10.0 | *7.1* | *2.1* | *0.8* | 42.6 | *1.9* |
| February week 3: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| February week 4: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-15: Weekend risk-adjusted water use values calculated for beaches and lakes on the North Shore.

| Site | TPB | CHB | NNB | SB | TB | LP | THB | MFB | CB | KP | CMB | MB | MRB | RSB | BRB | WB | WNC | TP | LB | GB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site risk-adjusted value: mid-December to the end of February** | ***11.0*** | ***9.9*** | ***11.8*** | ***1.7*** | **33.7** | ***12.7*** | ***2.6*** | **18.6** | ***8.1*** | ***1.6*** | ***6.5*** | **19.5** | ***16.4*** | ***6.3*** | **19.0** | ***13.6*** | ***4.1*** | ***1.6*** | **47.7** | ***2.2*** |
| October week 3: Saturday - Monday[1] | *1.4* | *1.3* | *1.6* | *0.2* | *5.2* | *1.6* | *0.3* | *2.5* | *1.0* | *0.2* | *0.8* | 2.5 | *2.1* | *0.8* | *2.6* | *1.8* | *0.5* | *0.2* | *7.5* | *0.3* |
| October week 4: Saturday - Sunday | *3.6* | *3.3* | *3.9* | *0.5* | *12.2* | *4.1* | *0.8* | *6.2* | *2.6* | *0.5* | *1.9* | 6.1 | *5.1* | *1.9* | *6.2* | *4.3* | *1.2* | *0.5* | *17.4* | *0.7* |
| November week 1: Saturday - Sunday | *4.6* | *4.2* | *5.1* | *0.7* | *15.5* | *5.3* | *1.1* | *7.9* | *3.3* | *0.6* | *2.5* | 7.9 | *6.5* | *2.5* | *7.9* | *5.6* | *1.6* | *0.6* | *22.0* | *0.9* |
| November week 2: Saturday - Sunday | *5.7* | *5.1* | *6.2* | *0.9* | *18.7* | *6.5* | *1.3* | *9.6* | *4.0* | *0.8* | *3.0* | 9.5 | *8.0* | *3.1* | *9.6* | *6.8* | *2.0* | *0.8* | *26.3* | *1.1* |
| November week 3: Saturday - Sunday | *5.6* | *5.1* | *6.1* | *0.9* | *18.5* | *6.5* | *1.3* | *9.5* | *4.0* | *0.8* | *3.0* | 9.4 | *7.9* | *3.0* | *9.5* | *6.7* | *2.0* | *0.8* | *26.0* | *1.1* |
| November week 4: Saturday - Sunday | *6.2* | *5.6* | *6.7* | *1.0* | *20.2* | *7.1* | *1.4* | *10.4* | *4.4* | *0.8* | *3.3* | 10.4 | *8.7* | *3.3* | *10.5* | *7.4* | *2.2* | *0.8* | *28.4* | *1.2* |
| December week 1: Saturday - Sunday | *4.8* | *4.4* | *5.3* | *0.7* | *16.0* | *5.5* | *1.1* | *8.2* | *3.4* | *0.6* | *2.6* | 8.1 | *6.8* | *2.6* | *8.2* | *5.8* | *1.7* | *0.6* | *22.7* | *0.9* |
| December week 2: Saturday - Sunday | *3.7* | *3.4* | *4.1* | *0.6* | *12.7* | *4.3* | *0.9* | *6.4* | *2.7* | *0.5* | *2.0* | 6.4 | *5.3* | *2.0* | *6.5* | *4.5* | *1.3* | *0.5* | *18.1* | *0.7* |
| **December week 3: Saturday - Sunday[SH]** | *5.7* | *5.2* | *6.2* | *0.9* | 18.8 | *6.6* | *1.3* | 9.8 | *4.1* | *0.8* | *5.6* | 17.0 | *14.3* | *2.9* | 9.1 | *6.4* | *1.9* | *0.7* | 26.1 | *1.1* |
| **December week 4: Saturday - Sunday[2, SH]** | *8.1* | *7.3* | *8.7* | *1.3* | 25.6 | *9.3* | *1.9* | 17.9 | *7.8* | *1.5* | *5.2* | 16.0 | *13.4* | *6.5* | 19.5 | *14.0* | *4.2* | *1.7* | 65.9 | *3.4* |
| **December week 5: Saturday - Sunday[2, SH]** | *8.9* | *8.0* | *9.6* | *1.4* | 27.9 | *10.2* | *2.1* | 17.2 | *7.5* | *1.4* | *5.1* | 15.7 | *13.2* | *6.1* | 18.5 | *13.3* | *4.0* | *1.6* | 30.1 | *1.3* |
| **January week 1: Saturday - Sunday[SH]** | *13.2* | *11.7* | *14.0* | *2.1* | 39.3 | *15.2* | *3.1* | 22.7 | *10.0* | *2.0* | *6.3* | 19.0 | *16.0* | *7.1* | 21.1 | *15.2* | *4.6* | *1.8* | 50.3 | *2.4* |
| **January week 2: Saturday - Sunday[SH]** | *16.5* | *14.6* | *17.4* | *2.7* | 47.4 | *19.1* | *3.9* | 27.1 | *12.1* | *2.4* | *7.7* | 22.8 | *19.2* | *7.7* | 23.0 | *16.6* | *5.1* | *2.0* | 48.1 | *2.2* |
| **January week 3: Saturday - Sunday[SH]** | *18.1* | *16.0* | *19.1* | *2.9* | 51.3 | *21.0* | *4.4* | 26.6 | *11.9* | *2.4* | *9.5* | 27.7 | *23.5* | *10.7* | 30.9 | *22.5* | *7.1* | *2.8* | 62.0 | *3.1* |
| **January week 4: Saturday - Sunday[3, SH]** | *6.9* | *6.3* | *7.5* | *1.1* | 22.4 | *8.0* | *1.6* | 9.3 | *3.9* | *0.7* | *4.6* | 14.2 | *11.9* | *5.0* | 15.2 | *10.8* | *3.2* | *1.3* | 57.1 | *2.8* |
| **February week 1: Saturday - Sunday[4, SH]** | *9.0* | *8.1* | *9.7* | *1.4* | 28.1 | *10.3* | *2.1* | 14.8 | *6.4* | *1.2* | *4.6* | 14.3 | *12.0* | *3.7* | 11.5 | *8.1* | *2.4* | *0.9* | 28.0 | *1.1* |
| **February week 2: Saturday - Sunday[4]** | *14.6* | *13.0* | *15.4* | *2.3* | *42.8* | *16.9* | *3.5* | *23.3* | *10.3* | *2.0* | *7.8* | 23.2 | *19.6* | *7.9* | *23.4* | *16.9* | *5.2* | *2.1* | *57.6* | *2.8* |
| **February week 3: Saturday - Sunday** | *15.6* | *13.9* | *16.5* | *2.5* | *45.3* | *18.1* | *3.7* | *24.9* | *11.1* | *2.2* | *8.4* | 24.7 | *20.9* | *8.5* | *25.0* | *18.0* | *5.6* | *2.2* | *60.8* | *3.1* |
| **February week 4: Saturday - Sunday** | *10.7* | *9.6* | *11.4* | *1.7* | *32.7* | *12.3* | *2.5* | *17.5* | *7.6* | *1.5* | *5.7* | 17.3 | *14.6* | *5.8* | *17.5* | *12.5* | *3.8* | *1.5* | *44.9* | *2.0* |
| March week 1: Saturday - Sunday | *9.3* | *8.3* | *10.0* | *1.4* | *29.0* | *10.7* | *2.2* | *15.3* | *6.6* | *1.3* | *5.0* | 15.2 | *12.7* | *5.0* | *15.4* | *10.9* | *3.3* | *1.3* | *40.0* | *1.8* |
| March week 2: Saturday - Sunday | *7.2* | *6.5* | *7.8* | *1.1* | *23.3* | *8.3* | *1.7* | *12.1* | *5.2* | *1.0* | *3.9* | 12.0 | *10.1* | *3.9* | *12.2* | *8.6* | *2.5* | *1.0* | *32.5* | *1.4* |
| March week 3: Saturday - Sunday | *6.7* | *6.0* | *7.2* | *1.0* | *21.6* | *7.7* | *1.5* | *11.2* | *4.8* | *0.9* | *3.6* | 11.1 | *9.3* | *3.6* | *11.2* | *7.9* | *2.3* | *0.9* | *30.2* | *1.3* |
| March week 4: Saturday - Sunday[5] | *6.9* | *6.2* | *7.5* | *1.1* | *22.3* | *8.0* | *1.6* | *11.6* | *4.9* | *0.9* | *3.7* | 11.5 | *9.6* | *3.7* | *11.6* | *8.2* | *2.4* | *0.9* | *31.2* | *1.3* |
| April week 1: Saturday - Sunday[5, SH] | *4.4* | *4.0* | *4.8* | *0.7* | *14.8* | *5.0* | *1.0* | *7.5* | *3.1* | *0.6* | *2.3* | 7.5 | *6.2* | *2.4* | *7.5* | *5.3* | *1.5* | *0.6* | *21.0* | *0.8* |
| April week 2: Saturday - Sunday[5, SH] | *7.5* | *6.8* | *8.1* | *1.2* | *24.0* | *8.6* | *1.7* | *12.5* | *5.3* | *1.0* | *4.0* | 12.4 | *10.4* | *4.1* | *12.6* | *8.9* | *2.6* | *1.0* | *33.5* | *1.4* |
| April week 3: Saturday - Sunday[5, SH] | *4.9* | *4.4* | *5.3* | *0.7* | *16.2* | *5.6* | *1.1* | *8.3* | *3.5* | *0.6* | *2.6* | 8.2 | *6.8* | *2.6* | *8.3* | *5.8* | *1.7* | *0.7* | *22.9* | *0.9* |
| April week 4: Saturday - Sunday[5, 6, SH] | *2.1* | *2.0* | *2.4* | *0.3* | *7.6* | *2.4* | *0.5* | *3.8* | *1.5* | *0.3* | *1.1* | 3.7 | *3.1* | *1.2* | *3.8* | *2.6* | *0.7* | *0.3* | *10.9* | *0.4* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-16: Weekday risk-adjusted water use values calculated for beaches on the Whangaparaoa.

| Site | Arkles Bay (AKB) | Little Manly Bay (LMB) | Matakatia Bay (MB) | Okoromai Bay (OKB) | Te Haruhi Bay (THB) | Army Bay (AB) | Waiau Bay (WB) | Big Manly Bay (BMB) | Stanmore Bay (SB) | Red Beach (RB) | Orewa Beach (OB) | Hatfields Beach (HB) | Waiwera Beach (WWB) | Wenderholm Beach (WB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazard factor (*H*), based on beach morphology and wave environment (see Section 4.3.3) | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 1.05 | 0.46 | 0.76 | 0.76 |
| Risk-adjusted water use calculation (see Section 6.2.3) | $= \left(\frac{(-0.001473 \ln(W^{75}) + 0.11924) * W^{75}}{0.1796}\right) * 25 * H$ | | | | | | | | | | | | | |
| **Site risk-adjusted value: mid to late December to the end of January** | ***7.5*** | ***3.2*** | ***6.6*** | ***8.4*** | ***19.0*** | ***9.2*** | ***6.2*** | ***15.6*** | ***19.0*** | **13.6** | **77.8** | ***6.2*** | ***5.3*** | **22.2** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | *1.7* | *0.7* | *1.5* | *1.9* | *4.7* | *2.1* | *1.4* | *3.8* | *4.7* | | 20.4 | *1.4* | | |
| **December week 4: Monday - Friday[SH]** | *3.7* | *1.5* | *3.2* | *4.1* | *9.6* | *4.5* | *3.0* | *7.8* | *9.6* | 10.9 | 40.8 | *3.0* | *2.5* | 11.1 |
| **December week 5: Monday - Friday[2, SH]** | *7.1* | *3.0* | *6.2* | *7.9* | *17.9* | *8.7* | *5.8* | *14.7* | *17.9* | 14.8 | 73.4 | *5.8* | *4.5* | 18.9 |
| **January week 1: Monday - Friday[2, SH]** | *11.1* | *4.8* | *9.8* | *12.3* | *27.2* | *13.5* | *9.1* | *22.6* | *27.2* | 17.5 | 108.2 | *9.1* | *10.1* | 40.1 |
| **January week 2: Monday - Friday[SH]** | *9.3* | *4.0* | *8.2* | *10.3* | *23.0* | *11.3* | *7.6* | *19.0* | *23.0* | 10.5 | 92.9 | *7.6* | *3.5* | 15.0 |
| **January week 3: Monday - Friday[SH]** | *6.1* | *2.6* | *5.3* | *6.8* | *15.5* | *7.4* | *5.0* | *12.7* | *15.5* | | 64.2 | *5.0* | | |
| **January week 4: Monday - Friday[3, SH]** | *7.4* | *3.2* | *6.6* | *8.3* | *18.8* | *9.1* | *6.1* | *15.5* | *18.8* | 16.0 | 76.9 | *6.1* | | |
| February week 1: Monday - Friday[4, SH] | *6.5* | *2.7* | *5.7* | *7.2* | *16.5* | *7.9* | *5.3* | *13.5* | *16.5* | 15.3 | 68.1 | *5.3* | *8.1* | 32.6 |
| February week 2: Monday - Friday[4] | *7.8* | *3.3* | *6.9* | *8.7* | *19.7* | *9.6* | *6.4* | *16.3* | *19.7* | 18.2 | 80.6 | *6.4* | | |
| February week 3: Monday - Friday | *1.7* | *0.7* | *1.5* | *1.9* | *4.7* | *2.1* | *1.4* | *3.8* | *4.7* | | 20.3 | *1.4* | | |
| February week 4: Monday - Friday | *1.9* | *0.8* | *1.6* | *2.1* | *5.0* | *2.3* | *1.5* | *4.1* | *5.0* | | 21.9 | *1.5* | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-17: Weekend risk-adjusted water use values calculated for beaches on the Whangaparaoa.

| Site | AKB | LMB | MB | OKB | THB | AB | WB | BMB | SB | RB | OB | HB | WWB | WB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site risk-adjusted value: mid-December to the end of February** | ***9.9*** | ***4.2*** | ***8.7*** | ***11.0*** | ***24.5*** | ***12.1*** | ***8.1*** | ***20.3*** | ***24.5*** | **19.7** | **98.3** | ***8.1*** | ***10.6*** | **41.6** |
| October week 3: Saturday - Monday[1] | *1.1* | *0.4* | *1.0* | *1.2* | *3.0* | *1.4* | *0.9* | *2.4* | *3.0* | 3.2 | 13.3 | *0.9* | *0.9* | *4.2* |
| October week 4: Saturday - Sunday | *2.6* | *1.1* | *2.3* | *2.9* | *6.8* | *3.2* | *2.1* | *5.6* | *6.8* | 8.4 | 29.5 | *2.1* | *2.2* | *9.6* |
| November week 1: Saturday - Sunday | *3.3* | *1.4* | *2.9* | *3.7* | *8.7* | *4.1* | *2.7* | *7.1* | *8.7* | 11.8 | 37.1 | *2.7* | *2.8* | *12.2* |
| November week 2: Saturday - Sunday | *2.6* | *1.1* | *2.3* | *2.9* | *6.9* | *3.2* | *2.1* | *5.6* | *6.9* | 12.3 | 30.0 | *2.1* | *2.2* | *9.7* |
| November week 3: Saturday - Sunday | *2.4* | *1.0* | *2.1* | *2.7* | *6.4* | *3.0* | *2.0* | *5.2* | *6.4* | 8.2 | 27.6 | *2.0* | *2.0* | *8.9* |
| November week 4: Saturday - Sunday | *5.5* | *2.3* | *4.8* | *6.1* | *14.0* | *6.7* | *4.5* | *11.5* | *14.0* | 14.8 | 58.5 | *4.5* | *4.7* | *19.7* |
| December week 1: Saturday - Sunday | *5.0* | *2.1* | *4.4* | *5.6* | *13.0* | *6.2* | *4.1* | *10.6* | *13.0* | 19.5 | 54.3 | *4.1* | *3.0* | 12.9 |
| December week 2: Saturday - Sunday | *2.8* | *1.1* | *2.4* | *3.1* | *7.3* | *3.4* | *2.3* | *6.0* | *7.3* | 8.7 | 31.6 | *2.3* | *2.4* | *10.3* |
| **December week 3: Saturday - Sunday[SH]** | *5.7* | *2.4* | *5.0* | *6.3* | *14.5* | *7.0* | *4.6* | *11.9* | *14.5* | 11.7 | 60.4 | *4.6* | *4.3* | 18.1 |
| **December week 4: Saturday - Sunday[2, SH]** | *9.1* | *3.9* | *8.0* | *10.1* | *22.6* | *11.1* | *7.4* | *18.6* | *22.6* | 19.6 | 91.2 | *7.4* | *13.4* | 51.5 |
| **December week 5: Saturday - Sunday[2, SH]** | *8.2* | *3.5* | *7.2* | *9.1* | *20.5* | *10.0* | *6.7* | *17.0* | *20.5* | 18.0 | 83.7 | *6.7* | *11.0* | 43.1 |
| **January week 1: Saturday - Sunday[SH]** | *10.3* | *4.4* | *9.1* | *11.5* | *25.5* | *12.6* | *8.5* | *21.1* | *25.5* | 26.9 | 102.0 | *8.5* | *12.0* | 46.6 |
| **January week 2: Saturday - Sunday[SH]** | *12.2* | *5.3* | *10.8* | *13.5* | *29.6* | *14.8* | *10.0* | *24.6* | *29.6* | 18.2 | 116.9 | *10.0* | *14.0* | 53.4 |
| **January week 3: Saturday - Sunday[SH]** | *10.4* | *4.5* | *9.2* | *11.5* | *25.6* | *12.7* | *8.5* | *21.2* | *25.6* | 28.0 | 102.2 | *8.5* | *7.7* | 31.3 |
| **January week 4: Saturday - Sunday[3, SH]** | *12.4* | *5.4* | *11.0* | *13.8* | *30.2* | *15.1* | *10.2* | *25.1* | *30.2* | 17.3 | 118.8 | *10.2* | *10.9* | *42.9* |
| **February week 1: Saturday - Sunday[4, SH]** | *10.5* | *4.5* | *9.3* | *11.7* | *25.8* | *12.8* | *8.6* | *21.4* | *25.8* | 16.2 | 103.2 | *8.6* | *9.2* | *36.6* |
| **February week 2: Saturday - Sunday[4]** | *11.2* | *4.9* | *9.9* | *12.5* | *27.5* | *13.7* | *9.3* | *22.9* | *27.5* | 19.6 | 109.4 | *9.3* | *9.9* | *39.1* |
| **February week 3: Saturday - Sunday** | *9.3* | *4.0* | *8.2* | *10.4* | *23.2* | *11.4* | *7.7* | *19.2* | *23.2* | 21.5 | 93.6 | *7.7* | *8.1* | *32.8* |
| **February week 4: Saturday - Sunday** | *9.0* | *3.8* | *7.9* | *10.0* | *22.4* | *11.0* | *7.4* | *18.5* | *22.4* | 17.1 | 90.6 | *7.4* | *7.8* | *31.7* |
| March week 1: Saturday - Sunday | *4.7* | *2.0* | *4.1* | *5.2* | *12.1* | *5.8* | *3.8* | *9.9* | *12.1* | 13.8 | 51.0 | *3.8* | *4.0* | *17.0* |
| March week 2: Saturday - Sunday | *5.9* | *2.5* | *5.2* | *6.6* | *15.1* | *7.3* | *4.9* | *12.4* | *15.1* | 14.4 | 63.0 | *4.9* | *5.1* | *21.3* |
| March week 3: Saturday - Sunday | *4.4* | *1.9* | *3.9* | *5.0* | *11.5* | *5.5* | *3.6* | *9.4* | *11.5* | 8.7 | 48.7 | *3.6* | *3.8* | *16.2* |
| March week 4: Saturday - Sunday[5] | *8.3* | *3.5* | *7.3* | *9.2* | *20.7* | *10.1* | *6.8* | *17.1* | *20.7* | 11.0 | 84.4 | *6.8* | *7.2* | *29.3* |
| April week 1: Saturday - Sunday[5, SH] | *3.5* | *1.4* | *3.0* | *3.9* | *9.1* | *4.3* | *2.8* | *7.4* | *9.1* | 6.3 | 38.8 | *2.8* | *3.0* | *12.7* |
| April week 2: Saturday - Sunday[5, SH] | *6.9* | *2.9* | *6.1* | *7.7* | *17.5* | *8.5* | *5.7* | *14.4* | *17.5* | 13.7 | 72.0 | *5.7* | *6.0* | *24.7* |
| April week 3: Saturday - Sunday[5, SH] | *4.6* | *1.9* | *4.0* | *5.1* | *11.9* | *5.7* | *3.8* | *9.8* | *11.9* | | 50.2 | *3.8* | *3.9* | *16.7* |
| April week 4: Saturday - Sunday[5, 6, SH] | *2.1* | *0.9* | *1.8* | *2.3* | *5.6* | *2.6* | *1.7* | *4.5* | *5.6* | | 24.2 | *1.7* | *1.8* | *7.8* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-18: Weekday risk-adjusted water use values calculated for beaches on the northeast coast.

| Site | Martins Bay (MTB) | Scandretts Bay (SB) | Algies Bay (ALB) | Snells Beach (SNB) | Sandspit (S) | Baddeleys Beach (BB) | Campbells Bay (CMB) | Jones Bay (JB) | Anchor Bay (AB) | Omaha Beach (OB) | Matheson Bay (MB) | Goat Island (GI) | Pakiri Beach (PB) | Forestry (F) | Te Arai (TA) | Black Swamp (BS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hazard factor (*H*), based on beach morphology and wave environment (see Section 4.3.4) | 0.46 | 0.46 | 0.46 | 0.46 | 0.76 | 0.46 | 0.46 | 0.50 | 1.28 | 1.28 | 0.46 | 1.28 | 1.60 | 1.60 | 1.60 | 1.60 |
| Risk-adjusted water use calculation (see Section 6.2.3) | $= \left(\frac{(-0.001473 \ln(W^{75}) + 0.11924) * W^{75}}{0.1796}\right) * 25 * H$ | | | | | | | | | | | | | | | |
| **Site risk-adjusted value: mid to late December to the end of January** | ***7.2*** | ***3.2*** | ***6.4*** | ***7.9*** | ***6.6*** | ***1.9*** | ***1.9*** | ***2.4*** | ***34.4*** | **69.6** | ***5.6*** | ***41.0*** | **42.9** | ***11.5*** | ***35.9*** | ***5.0*** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | *1.1* | *0.5* | *1.0* | *1.2* | *1.0* | *0.3* | *0.3* | *0.3* | *5.4* | 11.6 | *0.8* | *6.5* | 5.5 | *1.3* | *4.5* | *0.6* |
| **December week 4: Monday - Friday[SH]** | *2.6* | *1.1* | *2.3* | *2.9* | *2.3* | *0.6* | *0.6* | *0.8* | *12.8* | 27.2 | *2.0* | *15.4* | 12.3 | *3.1* | *10.1* | *1.3* |
| **December week 5: Monday - Friday[2, SH]** | *9.1* | *4.0* | *8.1* | *10.0* | *8.4* | *2.4* | *2.4* | *3.1* | *43.3* | 86.1 | *7.2* | *51.4* | 44.8 | *12.0* | *37.5* | *5.2* |
| **January week 1: Monday - Friday[2, SH]** | *11.9* | *5.4* | *10.7* | *13.1* | *11.1* | *3.2* | *3.2* | *4.1* | *56.2* | 109.5 | *9.5* | *66.5* | 84.6 | *23.9* | *71.6* | *10.6* |
| **January week 2: Monday - Friday[SH]** | *8.6* | *3.8* | *7.7* | *9.5* | *8.0* | *2.3* | *2.3* | *2.9* | *41.2* | 82.3 | *6.8* | *49.0* | 50.9 | *13.8* | *42.7* | *6.0* |
| **January week 3: Monday - Friday[SH]** | *4.9* | *2.1* | *4.4* | *5.4* | *4.5* | *1.2* | *1.2* | *1.6* | *23.9* | 49.2 | *3.9* | *28.6* | 24.5 | *6.3* | *20.4* | *2.7* |
| **January week 4: Monday - Friday[3, SH]** | *4.7* | *2.0* | *4.2* | *5.1* | *4.3* | *1.2* | *1.2* | *1.5* | *22.7* | 47.0 | *3.7* | *27.2* | 27.3 | *7.1* | *22.8* | *3.0* |
| February week 1: Monday - Friday[4, SH] | *4.4* | *1.9* | *3.9* | *4.8* | *4.0* | *1.1* | *1.1* | *1.4* | *21.3* | 44.1 | *3.4* | *25.5* | 27.1 | *7.0* | *22.5* | *3.0* |
| February week 2: Monday - Friday[4] | *2.9* | *1.2* | *2.6* | *3.2* | *2.6* | *0.7* | *0.7* | *0.9* | *14.2* | 30.0 | *2.3* | *17.1* | 13.2 | *3.3* | *10.9* | *1.4* |
| February week 3: Monday - Friday | *1.4* | *0.6* | *1.2* | *1.5* | *1.2* | *0.3* | *0.3* | *0.4* | *6.8* | 14.7 | *1.1* | *8.2* | | | | |
| February week 4: Monday - Friday | *0.8* | *0.4* | *0.7* | *0.9* | *0.7* | *0.2* | *0.2* | *0.3* | *4.2* | 9.2 | *0.7* | *5.1* | | | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-19: Weekend risk-adjusted water use values calculated for beaches on the northeast coast.

| Site | MTB | SB | ALB | SNB | S | BB | CMB | JB | AB | OB | MB | GI | PB | *F* | *TA* | *BS* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site risk-adjusted value: mid-December to the end of February** | ***11.5*** | ***5.2*** | ***10.3*** | ***12.6*** | ***10.7*** | ***3.0*** | ***3.0*** | ***3.9*** | ***54.2*** | **105.9** | ***9.1*** | ***64.1*** | **53.5** | ***14.5*** | ***44.9*** | ***6.3*** |
| October week 3: Saturday - Monday[1] | *2.0* | *0.8* | *1.8* | *2.2* | *1.8* | *0.5* | *0.5* | *0.6* | *9.8* | 20.9 | *1.5* | *11.8* | *9.5* | *2.4* | *7.9* | *1.0* |
| October week 4: Saturday - Sunday | *1.5* | *0.7* | *1.4* | *1.7* | *1.4* | *0.4* | *0.4* | *0.5* | *7.7* | 16.6 | *1.2* | *9.3* | *7.5* | *1.8* | *6.2* | *0.8* |
| November week 1: Saturday - Sunday | *2.0* | *0.8* | *1.8* | *2.2* | *1.8* | *0.5* | *0.5* | *0.6* | *9.8* | 20.9 | *1.5* | *11.8* | *9.5* | *2.4* | *7.9* | *1.0* |
| November week 2: Saturday - Sunday | *4.9* | *2.2* | *4.4* | *5.5* | *4.5* | *1.3* | *1.3* | *1.6* | *24.1* | 49.6 | *3.9* | *28.8* | *23.6* | *6.1* | *19.7* | *2.6* |
| November week 3: Saturday - Sunday | *2.2* | *0.9* | *1.9* | *2.4* | *2.0* | *0.5* | *0.5* | *0.7* | *10.8* | 23.0 | *1.7* | *13.0* | *10.5* | *2.6* | *8.7* | *1.1* |
| November week 4: Saturday - Sunday | *4.0* | *1.7* | *3.6* | *4.4* | *3.6* | *1.0* | *1.0* | *1.3* | *19.5* | 40.6 | *3.1* | *23.4* | *19.1* | *4.9* | *15.9* | *2.1* |
| December week 1: Saturday - Sunday | *3.5* | *1.5* | *3.1* | *3.9* | *3.2* | *0.9* | *0.9* | *1.1* | *17.3* | 36.1 | *2.8* | *20.7* | *16.9* | *4.3* | *14.0* | *1.8* |
| December week 2: Saturday - Sunday | *3.7* | *1.6* | *3.4* | *4.1* | *3.4* | *0.9* | *0.9* | *1.2* | *18.4* | 38.4 | *2.9* | *22.0* | *18.0* | *4.6* | *14.9* | *1.9* |
| **December week 3: Saturday - Sunday[SH]** | *3.9* | *1.7* | *3.5* | *4.3* | *3.6* | *1.0* | *1.0* | *1.3* | *19.2* | 39.9 | *3.1* | *23.0* | 16.6 | *4.2* | *13.8* | *1.8* |
| **December week 4: Saturday - Sunday[2, SH]** | *8.7* | *3.9* | *7.8* | *9.6* | *8.1* | *2.3* | *2.3* | *3.0* | *41.8* | 83.4 | *6.9* | *49.7* | 55.9 | *15.2* | *46.9* | *6.6* |
| **December week 5: Saturday - Sunday[2, SH]** | *12.2* | *5.5* | *11.0* | *13.4* | *11.4* | *3.3* | *3.3* | *4.2* | *57.6* | 112.0 | *9.7* | *68.1* | 54.7 | *14.9* | *46.0* | *6.5* |
| **January week 1: Saturday - Sunday[SH]** | *19.5* | *9.0* | *17.6* | *21.3* | *18.5* | *5.4* | *5.4* | *6.9* | *89.6* | 165.7 | *15.6* | *104.9* | 55.2 | *15.0* | *46.4* | *6.5* |
| **January week 2: Saturday - Sunday[SH]** | *11.7* | *5.3* | *10.5* | *12.9* | *11.0* | *3.1* | *3.1* | *4.0* | *55.4* | 108.1 | *9.3* | *65.6* | 62.9 | *17.3* | *52.9* | *7.6* |
| **January week 3: Saturday - Sunday[SH]** | *17.2* | *7.9* | *15.5* | *18.8* | *16.3* | *4.7* | *4.7* | *6.0* | *79.6* | 149.5 | *13.7* | *93.5* | 90.6 | *25.8* | *76.8* | *11.4* |
| **January week 4: Saturday - Sunday[3, SH]** | *9.9* | *4.4* | *8.9* | *10.9* | *9.2* | *2.6* | *2.6* | *3.4* | *47.2* | 93.3 | *7.9* | *56.0* | 47.8 | *12.9* | *40.1* | *5.6* |
| **February week 1: Saturday - Sunday[4, SH]** | *13.8* | *6.3* | *12.4* | *15.1* | *13.0* | *3.7* | *3.7* | *4.8* | *64.8* | 124.5 | *11.0* | *76.4* | 38.1 | *10.1* | *31.9* | *4.4* |
| **February week 2: Saturday - Sunday[4]** | *8.7* | *3.9* | *7.9* | *9.6* | *8.1* | *2.3* | *2.3* | *3.0* | *41.8* | 83.4 | *6.9* | *49.7* | 48.6 | *13.1* | *40.8* | *5.7* |
| **February week 3: Saturday - Sunday** | *8.5* | *3.8* | *7.6* | *9.3* | *7.8* | *2.2* | *2.2* | *2.9* | *40.6* | 81.1 | *6.7* | *48.2* | *40.1* | *10.7* | *33.6* | *4.6* |
| **February week 4: Saturday - Sunday** | *9.0* | *4.0* | *8.1* | *9.9* | *8.4* | *2.4* | *2.4* | *3.1* | *43.2* | 85.9 | *7.2* | *51.3* | *42.8* | *11.4* | *35.8* | *4.9* |
| March week 1: Saturday - Sunday | *8.7* | *3.9* | *7.8* | *9.6* | *8.1* | *2.3* | *2.3* | *2.9* | *41.6* | 83.1 | *6.9* | *49.5* | *41.3* | *11.0* | *34.5* | *4.8* |
| March week 2: Saturday - Sunday | *6.8* | *3.0* | *6.1* | *7.5* | *6.3* | *1.8* | *1.8* | *2.3* | *32.8* | 66.4 | *5.4* | *39.1* | *32.3* | *8.5* | *27.0* | *3.6* |
| March week 3: Saturday - Sunday | *3.9* | *1.7* | *3.5* | *4.3* | *3.5* | *1.0* | *1.0* | *1.3* | *19.0* | 39.6 | *3.0* | *22.8* | *18.6* | *4.8* | *15.5* | *2.0* |
| March week 4: Saturday - Sunday[5] | *6.6* | *2.9* | *5.9* | *7.3* | *6.1* | *1.7* | *1.7* | *2.2* | *32.0* | 64.9 | *5.2* | *38.1* | *31.5* | *8.3* | *26.3* | *3.5* |
| April week 1: Saturday - Sunday[5, SH] | *5.7* | *2.5* | *5.1* | *6.3* | *5.2* | *1.5* | *1.5* | *1.9* | *27.6* | 56.6 | *4.5* | *33.0* | *27.2* | *7.1* | *22.7* | *3.0* |
| April week 2: Saturday - Sunday[5, SH] | *13.1* | *6.0* | *11.8* | *14.4* | *12.3* | *3.5* | *3.5* | *4.5* | *61.8* | 119.3 | *10.5* | *72.9* | *61.7* | *16.9* | *51.9* | *7.4* |
| April week 3: Saturday - Sunday[5, SH] | *3.5* | *1.5* | *3.1* | *3.8* | *3.2* | *0.9* | *0.9* | *1.1* | *17.0* | 35.7 | *2.7* | *20.5* | *16.7* | *4.2* | *13.8* | *1.8* |
| April week 4: Saturday - Sunday[5, 6, SH] | *13.0* | *5.9* | *11.7* | *14.2* | *12.2* | *3.5* | *3.5* | *4.5* | *61.0* | 117.9 | *10.3* | *72.0* | *60.9* | *16.7* | *51.2* | *7.3* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

## 6.3 Comparative rankings

The risk-adjusted water use values presented in Section 6.2 were then ranked in order of priority and assigned a corresponding percentage; the lower the percentage, the higher the priority. This ranking has been calculated for the site risk-adjusted water use values for weekdays and weekends, and across all periods for which there is data; the colour scale is displayed in Table 6-20.

These rankings are designed to enable quantitative comparison and prioritisation between sites and across different times of the season; the rankings are presented in Table 6-21 and Table 6-22 (west coast beaches, lakes, and waterfalls), Table 6-23 and Table 6-24 (North Shore beaches and lakes), Table 6-25 and Table 6-26 (Whangaparaoa beaches) and Table 6-27 and Table 6-28 (northeast coast beaches).

Table 6-20: Colour scale used in the priority ranking tables.

| | |
|---|---|
| 0% - 10% | |
| 10% - 20% | |
| 20% - 30% | |
| 30% - 40% | |
| 40% - 50% | |
| 50% - 60% | |
| 60% - 70% | |
| 70% - 80% | |
| 80% - 90% | |
| 90% - 100% | |

Table 6-21: Weekday priority ranking calculated for beaches, lakes, and waterfalls, on the west coast.

| Site | Rimmer Road (RR) | Muriwai Beach (MB) | Maukatia (M) | O'Neill Bay (OB) | Te Henga (TH) | Lake Wainamu (LW) | Anawhata Beach (AB) | Whites Beach (WB) | North Piha Beach (NPB) | Piha Beach (PB) | Kitekite Falls (KF) | Mercer Bay (MB) | Karekare Beach (KKB) | Karekare Falls (KKF) | Whatipu Beach (W) | Hamiltons Gap (HG) | Karioitahi Beach (KB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid to late December to the end of January** | ***65*** | **5** | ***22*** | ***41*** | **19** | ***75*** | ***78*** | ***78*** | **12** | **4** | ***116*** | ***111*** | **26** | ***130*** | ***53*** | ***93*** | **16** |
| December week 1: Monday - Friday | *62%* | 7% | *23%* | | | | | | | 7% | *88%* | | | | | | |
| December week 2: Monday - Friday | *71%* | 11% | *31%* | | | | | | | 11% | *94%* | | | | | | |
| December week 3: Monday - Friday[SH] | *62%* | 7% | *23%* | *52%* | 23% | *72%* | *74%* | *74%* | 17% | 7% | *88%* | *91%* | 36% | *99%* | *68%* | *86%* | 28% |
| **December week 4: Monday - Friday[SH]** | *42%* | 2% | *14%* | *22%* | 9% | *41%* | *43%* | *43%* | 5% | 4% | *83%* | *74%* | 16% | *93%* | *39%* | *59%* | 10% |
| **December week 5: Monday - Friday[2, SH]** | *34%* | 1% | *11%* | *24%* | 9% | *43%* | *43%* | *43%* | 5% | 2% | *78%* | *67%* | 14% | *90%* | *32%* | *46%* | 6% |
| **January week 1: Monday - Friday[2, SH]** | *32%* | 1% | *10%* | *21%* | 8% | *38%* | *33%* | *33%* | 2% | 1% | *66%* | *57%* | 9% | *85%* | *23%* | *52%* | 7% |
| **January week 2: Monday - Friday[SH]** | *41%* | 2% | *13%* | *26%* | 11% | *47%* | *54%* | *54%* | 8% | 1% | *74%* | *65%* | 13% | *89%* | *29%* | *62%* | 11% |
| **January week 3: Monday - Friday[SH]** | *56%* | 6% | *19%* | *39%* | 17% | *61%* | *71%* | *71%* | 15% | 4% | *82%* | *83%* | 24% | *98%* | *53%* | *74%* | 17% |
| **January week 4: Monday - Friday[3, SH]** | *37%* | 2% | *12%* | *24%* | 10% | *44%* | *49%* | *49%* | 7% | 2% | *74%* | *72%* | 16% | *93%* | *37%* | *53%* | 8% |
| February week 1: Monday - Friday[4, SH] | *41%* | 2% | *14%* | *27%* | 11% | *47%* | *36%* | *36%* | 3% | 2% | *76%* | *67%* | 14% | *90%* | *31%* | *51%* | 7% |
| February week 2: Monday - Friday[4] | *33%* | 1% | *10%* | *46%* | 20% | *67%* | *48%* | *48%* | 6% | 5% | *84%* | *59%* | 10% | *86%* | *24%* | *56%* | 9% |
| February week 3: Monday - Friday | *64%* | 8% | *24%* | *59%* | 28% | *77%* | *83%* | *83%* | 24% | 6% | *87%* | *79%* | 20% | *96%* | *47%* | *77%* | 18% |
| February week 4: Monday - Friday | *49%* | 4% | *16%* | *42%* | 18% | *64%* | *62%* | *62%* | 11% | 4% | *81%* | *79%* | 20% | *96%* | *47%* | *72%* | 16% |
| March week 1: Monday - Friday | *55%* | 5% | *19%* | | | | | | | 8% | *89%* | | | | | | |
| March week 2: Monday - Friday | *66%* | 9% | *26%* | | | | | | | 6% | *88%* | | | | | | |
| March week 3: Monday - Friday | *70%* | 10% | *29%* | | | | | | | 9% | *92%* | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-22: Weekend priority ranking calculated for beaches, lakes, and waterfalls, on the west coast.

| Site | RR | MB | M | OB | TH | LW | AB | WB | NPB | PB | KF | MB | KKB | KKF | W | HG | KB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid-December to the end of February** | ***36*** | **1** | ***10*** | ***30*** | **9** | ***49*** | ***46*** | ***46*** | **3** | **2** | ***108*** | ***81*** | **13** | ***120*** | ***32*** | ***64*** | **8** |
| October week 3: Saturday - Monday[1] | *73%* | 12% | *33%* | *65%* | 33% | *80%* | *83%* | *83%* | 23% | 15% | *96%* | *94%* | 43% | *100%* | *74%* | *84%* | 25% |
| October week 4: Saturday - Sunday | *57%* | 6% | *20%* | *42%* | 18% | *64%* | *51%* | *51%* | 7% | 3% | *79%* | *86%* | 27% | *98%* | *58%* | *73%* | 16% |
| November week 1: Saturday - Sunday | *51%* | 4% | *17%* | *26%* | 11% | *47%* | *41%* | *41%* | 5% | 6% | *86%* | *75%* | 17% | *94%* | *40%* | *74%* | 17% |
| November week 2: Saturday - Sunday | *55%* | 5% | *19%* | *31%* | 13% | *53%* | *46%* | *46%* | 6% | 9% | *91%* | *83%* | 24% | *98%* | *53%* | *63%* | 12% |
| November week 3: Saturday - Sunday | *44%* | 3% | *15%* | *34%* | 15% | *57%* | *76%* | *76%* | 17% | 7% | *88%* | *66%* | 13% | *89%* | *30%* | *79%* | 20% |
| November week 4: Saturday - Sunday | *45%* | 3% | *15%* | *27%* | 11% | *47%* | *61%* | *61%* | 10% | 4% | *82%* | *69%* | 15% | *91%* | *34%* | *58%* | 9% |
| December week 1: Saturday - Sunday | *49%* | 4% | *16%* | *39%* | 16% | *61%* | *59%* | *59%* | 10% | 6% | *86%* | *74%* | 16% | *93%* | *39%* | *75%* | 17% |
| December week 2: Saturday - Sunday | *40%* | 2% | *13%* | *33%* | 14% | *55%* | *60%* | *60%* | 10% | 6% | *86%* | *76%* | 18% | *94%* | *41%* | *68%* | 14% |
| **December week 3: Saturday - Sunday[SH]** | *33%* | 1% | *10%* | *20%* | 7% | *36%* | *47%* | *47%* | 6% | 2% | *79%* | *63%* | 12% | *88%* | *28%* | *56%* | 9% |
| **December week 4: Saturday - Sunday[2, SH]** | *26%* | 1% | *7%* | *23%* | 9% | *42%* | *29%* | *29%* | 2% | 2% | *75%* | *59%* | 10% | *86%* | *25%* | *34%* | 3% |
| **December week 5: Saturday - Sunday[2, SH]** | *37%* | 2% | *12%* | *27%* | 11% | *48%* | *37%* | *37%* | 4% | 1% | *64%* | *65%* | 13% | *89%* | *30%* | *49%* | 7% |
| **January week 1: Saturday - Sunday[SH]** | *27%* | 1% | *7%* | *19%* | 7% | *35%* | *32%* | *32%* | 2% | 1% | *70%* | *53%* | 8% | *82%* | *20%* | *38%* | 4% |
| **January week 2: Saturday - Sunday[SH]** | *17%* | 0% | *3%* | *15%* | 5% | *28%* | *18%* | *18%* | 0% | 0% | *58%* | *38%* | 4% | *73%* | *14%* | *41%* | 5% |
| **January week 3: Saturday - Sunday[SH]** | *19%* | 0% | *4%* | *13%* | 3% | *24%* | *25%* | *25%* | 1% | 0% | *58%* | *52%* | 8% | *82%* | *20%* | *34%* | 3% |
| **January week 4: Saturday - Sunday[3, SH]** | *17%* | 0% | *3%* | *13%* | 3% | *24%* | *27%* | *27%* | 1% | 1% | *71%* | *37%* | 4% | *72%* | *14%* | *35%* | 3% |
| **February week 1: Saturday - Sunday[4, SH]** | *24%* | 0% | *6%* | *22%* | 8% | *40%* | *26%* | *26%* | 1% | 0% | *62%* | *48%* | 6% | *79%* | *18%* | *38%* | 4% |
| **February week 2: Saturday - Sunday[4]** | *21%* | 0% | *5%* | *14%* | 3% | *25%* | *20%* | *20%* | 1% | 1% | *69%* | *40%* | 4% | *74%* | *15%* | *37%* | 4% |
| **February week 3: Saturday - Sunday** | *23%* | 0% | *6%* | *12%* | 3% | *22%* | *40%* | *40%* | 4% | 1% | *65%* | *48%* | 7% | *80%* | *18%* | *50%* | 7% |
| **February week 4: Saturday - Sunday** | *24%* | 0% | *6%* | *15%* | 4% | *28%* | *23%* | *23%* | 1% | 2% | *77%* | *42%* | 5% | *76%* | *16%* | *33%* | 2% |
| March week 1: Saturday - Sunday | *38%* | 2% | *12%* | *28%* | 12% | *48%* | *35%* | *35%* | 3% | 6% | *86%* | *52%* | 8% | *82%* | *20%* | *64%* | 12% |
| March week 2: Saturday - Sunday | *25%* | 0% | *6%* | *16%* | 5% | *30%* | *33%* | *33%* | 2% | 1% | *74%* | *57%* | 9% | *85%* | *23%* | *56%* | 9% |
| March week 3: Saturday - Sunday | *32%* | 1% | *9%* | *30%* | 13% | *52%* | *24%* | *24%* | 1% | 3% | *80%* | *67%* | 14% | *90%* | *31%* | *63%* | 12% |
| March week 4: Saturday - Sunday[5] | *38%* | 2% | *12%* | *22%* | 9% | *41%* | *60%* | *60%* | 10% | 1% | *68%* | *61%* | 11% | *87%* | *26%* | *64%* | 12% |
| April week 1: Saturday - Sunday[5, SH] | *38%* | 2% | *12%* | *31%* | 13% | *53%* | *42%* | *42%* | 5% | 1% | *73%* | *65%* | 13% | *89%* | *30%* | *69%* | 15% |
| April week 2: Saturday - Sunday[5, SH] | *45%* | 3% | *15%* | *25%* | 10% | *45%* | *50%* | *50%* | 7% | 4% | *83%* | *78%* | 19% | *96%* | *45%* | *73%* | 16% |
| April week 3: Saturday - Sunday[5, SH] | *44%* | 3% | *15%* | *29%* | 12% | *50%* | *71%* | *71%* | 15% | 3% | *79%* | *53%* | 8% | *82%* | *21%* | *87%* | 29% |
| April week 4: Saturday - Sunday[5, 6, SH] | *64%* | 8% | *24%* | *35%* | 15% | *58%* | *71%* | *71%* | 15% | 6% | *88%* | *85%* | 26% | *98%* | *57%* | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-23: Weekday priority ranking calculated for beaches and lakes on the North Shore.

| Site | Torpedo Bay (TPB) | Cheltenham Beach (CHB) | Narrowneck Beach (NNB) | St Leonards Beach (SB) | Takapuna Beach (TB) | Lake Pupuke (LP) | Thorne Bay (THB) | Milford Beach (MFB) | Castor Bay (CB) | Kennedy Park (KP) | Campbells Bay (CMB) | Mairangi Bay (MB) | Murrays Bay (MRB) | Rothesay Bay (RSB) | Browns Bay (BRB) | Waiake Bay (WB) | Winstones Cove (WNC) | Toroa Point (TP) | Long Bay (LB) | Grannys Bay (GB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid to late December to the end of January** | ***94*** | ***101*** | ***90*** | ***134*** | **37** | ***88*** | ***129*** | **56** | ***102*** | ***133*** | ***109*** | **57** | ***66*** | ***107*** | **52** | ***71*** | ***117*** | ***132*** | **31** | ***131*** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | *96%* | *78%* | *82%* | | | | | | | |
| **December week 4: Monday - Friday[SH]** | *62%* | *65%* | *60%* | *96%* | 27% | *58%* | *92%* | 44% | *69%* | *97%* | *71%* | 37% | *42%* | *77%* | 45% | *56%* | *85%* | *97%* | 22% | *96%* |
| **December week 5: Monday - Friday[2, SH]** | *52%* | *55%* | *49%* | *92%* | 20% | *47%* | *86%* | 36% | *62%* | *94%* | *71%* | 37% | *43%* | *65%* | 31% | *40%* | *75%* | *91%* | 15% | *88%* |
| **January week 1: Monday - Friday[2, SH]** | *59%* | *62%* | *57%* | *95%* | 25% | *55%* | *90%* | 29% | *55%* | *90%* | *65%* | 31% | *36%* | *65%* | 32% | *41%* | *76%* | *92%* | 15% | *88%* |
| **January week 2: Monday - Friday[SH]** | *60%* | *63%* | *58%* | *95%* | 25% | *56%* | *91%* | 34% | *60%* | *93%* | *69%* | 35% | *40%* | *64%* | 30% | *39%* | *75%* | *91%* | 21% | *95%* |
| **January week 3: Monday - Friday[SH]** | *51%* | *54%* | *48%* | *92%* | 20% | *46%* | *86%* | 33% | *59%* | *93%* | *72%* | 38% | *44%* | *67%* | 33% | *43%* | *77%* | *92%* | 19% | *93%* |
| **January week 4: Monday - Friday[3, SH]** | *56%* | *60%* | *54%* | *94%* | 23% | *52%* | *89%* | 31% | *57%* | *91%* | *61%* | 29% | *33%* | *60%* | 27% | *36%* | *71%* | *89%* | 16% | *90%* |
| February week 1: Monday - Friday[4, SH] | *32%* | *35%* | *30%* | *81%* | 13% | *28%* | *73%* | 29% | *54%* | *90%* | *78%* | 46% | *52%* | *68%* | 34% | *44%* | *78%* | *93%* | 10% | *80%* |
| February week 2: Monday - Friday[4] | *67%* | *69%* | *65%* | *98%* | 31% | *63%* | *94%* | 29% | *54%* | *90%* | *64%* | 30% | *35%* | *75%* | 43% | *54%* | *84%* | *96%* | 13% | *85%* |
| February week 3: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| February week 4: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-24: Weekend priority ranking calculated for beaches and lakes on the North Shore.

| Site | TPB | CHB | NNB | SB | TB | LP | THB | MFB | CB | KP | CMB | MB | MRB | RSB | BRB | WB | WNC | TP | LB | GB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid-December to the end of February** | ***67*** | ***74*** | ***61*** | ***126*** | **29** | ***58*** | ***121*** | **45** | ***85*** | ***128*** | ***95*** | **40** | ***48*** | ***98*** | **42** | ***54*** | ***112*** | ***127*** | **20** | ***123*** |
| October week 3: Saturday - Monday[1] | *89%* | *91%* | *88%* | *100%* | *63%* | *88%* | *99%* | *80%* | *94%* | *100%* | *97%* | 80% | *84%* | *97%* | *80%* | *86%* | *99%* | *100%* | *52%* | *100%* |
| October week 4: Saturday - Sunday | *73%* | *75%* | *70%* | *98%* | *36%* | *69%* | *96%* | *58%* | *80%* | *99%* | *85%* | *59%* | *64%* | *85%* | *58%* | *68%* | *92%* | *99%* | *27%* | *98%* |
| November week 1: Saturday - Sunday | *66%* | *69%* | *64%* | *97%* | *30%* | *62%* | *93%* | *50%* | *75%* | *98%* | *80%* | *51%* | *57%* | *80%* | *50%* | *61%* | *88%* | *98%* | *22%* | *96%* |
| November week 2: Saturday - Sunday | *60%* | *63%* | *58%* | *96%* | *26%* | *57%* | *91%* | *44%* | *69%* | *97%* | *77%* | *45%* | *50%* | *76%* | *44%* | *56%* | *85%* | *97%* | *19%* | *93%* |
| November week 3: Saturday - Sunday | *61%* | *64%* | *59%* | *96%* | *26%* | *57%* | *91%* | *45%* | *70%* | *97%* | *77%* | *45%* | *51%* | *77%* | *44%* | *56%* | *85%* | *97%* | *19%* | *94%* |
| November week 4: Saturday - Sunday | *58%* | *61%* | *56%* | *95%* | *24%* | *54%* | *90%* | *41%* | *68%* | *96%* | *75%* | *42%* | *47%* | *75%* | *41%* | *53%* | *83%* | *96%* | *18%* | *92%* |
| December week 1: Saturday - Sunday | *65%* | *68%* | *63%* | *97%* | *30%* | *61%* | *93%* | *49%* | *74%* | *98%* | *80%* | *49%* | *56%* | *80%* | *49%* | *60%* | *87%* | *98%* | *22%* | *95%* |
| December week 2: Saturday - Sunday | *72%* | *74%* | *69%* | *98%* | *35%* | *68%* | *96%* | *57%* | *79%* | *99%* | *85%* | *57%* | *62%* | *84%* | *57%* | *67%* | *91%* | *99%* | *26%* | *97%* |
| **December week 3: Saturday - Sunday[SH]** | *60%* | *63%* | *58%* | *95%* | *26%* | *56%* | *91%* | *43%* | *69%* | *97%* | *61%* | *28%* | *32%* | *78%* | *46%* | *57%* | *86%* | *97%* | *19%* | *94%* |
| **December week 4: Saturday - Sunday[2, SH]** | *50%* | *54%* | *47%* | *91%* | *19%* | *45%* | *86%* | *27%* | *51%* | *89%* | *63%* | *30%* | *34%* | *57%* | *25%* | *33%* | *68%* | *87%* | *8%* | *74%* |
| **December week 5: Saturday - Sunday[2, SH]** | *47%* | *50%* | *44%* | *90%* | *18%* | *42%* | *84%* | *28%* | *53%* | *89%* | *63%* | *30%* | *34%* | *59%* | *26%* | *34%* | *70%* | *88%* | *17%* | *91%* |
| **January week 1: Saturday - Sunday[SH]** | *34%* | *38%* | *33%* | *84%* | *14%* | *31%* | *76%* | *22%* | *43%* | *85%* | *58%* | *25%* | *30%* | *54%* | *23%* | *31%* | *66%* | *86%* | *11%* | *81%* |
| **January week 2: Saturday - Sunday[SH]** | *29%* | *32%* | *28%* | *79%* | *12%* | *25%* | *70%* | *19%* | *37%* | *80%* | *52%* | *22%* | *25%* | *51%* | *21%* | *29%* | *64%* | *85%* | *11%* | *83%* |
| **January week 3: Saturday - Sunday[SH]** | *27%* | *30%* | *25%* | *78%* | *10%* | *23%* | *68%* | *19%* | *38%* | *81%* | *45%* | *18%* | *21%* | *41%* | *17%* | *22%* | *54%* | *78%* | *8%* | *76%* |
| **January week 4: Saturday - Sunday[3, SH]** | *55%* | *58%* | *52%* | *93%* | *22%* | *50%* | *88%* | *45%* | *70%* | *97%* | *66%* | *33%* | *37%* | *64%* | *31%* | *40%* | *75%* | *91%* | *9%* | *78%* |
| **February week 1: Saturday - Sunday[4, SH]** | *46%* | *50%* | *44%* | *90%* | *18%* | *42%* | *84%* | *32%* | *57%* | *92%* | *66%* | *32%* | *37%* | *72%* | *39%* | *50%* | *81%* | *95%* | *18%* | *92%* |
| **February week 2: Saturday - Sunday[4]** | *32%* | *35%* | *30%* | *81%* | *13%* | *28%* | *74%* | *21%* | *42%* | *84%* | *51%* | *21%* | *25%* | *50%* | *21%* | *28%* | *63%* | *84%* | *9%* | *78%* |
| **February week 3: Saturday - Sunday** | *30%* | *33%* | *29%* | *80%* | *12%* | *27%* | *72%* | *20%* | *39%* | *83%* | *48%* | *20%* | *23%* | *48%* | *20%* | *27%* | *61%* | *83%* | *8%* | *76%* |
| **February week 4: Saturday - Sunday** | *41%* | *44%* | *39%* | *87%* | *16%* | *36%* | *80%* | *27%* | *52%* | *89%* | *60%* | *28%* | *32%* | *60%* | *27%* | *36%* | *72%* | *89%* | *12%* | *84%* |
| March week 1: Saturday - Sunday | *45%* | *49%* | *43%* | *89%* | *18%* | *41%* | *83%* | *31%* | *56%* | *91%* | *65%* | *31%* | *35%* | *64%* | *31%* | *40%* | *75%* | *91%* | *14%* | *86%* |
| March week 2: Saturday - Sunday | *54%* | *57%* | *51%* | *93%* | *21%* | *48%* | *87%* | *37%* | *63%* | *94%* | *71%* | *37%* | *42%* | *70%* | *37%* | *48%* | *80%* | *94%* | *16%* | *90%* |
| March week 3: Saturday - Sunday | *56%* | *59%* | *54%* | *94%* | *22%* | *52%* | *88%* | *39%* | *66%* | *95%* | *73%* | *39%* | *45%* | *73%* | *39%* | *50%* | *81%* | *95%* | *17%* | *91%* |
| March week 4: Saturday - Sunday[5] | *55%* | *58%* | *53%* | *93%* | *22%* | *50%* | *88%* | *38%* | *65%* | *95%* | *72%* | *39%* | *44%* | *72%* | *38%* | *49%* | *81%* | *95%* | *17%* | *91%* |
| April week 1: Saturday - Sunday[5, SH] | *68%* | *70%* | *65%* | *98%* | *32%* | *64%* | *94%* | *52%* | *76%* | *98%* | *81%* | *53%* | *58%* | *81%* | *52%* | *63%* | *88%* | *98%* | *23%* | *96%* |
| April week 2: Saturday - Sunday[5, SH] | *53%* | *56%* | *50%* | *92%* | *21%* | *48%* | *87%* | *36%* | *62%* | *94%* | *70%* | *36%* | *41%* | *69%* | *36%* | *47%* | *79%* | *94%* | *16%* | *90%* |
| April week 3: Saturday - Sunday[5, SH] | *65%* | *68%* | *62%* | *97%* | *29%* | *61%* | *93%* | *49%* | *74%* | *98%* | *80%* | *49%* | *55%* | *79%* | *49%* | *60%* | *87%* | *98%* | *21%* | *95%* |
| April week 4: Saturday - Sunday[5, 6, SH] | *84%* | *85%* | *81%* | *100%* | *52%* | *80%* | *99%* | *72%* | *88%* | *100%* | *93%* | *72%* | *76%* | *92%* | *72%* | *79%* | *97%* | *100%* | *40%* | *99%* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-25: Weekday priority ranking calculated for beaches on the Whangaparaoa.

| Site | Arkles Bay (AKB) | Little Manly Bay (LMB) | Matakatia Bay (MB) | Okoromai Bay (OKB) | Te Haruhi Bay (THB) | Army Bay (AB) | Waiau Bay (WB) | Big Manly Bay (BMB) | Stanmore Bay (SB) | Red Beach (RB) | Orewa Beach (OB) | Hatfields Beach (HB) | Waiwera Beach (WWB) | Wenderholm Beach (WB) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid to late December to the end of January** | ***87*** | ***114*** | ***91*** | ***82*** | ***43*** | ***76*** | ***99*** | ***50*** | ***43*** | **55** | **11** | ***99*** | ***104*** | **35** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | *87%* | *97%* | *89%* | *85%* | *66%* | *83%* | *90%* | *71%* | *66%* | | 24% | *90%* | | |
| **December week 4: Monday - Friday[SH]** | *72%* | *89%* | *75%* | *69%* | *44%* | *67%* | *77%* | *51%* | *44%* | 40% | 14% | *77%* | *80%* | 39% |
| **December week 5: Monday - Friday[2, SH]** | *54%* | *77%* | *58%* | *51%* | *27%* | *47%* | *60%* | *32%* | *27%* | 32% | 6% | *60%* | *67%* | 26% |
| **January week 1: Monday - Friday[2, SH]** | *39%* | *66%* | *43%* | *36%* | *18%* | *34%* | *46%* | *22%* | *18%* | 27% | 3% | *46%* | *42%* | 14% |
| **January week 2: Monday - Friday[SH]** | *45%* | *70%* | *49%* | *42%* | *21%* | *39%* | *52%* | *25%* | *21%* | 41% | 4% | *52%* | *73%* | 31% |
| **January week 3: Monday - Friday[SH]** | *59%* | *80%* | *62%* | *56%* | *30%* | *53%* | *64%* | *36%* | *30%* | | 8% | *64%* | | |
| **January week 4: Monday - Friday[3, SH]** | *53%* | *76%* | *56%* | *49%* | *26%* | *46%* | *59%* | *30%* | *26%* | 30% | 6% | *59%* | | |
| February week 1: Monday - Friday[4, SH] | *57%* | *79%* | *60%* | *54%* | *29%* | *50%* | *62%* | *34%* | *29%* | 31% | 7% | *62%* | *50%* | 16% |
| February week 2: Monday - Friday[4] | *51%* | *75%* | *55%* | *47%* | *24%* | *44%* | *57%* | *29%* | *24%* | 26% | 6% | *57%* | | |
| February week 3: Monday - Friday | *87%* | *97%* | *89%* | *85%* | *66%* | *83%* | *90%* | *72%* | *66%* | | 24% | *90%* | | |
| February week 4: Monday - Friday | *86%* | *97%* | *88%* | *84%* | *64%* | *82%* | *89%* | *69%* | *64%* | | 22% | *89%* | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-26: Weekend priority ranking calculated for beaches on the Whangaparaoa.

| Site | AKB | LMB | MB | OKB | THB | AB | WB | BMB | SB | RB | OB | HB | WWB | WB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid-December to the end of February** | ***73*** | ***110*** | ***80*** | ***68*** | ***33*** | ***60*** | ***83*** | ***38*** | ***33*** | **39** | ***7*** | ***83*** | ***70*** | ***24*** |
| October week 3: Saturday - Monday[1] | *93%* | *99%* | *95%* | *92%* | *77%* | *90%* | *95%* | *81%* | *77%* | 75% | 34% | *95%* | *95%* | *69%* |
| October week 4: Saturday - Sunday | *80%* | *93%* | *82%* | *78%* | *55%* | *75%* | *84%* | *61%* | *55%* | 48% | 17% | *84%* | *83%* | *44%* |
| November week 1: Saturday - Sunday | *75%* | *90%* | *78%* | *72%* | *47%* | *69%* | *79%* | *54%* | *47%* | 38% | 15% | *79%* | *78%* | *37%* |
| November week 2: Saturday - Sunday | *79%* | *93%* | *82%* | *78%* | *55%* | *75%* | *84%* | *61%* | *55%* | 36% | 17% | *84%* | *83%* | *44%* |
| November week 3: Saturday - Sunday | *81%* | *94%* | *84%* | *79%* | *57%* | *77%* | *85%* | *63%* | *57%* | 49% | 18% | *85%* | *84%* | *47%* |
| November week 4: Saturday - Sunday | *62%* | *82%* | *65%* | *59%* | *33%* | *56%* | *67%* | *39%* | *33%* | 32% | 9% | *67%* | *66%* | *24%* |
| December week 1: Saturday - Sunday | *64%* | *84%* | *68%* | *61%* | *35%* | *58%* | *69%* | *41%* | *35%* | 25% | 10% | *69%* | *77%* | 35% |
| December week 2: Saturday - Sunday | *78%* | *92%* | *81%* | *76%* | *53%* | *74%* | *82%* | *59%* | *53%* | 47% | 17% | *82%* | *81%* | *42%* |
| **December week 3: Saturday - Sunday[SH]** | *61%* | *81%* | *64%* | *58%* | *32%* | *55%* | *66%* | *38%* | *32%* | 38% | 8% | *66%* | *68%* | 27% |
| **December week 4: Saturday - Sunday[2, SH]** | *46%* | *71%* | *50%* | *42%* | *22%* | *39%* | *53%* | *26%* | *22%* | 25% | 5% | *53%* | *34%* | 10% |
| **December week 5: Saturday - Sunday[2, SH]** | *49%* | *73%* | *54%* | *46%* | *24%* | *43%* | *56%* | *28%* | *24%* | 27% | 5% | *56%* | *40%* | 13% |
| **January week 1: Saturday - Sunday[SH]** | *42%* | *67%* | *46%* | *39%* | *20%* | *36%* | *48%* | *23%* | *20%* | 19% | 4% | *48%* | *37%* | 12% |
| **January week 2: Saturday - Sunday[SH]** | *37%* | *63%* | *40%* | *34%* | *17%* | *32%* | *43%* | *20%* | *17%* | 26% | 2% | *43%* | *33%* | 10% |
| **January week 3: Saturday - Sunday[SH]** | *42%* | *67%* | *46%* | *38%* | *19%* | *36%* | *48%* | *23%* | *19%* | 18% | 4% | *48%* | *51%* | 17% |
| **January week 4: Saturday - Sunday[3, SH]** | *36%* | *62%* | *40%* | *34%* | *17%* | *31%* | *42%* | *20%* | *17%* | 28% | 2% | *42%* | *40%* | *13%* |
| **February week 1: Saturday - Sunday[4, SH]** | *41%* | *67%* | *45%* | *38%* | *19%* | *35%* | *48%* | *22%* | *19%* | 29% | 3% | *48%* | *46%* | *15%* |
| **February week 2: Saturday - Sunday[4]** | *39%* | *65%* | *43%* | *36%* | *18%* | *34%* | *45%* | *21%* | *18%* | 25% | 3% | *45%* | *43%* | *14%* |
| **February week 3: Saturday - Sunday** | *45%* | *70%* | *49%* | *41%* | *21%* | *39%* | *52%* | *25%* | *21%* | 22% | 4% | *52%* | *49%* | *16%* |
| **February week 4: Saturday - Sunday** | *46%* | *71%* | *50%* | *43%* | *22%* | *40%* | *53%* | *26%* | *22%* | 28% | 5% | *53%* | *51%* | *16%* |
| March week 1: Saturday - Sunday | *66%* | *85%* | *69%* | *63%* | *37%* | *60%* | *71%* | *43%* | *37%* | 34% | 10% | *71%* | *70%* | *28%* |
| March week 2: Saturday - Sunday | *60%* | *80%* | *63%* | *56%* | *31%* | *54%* | *65%* | *36%* | *31%* | 32% | 8% | *65%* | *64%* | *23%* |
| March week 3: Saturday - Sunday | *67%* | *86%* | *70%* | *64%* | *38%* | *61%* | *73%* | *45%* | *38%* | 47% | 11% | *73%* | *71%* | *29%* |
| March week 4: Saturday - Sunday[5] | *49%* | *73%* | *53%* | *45%* | *23%* | *42%* | *55%* | *28%* | *23%* | 40% | 5% | *55%* | *54%* | *17%* |
| April week 1: Saturday - Sunday[5, SH] | *74%* | *89%* | *77%* | *71%* | *46%* | *68%* | *78%* | *53%* | *46%* | 58% | 14% | *78%* | *77%* | *35%* |
| April week 2: Saturday - Sunday[5, SH] | *55%* | *78%* | *59%* | *52%* | *27%* | *48%* | *61%* | *32%* | *27%* | 34% | 7% | *61%* | *59%* | *20%* |
| April week 3: Saturday - Sunday[5, SH] | *66%* | *85%* | *70%* | *63%* | *37%* | *60%* | *72%* | *44%* | *37%* | | 11% | *72%* | *70%* | *29%* |
| April week 4: Saturday - Sunday[5, 6, SH] | *84%* | *96%* | *86%* | *81%* | *61%* | *80%* | *87%* | *67%* | *61%* | | 20% | *87%* | *87%* | *51%* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-27: Weekday priority ranking calculated for beaches on the northeast coast.

| Site | Martins Bay (MTB) | Scandretts Bay (SB) | Algies Bay (ALB) | Snells Beach (SNB) | Sandspit (S) | Baddeleys Beach (BB) | Campbells Bay (CMB) | Jones Bay (JB) | Anchor Bay (AB) | Omaha Beach (OB) | Matheson Bay (MB) | Goat Island (GI) | Pakiri Beach (PB) | Forestry (F) | Te Arai (TA) | Black Swamp (BS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid to late December to the end of January** | ***89*** | ***115*** | ***96*** | ***86*** | ***92*** | ***124*** | ***124*** | ***122*** | ***28*** | **14** | ***103*** | ***25*** | **23** | ***62*** | ***27*** | ***106*** |
| December week 1: Monday - Friday | | | | | | | | | | | | | | | | |
| December week 2: Monday - Friday | | | | | | | | | | | | | | | | |
| December week 3: Monday - Friday[SH] | *93%* | *99%* | *95%* | *92%* | *95%* | *100%* | *100%* | *99%* | *62%* | 38% | *96%* | *57%* | 62% | *90%* | *67%* | *98%* |
| **December week 4: Monday - Friday[SH]** | *79%* | *93%* | *82%* | *78%* | *81%* | *98%* | *98%* | *96%* | *35%* | 19% | *84%* | *30%* | 36% | *76%* | *42%* | *91%* |
| **December week 5: Monday - Friday[2, SH]** | *46%* | *70%* | *49%* | *43%* | *48%* | *81%* | *81%* | *76%* | *13%* | 5% | *54%* | *10%* | 12% | *37%* | *15%* | *63%* |
| **January week 1: Monday - Friday[2, SH]** | *37%* | *62%* | *41%* | *35%* | *39%* | *75%* | *75%* | *69%* | *9%* | 3% | *45%* | *7%* | 5% | *21%* | *7%* | *41%* |
| **January week 2: Monday - Friday[SH]** | *48%* | *71%* | *51%* | *45%* | *50%* | *82%* | *82%* | *78%* | *13%* | 5% | *55%* | *11%* | 10% | *34%* | *13%* | *59%* |
| **January week 3: Monday - Friday[SH]** | *65%* | *83%* | *68%* | *62%* | *67%* | *92%* | *92%* | *88%* | *21%* | 11% | *71%* | *18%* | 20% | *58%* | *24%* | *79%* |
| **January week 4: Monday - Friday[3, SH]** | *66%* | *84%* | *69%* | *63%* | *68%* | *92%* | *92%* | *88%* | *22%* | 12% | *72%* | *18%* | 18% | *54%* | *21%* | *77%* |
| February week 1: Monday - Friday[4, SH] | *68%* | *85%* | *70%* | *65%* | *70%* | *93%* | *93%* | *90%* | *23%* | 12% | *74%* | *20%* | 19% | *55%* | *22%* | *77%* |
| February week 2: Monday - Friday[4] | *78%* | *92%* | *80%* | *75%* | *79%* | *97%* | *97%* | *95%* | *33%* | 17% | *82%* | *28%* | 34% | *75%* | *40%* | *90%* |
| February week 3: Monday - Friday | *90%* | *98%* | *92%* | *89%* | *92%* | *99%* | *99%* | *99%* | *56%* | 32% | *93%* | *49%* | | | | |
| February week 4: Monday - Friday | *96%* | *99%* | *97%* | *95%* | *97%* | *100%* | *100%* | *100%* | *69%* | 46% | *98%* | *64%* | | | | |
| March week 1: Monday - Friday | | | | | | | | | | | | | | | | |
| March week 2: Monday - Friday | | | | | | | | | | | | | | | | |
| March week 3: Monday - Friday | | | | | | | | | | | | | | | | |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

Table 6-28: Weekend priority ranking calculated for beaches on the northeast coast.

| Site | MTB | SB | ALB | SNB | S | BB | CMB | JB | AB | OB | MB | GI | PB | F | TA | BS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Site priority ranking: mid-December to the end of February** | *63* | *105* | *72* | *59* | *69* | *118* | *118* | *113* | *17* | *6* | *77* | *15* | *18* | *51* | *21* | *97* |
| October week 3: Saturday - Monday[1] | *85%* | *96%* | *87%* | *83%* | *86%* | *99%* | *99%* | *98%* | *43%* | *23%* | *88%* | *38%* | *44%* | *81%* | *51%* | *94%* |
| October week 4: Saturday - Sunday | *88%* | *98%* | *90%* | *87%* | *90%* | *99%* | *99%* | *99%* | *52%* | *29%* | *92%* | *45%* | *52%* | *86%* | *58%* | *97%* |
| November week 1: Saturday - Sunday | *85%* | *96%* | *87%* | *83%* | *86%* | *99%* | *99%* | *98%* | *43%* | *23%* | *88%* | *38%* | *44%* | *81%* | *50%* | *94%* |
| November week 2: Saturday - Sunday | *65%* | *83%* | *67%* | *62%* | *67%* | *91%* | *91%* | *88%* | *20%* | *11%* | *71%* | *18%* | *21%* | *59%* | *24%* | *79%* |
| November week 3: Saturday - Sunday | *83%* | *95%* | *85%* | *81%* | *85%* | *99%* | *99%* | *97%* | *40%* | *21%* | *87%* | *35%* | *41%* | *79%* | *47%* | *93%* |
| November week 4: Saturday - Sunday | *70%* | *87%* | *73%* | *68%* | *73%* | *94%* | *94%* | *91%* | *25%* | *14%* | *76%* | *21%* | *25%* | *65%* | *30%* | *84%* |
| December week 1: Saturday - Sunday | *73%* | *89%* | *76%* | *71%* | *75%* | *95%* | *95%* | *92%* | *28%* | *15%* | *78%* | *23%* | *28%* | *68%* | *33%* | *86%* |
| December week 2: Saturday - Sunday | *72%* | *88%* | *74%* | *69%* | *74%* | *95%* | *95%* | *92%* | *26%* | *14%* | *78%* | *22%* | *27%* | *67%* | *31%* | *85%* |
| **December week 3: Saturday - Sunday[SH]** | *70%* | *87%* | *73%* | *68%* | *73%* | *94%* | *94%* | *91%* | *25%* | *14%* | *76%* | *21%* | *29%* | *69%* | *33%* | *86%* |
| **December week 4: Saturday - Sunday[2, SH]** | *47%* | *70%* | *51%* | *44%* | *50%* | *82%* | *82%* | *77%* | *13%* | *5%* | *55%* | *11%* | *9%* | *31%* | *12%* | *56%* |
| **December week 5: Saturday - Sunday[2, SH]** | *36%* | *61%* | *40%* | *34%* | *39%* | *75%* | *75%* | *69%* | *9%* | *3%* | *44%* | *7%* | *9%* | *31%* | *12%* | *57%* |
| **January week 1: Saturday - Sunday[SH]** | *25%* | *46%* | *27%* | *23%* | *26%* | *62%* | *62%* | *55%* | *5%* | *1%* | *30%* | *3%* | *9%* | *31%* | *12%* | *57%* |
| **January week 2: Saturday - Sunday[SH]** | *38%* | *63%* | *41%* | *35%* | *40%* | *76%* | *76%* | *70%* | *9%* | *3%* | *45%* | *8%* | *8%* | *28%* | *10%* | *52%* |
| **January week 3: Saturday - Sunday[SH]** | *28%* | *51%* | *30%* | *26%* | *29%* | *66%* | *66%* | *59%* | *6%* | *1%* | *34%* | *4%* | *5%* | *19%* | *6%* | *39%* |
| **January week 4: Saturday - Sunday[3, SH]** | *43%* | *67%* | *47%* | *40%* | *46%* | *79%* | *79%* | *74%* | *12%* | *4%* | *51%* | *9%* | *11%* | *35%* | *14%* | *61%* |
| **February week 1: Saturday - Sunday[4, SH]** | *34%* | *58%* | *36%* | *31%* | *35%* | *72%* | *72%* | *66%* | *8%* | *2%* | *40%* | *6%* | *15%* | *42%* | *16%* | *68%* |
| **February week 2: Saturday - Sunday[4]** | *47%* | *70%* | *51%* | *44%* | *50%* | *82%* | *82%* | *77%* | *13%* | *5%* | *55%* | *11%* | *11%* | *35%* | *14%* | *60%* |
| **February week 3: Saturday - Sunday** | *48%* | *72%* | *52%* | *45%* | *51%* | *83%* | *83%* | *78%* | *14%* | *6%* | *56%* | *11%* | *14%* | *41%* | *16%* | *66%* |
| **February week 4: Saturday - Sunday** | *46%* | *70%* | *49%* | *43%* | *48%* | *81%* | *81%* | *76%* | *13%* | *5%* | *54%* | *10%* | *13%* | *39%* | *15%* | *65%* |
| March week 1: Saturday - Sunday | *47%* | *71%* | *51%* | *44%* | *50%* | *82%* | *82%* | *77%* | *13%* | *5%* | *55%* | *11%* | *13%* | *40%* | *16%* | *66%* |
| March week 2: Saturday - Sunday | *55%* | *77%* | *59%* | *53%* | *58%* | *87%* | *87%* | *82%* | *16%* | *7%* | *62%* | *14%* | *16%* | *48%* | *19%* | *73%* |
| March week 3: Saturday - Sunday | *71%* | *87%* | *74%* | *68%* | *73%* | *94%* | *94%* | *91%* | *25%* | *14%* | *77%* | *21%* | *26%* | *66%* | *30%* | *84%* |
| March week 4: Saturday - Sunday[5] | *56%* | *78%* | *60%* | *53%* | *59%* | *87%* | *87%* | *83%* | *16%* | *8%* | *63%* | *15%* | *17%* | *49%* | *19%* | *73%* |
| April week 1: Saturday - Sunday[5, SH] | *60%* | *80%* | *64%* | *58%* | *63%* | *89%* | *89%* | *86%* | *18%* | *9%* | *67%* | *16%* | *19%* | *54%* | *22%* | *77%* |
| April week 2: Saturday - Sunday[5, SH] | *35%* | *59%* | *38%* | *32%* | *36%* | *73%* | *73%* | *67%* | *8%* | *2%* | *41%* | *7%* | *8%* | *28%* | *10%* | *53%* |
| April week 3: Saturday - Sunday[5, SH] | *73%* | *89%* | *76%* | *71%* | *76%* | *96%* | *96%* | *93%* | *28%* | *15%* | *79%* | *24%* | *29%* | *68%* | *33%* | *86%* |
| April week 4: Saturday - Sunday[5, 6, SH] | *35%* | *60%* | *38%* | *33%* | *37%* | *73%* | *73%* | *67%* | *8%* | *2%* | *42%* | *7%* | *8%* | *29%* | *10%* | *54%* |

**Water use values that have been italicised have been calculated based on the estimated proportion of water use when compared to a nearby patrolled site.*

# 7 Types of supervision and surveillance

As outlined in Section 6.2, different types and levels of supervision and surveillance are recommended where the risk-adjusted water use values fall above or below specified thresholds. More specifically, formal supervision may be recommended where the risk-adjusted water use value is equal to or above the 'Formal Supervision Threshold' of 25, formal surveillance may be recommended where the value is equal to or above the 'Formal Surveillance Threshold' of 15, but below 25. Structured informal surveillance may be recommended where the risk-adjusted value is equal to or above the 'Informal Surveillance Threshold: Structured' of 7.5, but below 15, while unstructured informal surveillance may be recommended at any level of risk. These are outlined in the supervision and surveillance model (Figure 7-1).

Of note, multiple types of supervision and surveillance may be appropriate at a single site. These services could operate simultaneously, or at different times of the season in accordance with the calculated risk.

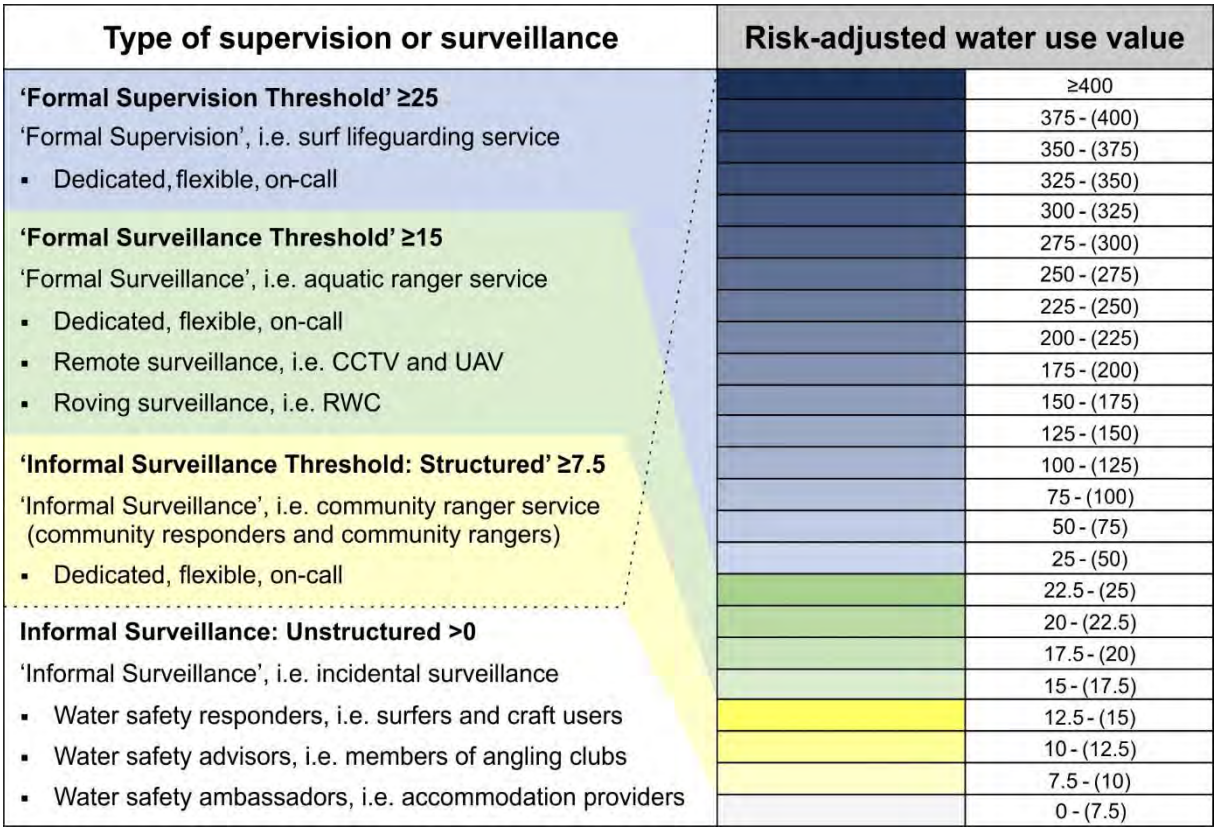



Figure 7-1: Supervision and surveillance model.

## 7.1 Formal supervision

Formal supervision should be provided where a considerable number of water users congregate at a beach, lake, or waterfall and would benefit from constant supervision to reduce the risk of drowning and injury. Services could be provided as 'dedicated supervision' (Section 7.1.1), 'flexible supervision' (Section 7.1.2), and 'on-call supervision' (Section 7.1.3); these are described below.

### 7.1.1 Dedicated supervision

Dedicated supervision, such as a surf lifeguarding service, should be recommended where the risk-adjusted water use values for a beach, lake, or waterfall are above, or close to, the supervision threshold. Furthermore, the values should remain relatively consistent for some period(s) over spring, summer, and/or autumn, and across the hours of the day.

Based on the calculated values, the season length, hours of service, and number and competencies of personnel should be determined. The recommended service may involve consistent hours and resourcing across the season, or there may be multiple levels of service recommended, i.e. pre-peak, peak, and post-peak service provision.

This type of formal supervision may also be appropriate where there are barriers or limitations to changing service provision at relatively short notice, i.e. a lack of systems or processes, managerial oversight, and/or willingness of personnel to adopt a flexible system.

### 7.1.2 Flexible supervision

Flexible supervision i.e. a surf lifeguarding service, should be recommended where the risk-adjusted water use values for a beach, lake, or waterfall are above, or close to, the supervision threshold, but are highly variable. This may be due to changing environmental conditions, numbers of water users, types of water-based recreational activities, and the awareness and/or competence of water users.

A flexible service delivery model can enable the length, hours, number, and competencies of personnel to be adjusted to best meet the needs of the site, as such using human and financial resources efficiently. A base level of supervision could be set based on the most likely risk-adjusted scenario, and then scaled up and down accordingly. The provision of such services would require predictive and real-time risk analysis, i.e. using forecast environmental conditions to predict physical hazardousness and water use. In addition, appropriate management systems and processes, as well as flexible personnel, would be required.

### 7.1.3 On-call supervision

On-call supervision, i.e. a surf lifeguarding service, should be recommended where the risk-adjusted water use values for a beach, lake, or waterfall are intermittently above, or close to, the supervision threshold. This type of supervision is appropriate when the environmental conditions, number of water users, and/or competencies of water users are highly variable; there may be short and/or inconsistent periods when risk is elevated. This type of supervision may be particularly appropriate during events or culturally significant occasions at beaches, lakes, or waterfalls, i.e. Titahi Bay Beach Festival, Christmas Day, or Chinese New Year.

This type of supervision would require predictive and real-time risk analysis systems, i.e. to estimate the likely number of water users and model the influence of the environmental conditions on the risk. Appropriate management systems and processes, as well as sufficient on-call personnel would be required. In addition, surf lifeguarding equipment would have to be easily accessible and available to personnel delivering such a service.

## 7.2 Formal surveillance

Formal surveillance should be provided where a number of water users use a beach, lake, or waterfall, but a formal supervision service is not considered appropriate or cost-effective. This may be because water users are spread across a large area, a large proportion of water users are highly competent relative to the environmental conditions, or where the environmental

conditions are relatively low risk. Formal surveillance may also be effective where water users are engaged in a range of recreational activities other than swimming, i.e. rock fishing, surfing, and/or recreational boating. Formal surveillance could be provided as a dedicated service (Section 7.2.1), flexible service (Section 7.2.2), on-call service (Section 7.2.3), remote service (Section 7.2.5), or roving service (Section 7.2.4); these are described below.

Formal surveillance should be delivered by personnel who have an appropriate level of competence in the water (i.e. a surf lifeguard or equivalent competencies). The role would be to observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required. This role could be termed an 'aquatic ranger'; this title highlights that a lower level of service is being provided, and that the personnel have a range of responsibilities.

### 7.2.1 Dedicated surveillance

Dedicated surveillance, i.e. by aquatic rangers, should be recommended where the risk-adjusted water use values for a beach, lake, or waterfall are consistently above, or close to, the formal surveillance threshold. Furthermore, this type of service could also be recommended where the risk-adjusted water use values are above the supervision threshold, but the use of the site is such that a supervision service is not appropriate.

A dedicated surveillance service should be implemented where water use is relatively consistent for some period(s) over spring, summer, and/or autumn, and across the hours of the day. The recommended service may involve consistent hours and resourcing across the season, or there may be multiple levels of service recommended, i.e. pre-peak, peak, and post-peak service provision. Furthermore, a surveillance service may be recommended in combination with a supervision service, i.e. surveillance could be provided outside the peak period(s), with supervision provided at the busiest times.

### 7.2.2 Flexible surveillance

Flexible surveillance, i.e. by aquatic rangers, should be recommended where the risk-adjusted water use values for a beach, lake, or waterfall are above, or close to, the formal surveillance threshold, but are highly variable. This may be due to changing environmental conditions, numbers of water users, types of water-based recreational activities, and the awareness and/or competence of water users.

A flexible service delivery model can enable the length, hours, number, and competencies of personnel to be adjusted to best meet the needs of the site, as such using human and financial resources efficiently. A base level of surveillance could be set based on the most likely risk-adjusted scenario, and then scaled up and down accordingly.

### 7.2.3 On-call surveillance

On-call surveillance, i.e. by aquatic rangers, should be recommended where the risk-adjusted water use values for a beach, lake, or waterfall are intermittently above, or close to, the formal surveillance threshold. This type of surveillance is appropriate when the environmental conditions, number of water users, and/or competencies of water users are highly variable; water use may regularly be low but there may be short and/or inconsistent periods when risk is elevated. For example, on-call surveillance could be appropriate at some sites during times of favourable weather, high wave energy, or during events, i.e. the 90 Mile Beach Snapper Bonanza Surfcasting Competition.

This type of surveillance would require predictive and real-time risk analysis systems. Appropriate management systems and processes, as well as sufficient on-call personnel would be required. In addition, appropriate equipment would have to be available to personnel delivering such a service.

### 7.2.4 Roving surveillance

Roving surveillance, i.e. a surf lifeguard or aquatic ranger roving along an extended area, should be provided where there is not sufficient need for formal supervision or surveillance of a single site, but cumulatively there is a need across multiple sites (or a long stretch of beach). The size of the area to be covered will depend on the level of water use, the shape and configuration of the environment, and the physical hazardousness of the area.

Roving surveillance on wave-dominated beaches would typically cover a single site or a small number of bays, particularly where views along the beach are obstructed by landscape features. On tide-modified or lower energy sites, roving surveillance would typically cover a longer stretch of coastline. The number and competencies of the personnel providing roving surveillance, and the equipment used, would vary as required. For many sites it is likely that rescue watercraft (RWC) or all-terrain vehicles (ATV) would be used.

### 7.2.5 Remote surveillance

Remote supervision, i.e. closed-circuit television (CCTV) cameras, could be used by surf lifeguards and/or aquatic rangers to view areas of a beach, lake, or waterfall that are not easily visible. This may be due to landscape barriers, i.e. headlands, or the distance from an existing service. Remote surveillance of other nearby beaches could also be provided. Cameras may also be beneficial to increase visibility where there is glare on the water. However, remote surveillance is only recommended where there is some capacity and capability to undertake preventative actions and/or emergency response.

Remote surveillance is also beneficial for determining areas outside of a main supervision or surveillance area that are experiencing high water use; personnel could then be sent to that area to provide targeting education, supervision, and/or surveillance. This would greatly assist in the distribution of resources where the need is greatest.

Furthermore, new technologies, such as remote detection software and unmanned aerial vehicles (UAVs) could also be trialled. This would be particularly beneficial where there are long stretches of beach and water users are widely dispersed, i.e. members of the public walking the Hillary Trail who enter the water between Karekare Beach and Whatipu Beach.

Personnel could monitor the cameras or UAVs via a screen, tablet, or other such device in a patrol tower or at SurfCom (surf lifesaving communications centre).

## 7.3 Informal surveillance

Informal surveillance can be provided by personnel who are not performing a role of formal supervision or surveillance, such as a surf lifeguard or aquatic ranger. These members of the community can be of great benefit to other water users.

Informal surveillance could be structured or unstructured. As part of structured informal surveillance, members of the community and/or other stakeholders could be upskilled as community rangers and/or community responders. These personnel could then be rostered on to a ‘community ranger service’ (Section 7.3.1). Unstructured informal surveillance would

also involve upskilling members of the community and/or other stakeholders as water safety ambassadors, water safety advisors, and/or water safety responders, but these personnel would only provide incidental services when they happen to be using the beach, lake, or waterfall (Section 7.3.2).

### 7.3.1 Informal surveillance: structured (dedicated, flexible, on-call)

Structured informal surveillance, such as a community ranger service, could be provided where the risk-adjusted water use values for a beach, lake, or waterfall are consistently above or close to the structured informal surveillance threshold. This type of service could also be recommended where the risk-adjusted water use values are above the formal surveillance threshold; it could operate alongside formal supervision and/or surveillance, as well as outside the season length and/or hours of formal services. There could be two levels of structured informal surveillance: community rangers and community responders.

These services could be provided in a dedicated, flexible, and/or on-call manner, similar to formal supervision and surveillance. The title of a community ranger and/or community responder highlights that a lower level of service is being provided, in comparison to surf lifeguards and aquatic rangers.

#### 7.3.1.1 Community responder

The role of a community responder could be to provide surveillance, educate water users, advise water users of hazards (i.e. rip currents), and respond to incidents if required. Community responders could also erect warning signs as required, and assist with other tasks such as managing safety and navigation. A community responder should notify emergency services if an incident does occur, and could be trained to enter the water to perform a rescue.

Community responders should be provided with or have easy access to appropriate rescue equipment; an equipment station could be established on-site. Personnel and on-site data could be managed via an App, and personnel could be provided with an appropriate uniform and/or personal protective equipment.

#### 7.3.1.2 Community ranger

The role of a community ranger could be similar to a community responder, but they would not be trained to enter the water to perform a rescue. They could, however, be trained to use public rescue equipment to enable them to assist with a rescue from the shore, where possible and where equipment is available.

#### 7.3.1.3 Potential stakeholders: community ranger service

Personnel trained as community responders or community rangers may be members of the community, groups, organisations, agencies, and/or commercial operators. For example, stakeholders that undertake regular operations at beaches, lakes, or waterfalls in the Auckland region could be upskilled to provide informal surveillance as part of their regular duties. Community responders and community rangers could include:

- Community members
- Pool lifeguards, i.e. Takapuna Pool and Leisure Centre
- Surf schools, i.e. Aotearoa Surf School
- Park rangers, i.e. Auckland Council Park Rangers
- Beach wardens
- New Zealand Police, i.e. Kumeu Community Constable
- Honorary harbour wardens

- Honorary fishery officers
- Coast care groups, i.e. Te Henga Bethells Beachcare Group

Of note, community members that are not affiliated to any of group, organisation, or agency could, in some cases, be the most essential stakeholders to engage in a community ranger service. Personnel who have previously, or are currently, trained as surf lifeguards may also be interested in being involved in this type of service.

### 7.3.2 Informal surveillance: unstructured

Members of the community, groups, organisations, agencies, and/or commercial operators could be upskilled to provide incidental surveillance, advice, and/or response. This type of informal surveillance may be recommended where the risk-adjusted water use values for a beach, lake, or waterfall are at any value. There could be three levels of unstructured informal surveillance: water safety ambassadors, water safety advisors, and water safety responders.

Any data, i.e. rescues, recorded by water safety ambassadors, water safety advisors, and water safety responders could be entered into an App.

#### 7.3.2.1 Water safety responders

The role of a water safety responder could be to provide incidental surveillance, educate water users, and advise water users of hazards, i.e. rip currents or hazardous surf conditions. A water safety responder could notify emergency services if an incident does occur, and they could be trained to enter the water to perform a rescue. As such, they should be trained in the use of any equipment they are likely to have while at the beach, lake, or waterfall, i.e. rescue techniques using a surfboard, or have access to appropriate equipment (i.e. via an equipment station).

Water safety responders should be taught to understand the physical environment, identify hazards, identify persons in difficulty, rescue techniques, and basic first aid. The specific techniques and skills developed should vary depending on the physical environment and likely incidents, as well as the proximity to water-based support. Potential water safety responders could include:

- Community members
- Surfers and craft users, in particular members of boardriders clubs and local surfers
- Surf schools
- Snorkellers and scuba divers, in particular regular users

#### 7.3.2.2 Water safety advisors

The role of a water safety advisor could be similar to a water safety responder, but they would not be trained to enter the water to perform a rescue. They could, however, be trained to use public rescue equipment to enable them to assist with a rescue from the shore. Water safety advisors should focus on providing informal surveillance of other water users where possible in the course of their regular activities. Potential water safety advisors could include:

- Community members
- Members of boating and yachting clubs
- Fishers, in particular members of angling clubs and regular users
- Tour operators

#### 7.3.2.3 Water safety ambassadors

The role of a water safety ambassador could be to provide general water safety advice to site users, but these personnel may not be as skilled as water safety responders and water safety advisors. These personnel should be able to provide some site-specific information, i.e. don't swim near the river mouth, and could also provide some incidental surveillance, where practicable. They may also be in a position to provide relevant safety information, i.e. leaflets, to site users. Potential water safety ambassadors could include:

- Community members
- Accommodation providers, in particular those adjacent to beaches, lakes, and waterfalls
- Staff of local businesses, i.e. cafés

# 8 Recommended supervision and surveillance

The recommended provision of supervision and surveillance on beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast is outlined in this section. This follows in depth analysis of the volume and frequency of water use (see Section 6.1), adjusted for the environmental factor (beach morphology and wave energy) and diminishing water use ratio (see Section 6.2), while taking into account the site use and recreation (see Section 4.5), and fatal and non-fatal incident statistics (see Section 5).

This analysis and the development of the recommendations has been undertaken in conjunction with the production of supervision and surveillance reports for sixteen beaches that are, or have been, patrolled by surf lifeguards in the Auckland region. Beaches on the west coast include: Muriwai Beach (Mulcahy and Lowe, 2017b), Te Henga (Mulcahy and Lowe, 2017e), North Piha Beach (Mulcahy and Lowe, 2017c), Piha Beach (Mulcahy and Lowe, 2017d), Karekare Beach (Mulcahy and Lowe, 2017a), and Karioitahi Beach (Mulcahy, 2018a). Beaches on the North Shore include: Takapuna Beach (Mulcahy and Lowe, 2018e), Milford Beach (Mulcahy and Lowe, 2018d), Mairangi Bay (Mulcahy and Lowe, 2018c), Browns Bay (Mulcahy and Lowe, 2018a), and Long Bay (Mulcahy and Lowe, 2018b). Beaches on the Whangaparaoa include: Red Beach (Mulcahy, 2018e), Orewa Beach (Mulcahy, 2018c), and Wenderholm Beach (Mulcahy, 2018f), while beaches on the northeast coast including Omaha Beach (Mulcahy, 2018b) and Pakiri Beach (Mulcahy, 2018d).

Of note, in this Section, the recommendations for the patrolled sites outlined above have been incorporated among those of other beaches, lakes, and waterfalls investigated across the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region. These recommendations are outlined below, and summarised in a series of tables. Additional details on the recommendations are then provided in Appendix 13.2.2 to Appendix 13.2.5.

## 8.1 West coast beaches, lakes, and waterfalls

The provision of supervision and surveillance along west coast beaches, lakes, and waterfalls should be extended and diversified. This should include the provision of different types and levels of supervision and surveillance, and the uptake of new and emerging technologies, i.e. closed-circuit television (CCTV) cameras and unmanned aerial vehicles (UAV).

The recommended services are briefly outlined below, and details are provided in Table 8-1 to Table 8-6. Maps showing the recommended supervision and surveillance services on weekends over the peak period are also provided (Figure 8-1 to Figure 8-3). Additional details for each site where a formal supervision and/or surveillance service has been recommended are provided in Appendix 13.2.2.

### 8.1.1 Weekdays

i. As detailed in Table 8-1, it is recommended that dedicated supervision (surf lifeguarding services) should continue to be delivered on weekdays at Muriwai Beach, Te Henga (Bethells Beach), North Piha Beach, Piha Beach, Karekare Beach, and Karioitahi Beach. These services should be delivered by surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service; additional details are provided in the respective supervision and surveillance reports. In many instances, these services should be extended beyond their current season length and/or hours of service. In addition, a surf lifeguarding service should be established at O'Neill Bay from mid to late December to early February (summer school holidays).

ii. On-call supervision (surf lifeguarding services) should also be established at Te Henga (Bethells Beach), North Piha Beach, and Karioitahi Beach. This would enable services to be responsive to the environmental conditions, water use, and types of water users. The number of hours recommended for these on-call services has been calculated based on the assumption that they will be delivered on 50% of on-call days.

iii. The provision of dedicated surveillance, such as an aquatic ranger(s), is recommended at Maukatia (Maori Bay), O'Neill Bay, and Whatipu Beach. These services could observe members of the public, educate water users, and manage a range of water-based activities. Personnel could also respond to nearshore incidents as required. On-call surveillance has also been recommended at Karekare Beach.

iv. Furthermore, dedicated surveillance should be trailed at Muriwai Beach and Piha Beach on weekdays in late autumn, winter, and early spring; this is outside of the period traditionally patrolled by surf lifeguards. These services could observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required. Should response be required, they should seek additional support from water-based emergency callout squads, and other emergency services, i.e. Auckland Rescue Helicopter Trust.

v. As detailed in Table 8-2, roving surveillance should be provided from Wigmore Bay to Whites Beach on weekdays over the peak summer period. In addition, roving surveillance should be provided by nearby services from Muriwai Beach to Maukatia (Maori Bay), O'Neill Bay to Bethells Beach, Lake Wainamu, North Piha Beach to the Gap, and from Mercer Bay to Paratahi Island (in the absence of dedicated services at these sites).

vi. Finally, as detailed in Table 8-1, structured informal surveillance should be encouraged at Rimmer Road, Lake Wainamu, Anawhata Beach, and Whites Beach over the peak summer period. Auckland Council Park Rangers and/or members of the community could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained).

### 8.1.2 Weekends

i. As detailed in Table 8-3, it is recommended that dedicated supervision (surf lifeguarding services) continue to be delivered on weekends at Muriwai Beach, Te Henga (Bethells Beach), North Piha Beach, Piha Beach, Karekare Beach, and Karioitahi Beach. These services should be delivered by surf lifeguards from the respective Surf Life Saving Clubs. In many instances, these services should be extended beyond their current season length and/or hours of service. In addition, a surf lifeguarding service should be established at O'Neill Bay from mid-December to the end of February.

ii. The provision of dedicated surveillance, such as an aquatic ranger(s), is recommended on weekends at Rimmer Road, Maukatia (Maori Bay), O'Neill Bay, Anawhata Beach, Whites Beach, and Whatipu Beach. These services could observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required.

iii. Furthermore, dedicated surveillance should also be trailed at Muriwai Beach and Piha Beach on weekends in late autumn, winter, and early spring; this is outside of the period traditionally patrolled by surf lifeguards. They could observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore

incidents as required. Should additional response be required, they should seek additional support from water-based emergency callout squads, and other emergency services, i.e. Auckland Rescue Helicopter Trust.

iv. As detailed in Table 8-4, roving surveillance should be provided on weekends by nearby services from Muriwai Beach to Maukatia (Maori Bay), O'Neill Bay to Bethells Beach, Lake Wainamu, Wigmore Bay to Whites Beach, North Piha Beach to the Gap, and from Mercer Bay to Paratahi Island (in the absence of dedicated services at these sites).

v. Finally, as detailed in Table 8-3, structured informal surveillance should be encouraged at Rimmer Road, O'Neill Bay, Lake Wainamu, Anawhata Beach, and Whites Beach on some weekends during late spring, summer, and autumn; formal surveillance is recommended during the busiest weekends at these sites. Auckland Council Park Rangers and/or members of the community could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained).

### 8.1.3 Other supervision and surveillance

i. As detailed in Table 8-5, remote surveillance via closed-circuit television (CCTV) cameras fitted with remote detection software should be provided at a number of locations along the west coast. This would enable more effective surveillance of areas that are obscured by landscape features and/or where limited other supervision or surveillance is provided.

   Furthermore, unmanned aerial vehicles (UAV) could be trialled between Rimmer Road and the southern end of Muriwai Beach, from Karekare Beach to Whatipu Beach, and from the mouth of the Manukau Harbour to the mouth of the Waikato River. If successful, this could enable more efficient surveillance of these long stretches of beach.

   It is recommended that the UAVs be autonomous, which would require regulatory approval. They should be fitted with remote detection software to identify members of the public in the water. Unmanned aerial vehicles should be fitted with a device to enable communication with members of the public, i.e. a loud speaker, as well as the ability to deploy a flotation device. Remote surveillance by UAV could provide initial response and enable roving surveillance (using an all-terrain vehicle or rescue watercraft) to be used efficiently.

ii. In addition, a number of individuals, groups, organisations, and commercial operators along west coast beaches could be engaged and upskilled as water safety ambassadors, water safety advisors, and/or water safety responders (see Table 8-6). More specifically, members of boardriders clubs, instructors at surf schools, members of angling clubs, tour operators, and nearby accommodation providers could be engaged.


Figure 8-1: Map showing the recommended supervision and surveillance services for Rimmer Road to Maukatia (Maori Bay) on weekends over the peak period.


Figure 8-2: Map showing the recommended supervision and surveillance services for O'Neill Bay to Whatipu Beach on weekends over the peak period.

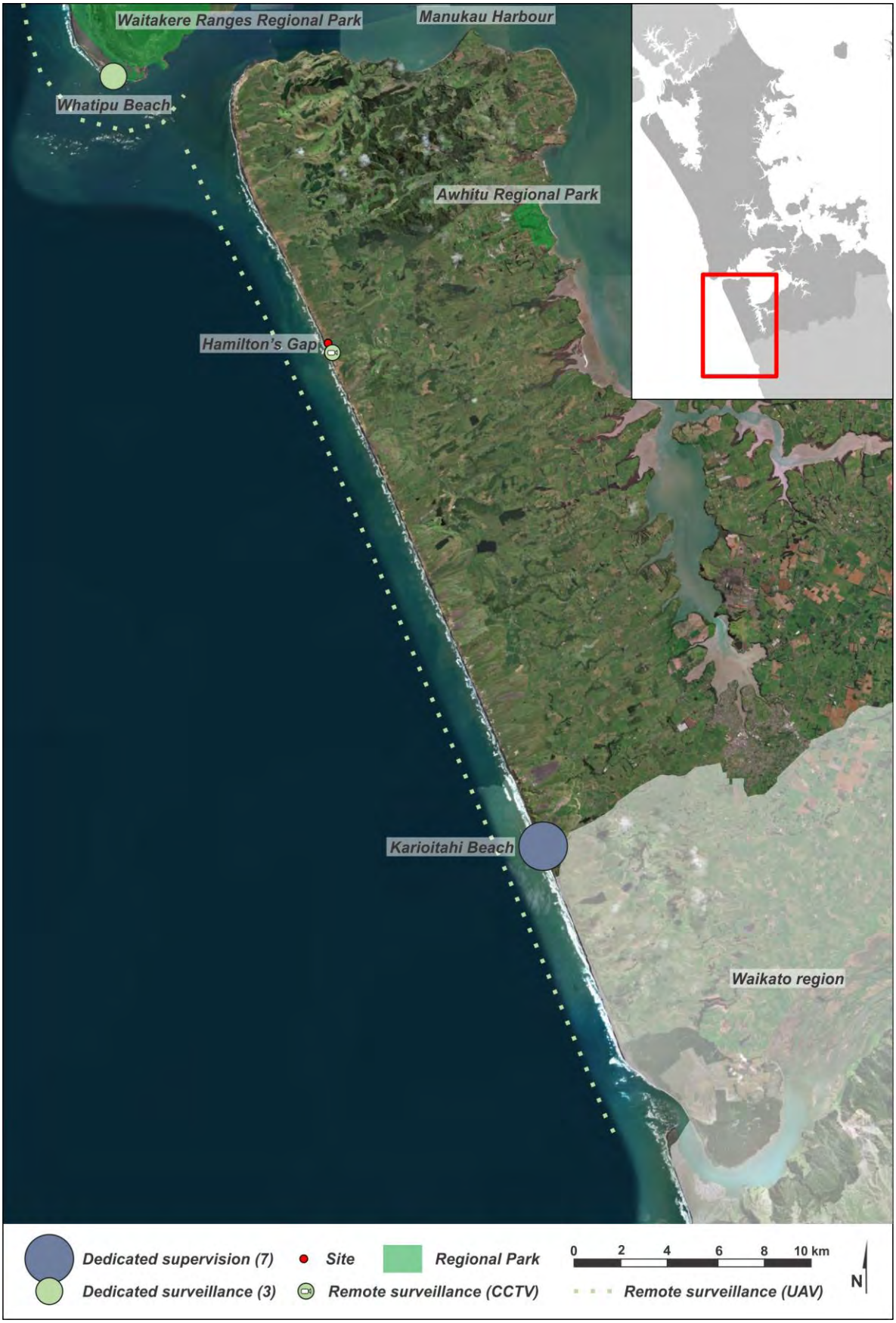



Figure 8-3: Map showing the recommended supervision and surveillance services for Whatipu Beach to the mouth of the Waikato River on weekends over the peak period.

Table 8-1: West coast beaches, lakes, and waterfalls: recommended supervision and surveillance requirements on weekdays.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Rimmer Road | 65 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 1 | - | 12:00 - 18:00 | - | > 0 | > 0 | Table 13-7 |
| Muriwai Beach | 5 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | November week 3 - April week 4 | 11:00 - 18:00 | 09:30 - 20:00 | 3 | 9 | 5,635 | Table 13-9 |
| | | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | May week 1 - November week 2 | 11:00 - 17:00 | 11:00 - 18:00 | 2 | | 1,786 | Table 13-9 Table 13-13 |
| Maukatia (Maori Bay) | 22 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 1 - March week 4 | 11:00 - 19:00 | 11:00 - 19:00 | 1 | 2 | 880 | Table 13-11 |
| O'Neill Bay | 41 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 4 - February week 1 | 12:00 - 17:00 | 11:00 - 18:00 | 3 | | 615 | Table 13-15 |
| | | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 2 | 11:00 - 18:00 | 10:00 - 19:00 | 1 | | 180 | Table 13-15 |
| Te Henga (Bethells Beach) | 19 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 3 - February week 4 | 10:00 - 19:00 | 09:30 - 20:00 | 3 | 5 | 2,090 | Table 13-17 |
| | | | 7.1.3 On-call supervision | December week 1 - December week 2, March week 1 - April week 4 | 12:00 - 18:00 | 12:00 - 19:00 | 3 | | 495 (on-call) | Table 13-17 |
| Lake Wainamu | 75 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 1 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Anawhata Beach | 78 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 1 | - | 12:00 - 18:00 | - | > 0 | > 0 | Table 13-19 |
| Whites Beach | 78 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 1 | - | 12:00 - 18:00 | - | > 0 | > 0 | Table 13-21 |
| North Piha Beach | 12 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 3 - February week 4 | 10:00 - 19:00 | 09:30 - 20:00 | 4 | 7 | 2,940 | Table 13-24 |
| | | | 7.1.3 On-call supervision | December week 1 - December week 2, March week 1 - April week 4 | 12:00 - 18:00 | 12:00 - 19:00 | 3 | | 495 (on-call) | Table 13-24 |
| Piha Beach | 4 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | November week 3 - April week 4 | 11:00 - 18:00 | 09:30 - 20:00 | 3 | 9 | 5,270 | Table 13-26 |
| | | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | May week 1 - November week 2 | 11:00 - 17:00 | 11:00 - 18:00 | 2 | | 1,786 | Table 13-26 Table 13-28 |
| Karekare Beach | 26 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 3 - February week 4 | 10:00 - 19:00 | 10:00 - 19:30 | 3 | 4 | 1,820 | Table 13-30 |
| | | 7.2 Formal surveillance | 7.2.3 On-call surveillance | December week 1 - December week 2, March week 1 - April week 4 | 12:00 - 18:00 | 12:00 - 19:00 | 2 | | 330 (on-call) | Table 13-30 |

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Whatipu Beach | 53 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 2 | - | 11:00 - 18:00 | - | 3 | 945 | Table 13-32 |
| Karioitahi Beach | 16 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 3 - February week 4 | 10:00 - 19:00 | 09:30 - 20:00 | 3 | 6 | 2,425 | Table 13-34 |
| | | | 7.1.3 On-call supervision | December week 1 - December week 2, March week 1 - April week 4 | 12:00 - 18:00 | 12:00 - 19:00 | 3 | | 495 (on-call) | Table 13-34 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | **20,795** | - |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | **1,485 (on-call)** | - |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | **5,577** | - |
| | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | | | | **330 (on-call)** | - |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | **> 0** | - |

Table 8-2: West coast beaches, lakes, and waterfalls: recommended roving surveillance requirements on weekdays.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Muriwai Beach to Maukatia (Maori Bay) | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Muriwai Beach (in the absence of services at Maukatia) | | | | | | Table 13-9 Table 13-13 |
| O'Neill Bay to Bethells Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Te Henga (in the absence of services at O'Neill Bay) | | | | | | Table 13-17 |
| Lake Wainamu | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 5 - January week 2 (delivered by services at Te Henga) | - | 12:00 - 19:00 | - | 1 | - | Table 13-17 |
| Wigmore Bay to Whites Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 5 - January week 2 | - | 12:00 - 18:00 | - | 1 | 90 | Table 13-23 |
| North Piha Beach to the Gap | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Piha Beach (in the absence of services at North Piha Beach) | | | | | | Table 13-26 Table 13-28 |
| Mercer Bay to Paratahi Island | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 5 - January week 2 (delivered by services at Karekare Beach) | - | 12:30 - 17:30 | - | 1 | - | Table 13-30 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | **90** | - |

Table 8-3: West coast beaches, lakes, and waterfalls: recommended supervision and surveillance requirements on weekends.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Rimmer Road | 36 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 4 | - | 12:00 - 18:00 | - | 2 | 240 | Table 13-8 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-8 |
| Muriwai Beach | 1 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | October week 3 - April week 4 | 10:00 - 18:00 | 09:30 - 20:00 | 3 | 11 | 3,739 | Table 13-10 |
| | | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | May week 1 - October week 2 | 11:00 - 17:00 | 11:00 - 18:00 | 2 | | 612 | Table 13-14 |
| Maukatia (Maori Bay) | 10 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | October week 3 - April week 4 | 12:00 - 17:00 | 10:00 - 20:00 | 1 | 2 | 629 | Table 13-12 |
| O'Neill Bay | 30 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 3 - February week 4 | 12:00 - 17:00 | 11:00 - 18:00 | 3 | | 426 | Table 13-16 |
| | | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 1 - March week 4 | 11:00 - 18:00 | 10:00 - 19:00 | 1 | | 128 | Table 13-16 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | November week 3 - November week 4, April week 1 - April week 4 | 12:00 - 17:00 | - | > 0 | - | > 0 | Table 13-16 |
| Te Henga (Bethells Beach) | 9 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | October week 3 - April week 4 | 10:30 - 18:00 | 09:30 - 20:00 | 3 | 7 | 2,326.5 | Table 13-18 |
| Lake Wainamu | 49 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3 - March week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Anawhata Beach | 46 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 4 | - | 12:00 - 18:00 | - | 2 | 240 | Table 13-20 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-20 |
| Whites Beach | 46 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 4 | - | 12:00 - 18:00 | - | 1 | 120 | Table 13-22 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-22 |
| North Piha Beach | 3 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | October week 3 - April week 4 | 10:00 - 18:00 | 09:30 - 20:00 | 4 | 8 | 2,756 | Table 13-25 |
| Piha Beach | 2 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | October week 3 - April week 4 | 10:00 - 18:00 | 09:30 - 20:00 | 3 | 10 | 3,292 | Table 13-27 |
| | | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | May week 1 - October week 2 | 11:00 - 17:00 | 11:00 - 18:00 | 2 | | 612 | Table 13-29 |

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Karekare Beach | 13 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | October week 3 - April week 4 | 10:30 - 17:30 | 10:00 - 19:30 | 3 | 6 | 2,049 | Table 13-31 |
| Whatipu Beach | 32 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - March week 4 | - | 11:00 - 18:00 | - | 3 | 630 | Table 13-33 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | November week 1 - December week 2, April week 1 - April week 4 | 11:00 - 17:00 | 11:00 - 18:00 | > 0 | | > 0 | Table 13-33 |
| Karioitahi Beach | 8 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | October week 3 - April week 4 | 10:30 - 17:30 | 09:30 - 20:00 | 3 | 7 | 2,038 | Table 13-35 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | **16,626.5** | - |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | **3,211** | - |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | **> 0** | - |

Table 8-4: West coast beaches, lakes, and waterfalls: recommended roving surveillance requirements on weekends.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Muriwai Beach to Maukatia (Maori Bay) | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Muriwai Beach (in the absence of services at Maukatia) | | | | | | Table 13-10 Table 13-14 |
| O'Neill Bay to Bethells Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Te Henga (in the absence of services at O'Neill Bay) | | | | | | Table 13-18 |
| Lake Wainamu | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 3 - February week 4 (delivered by services at Te Henga) | - | 12:00 - 19:00 | - | 1 | - | Table 13-18 |
| Wigmore Bay to Whites Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with surveillance of Anawhata Beach (personnel included in service provision at Anawhata Beach) | | | | | | Table 13-20 |
| North Piha Beach to the Gap | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Piha Beach (in the absence of services at North Piha Beach) | | | | | | Table 13-27 Table 13-29 |
| Mercer Bay to Paratahi Island | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 3 - March week 2 (delivered by services at Karekare Beach) | - | 12:00 - 18:00 | - | 1 | - | Table 13-31 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | **-** | - |

Table 8-5: West coast beaches, lakes, and waterfalls: recommended remote surveillance requirements on weekdays and weekends.

| Site | Types of supervision and surveillance | Type of service | Location(s) | Service length |
|---|---|---|---|---|
| Rimmer Road | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Rimmer Road | Aligned with supervision and surveillance of Muriwai Beach (in the absence of services at Rimmer Road) |
| Muriwai Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: UAV | Rimmer Road to Muriwai Beach | Aligned with supervision and surveillance of Muriwai Beach |
| Muriwai Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | End of Coast Road, inner shore platform at the southern end of Muriwai Beach, and Flat Rock | Aligned with supervision and surveillance of Muriwai Beach |
| Maukatia (Maori Bay) | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Maukatia (Maori Bay) | Aligned with supervision and surveillance of Muriwai Beach (in the absence of services at Maukatia) |
| O'Neill Bay | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | O'Neill Bay | Aligned with supervision and surveillance of Te Henga (in the absence of services at O'Neill Bay) |
| Te Henga (Bethells Beach) | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Waitakere Bay | Aligned with supervision and surveillance of Te Henga (Bethells Beach) |
| Lake Wainamu | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Lake Wainamu | Aligned with supervision and surveillance of Te Henga (Bethells Beach) |
| Anawhata Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Anawhata Beach | Aligned with supervision and surveillance of North Piha Beach and/or Piha Beach (in the absence of services at Anawhata Beach) |
| Whites Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Whites Beach | Aligned with supervision and surveillance of North Piha Beach and/or Piha Beach (in the absence of services at Whites Beach) |
| North Piha Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | 'Far North Piha' (Te Waha Point) and the northern side of Lion Rock | Aligned with supervision and surveillance of North Piha Beach and/or Piha Beach |
| Piha Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | The Gap | Aligned with supervision and surveillance of Piha Beach |
| Mercer Bay | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Mercer Bay | Aligned with supervision and surveillance of Karekare Beach |
| Karekare Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: UAV | Karekare Beach to Whatipu Beach | Aligned with supervision and surveillance of Karekare Beach |
| Hamiltons Gap | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Hamiltons Gap | Aligned with supervision and surveillance of Karioitahi Beach |
| Karioitahi Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: UAV | Mouth of the Manukau Harbour to the mouth of the Waikato River | Aligned with supervision and surveillance of Karioitahi Beach |

Table 8-6: West coast beaches, lakes, and waterfalls: recommended unstructured informal surveillance (water safety responders, water safety advisors, and/or water safety ambassadors).

| Types of supervision and surveillance | Type of service | Description | Site(s) | Group(s) and/or individuals to engage |
|---|---|---|---|---|
| 7.3 Informal surveillance | 7.3.2.1 Water safety responders | Surfers and craft users | Muriwai Beach, Maukatia (Maori Bay), O'Neill Bay, Te Henga (Bethells Beach), North Piha Beach, Piha Beach, Karekare Beach, Karioitahi Beach | Maori Bay Board Riders Club, Lion Rock Board Riders Club, Piha Boardriders, Karekare Beach (unofficial) boardriders club, Karioitahi Coasts Board Riders Club |
| | | Surf schools | Muriwai Beach, North Piha Beach, Piha Beach | Muriwai Surf School, Rapu, Tamariki Tours, Piha Surf School, Piha Surf Academy, Surfin' Safaris |
| | 7.3.2.2 Water safety advisors | Boating and/or angling clubs | Muriwai Beach, Te Henga (Bethells Beach), Piha Beach | Muriwai Sports Fishing Club, Bethells Casters and Angling Club, Piha Deep Sea Fishing Club |
| | | Tour operators | Muriwai Beach, Maukatia (Maori Bay), Piha Beach | Coast to Coast Tours, Blacksand Adventure Tours, Mana Tours, Bush and Beach, Kiwiana Tours, Absolute Tours |
| | 7.3.2.3 Water safety ambassadors | Accommodation providers | Muriwai Beach, Piha Beach, Whatipu Beach, Karioitahi Beach | Muriwai Beach Campground, Piha Domain Camp Ground, Whatipu Lodge and Campground, Castaways Resort |

## 8.2 North Shore beaches and lakes

Formal and informal surveillance should be provided at North Shore beaches that have previously had supervision services. Surveillance services should also be extended to other beaches and lakes. The recommended services are briefly outlined below, and details are provided in Table 8-7 to Table 8-12. Maps showing the recommended supervision and surveillance services on weekends over the peak period are also provided (Figure 8-4 and Figure 8-5). Additional details for each site where a formal surveillance service has been recommended are provided in Appendix 13.2.3.

### 8.2.1 Weekdays

i. As detailed in Table 8-7, the provision of dedicated surveillance is recommended on weekdays at Takapuna Beach, Milford Beach, Mairangi Bay, Browns Bay, and Long Bay. These services should be extended beyond their current season length and/or hours of service; this includes providing services in the afternoon on weekdays in February. In addition, dedicated surveillance should be established at Murrays Bay from late December to mid-January (Christmas and New Year holiday period).

   Instead of providing supervision, i.e. patrolling an area defined by red and yellow flags, these services should provide surveillance of water users across the beach and surrounding environment. In particular, these services should observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required.

ii. In addition, as detailed in Table 8-8, roving surveillance should be provided on weekdays from the mouth of the Waitemata Harbour to Mairangi Bay, and from Mairangi Bay to the mouth of the Okura River. These services should involve the use of rescue watercraft (RWC), and should be provided when services at Takapuna Beach and Long Bay are operating.

iii. Finally, as detailed in Table 8-7, structured informal surveillance should be encouraged on weekdays at Lake Pupuke, Murrays Bay, Waiake Bay, and Long Bay. Members of the community and/or Auckland Council Park Rangers could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained). Furthermore, lifeguards at Takapuna Pool and Leisure Centre could be upskilled to provide surveillance and respond to water-based incidents at Lake Pupuke and Quarry Lake.

### 8.2.2 Weekends

i. As detailed in Table 8-9, the provision of dedicated surveillance is recommended on weekends at Takapuna Beach, Milford Beach, Mairangi Bay, Browns Bay, and Long Bay. Many of these services should be extended beyond their current season length and/or hours of service; services should be provided from 10:00 am or 12:00 pm to 8:00 pm over the peak period, and at Takapuna Beach and Long Bay the season length should be extended from the beginning of December to the end of March. The length of service delivered at Mairangi Bay could be reduced.

   In addition, dedicated surveillance should be established on weekends at Murrays Bay from mid to late December to the end of February, and at Waiake Bay from mid to late December to early February.

Instead of providing supervision, i.e. patrolling an area defined by red and yellow flags, these services should provide surveillance of water users across the beach and surrounding environment. In particular, these services should observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required.

ii. In addition, as detailed in Table 8-10, roving surveillance should be provided on weekends from the mouth of the Waitemata Harbour to Mairangi Bay, and from Mairangi Bay to the mouth of the Okura River. These services should involve the use of rescue watercraft (RWC), and should be provided when services at Takapuna Beach and Long Bay are operating.

iii. Finally, as detailed in Table 8-9, structured informal surveillance should be encouraged on weekends at Torpedo Bay, Cheltenham Beach, Narrowneck Beach, Lake Pupuke, Milford Beach, Mairangi Bay, Browns Bay, and Waiake Bay. Members of the community could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained). In addition, lifeguards at Takapuna Pool and Leisure Centre could be upskilled to provide surveillance and respond to water-based incidents at Lake Pupuke and Quarry Lake.

### 8.2.3 Other supervision and surveillance

i. As detailed in Table 8-11, remote surveillance via closed-circuit television (CCTV) cameras fitted with remote detection software should be provided at Lake Pupuke, Murrays Bay, and Long Bay.

ii. In addition, a number of individuals, groups, organisations, and commercial operators along North Shore beaches and lakes could be engaged and upskilled as water safety ambassadors, water safety advisors, and/or water safety responders (see Table 8-12). More specifically, water-based activity operators, members of boating and/or yachting clubs, water-based equipment hire businesses, and nearby accommodation providers could be engaged.


Figure 8-4: Map showing the recommended supervision and surveillance services for Torpedo Bay to Mairangi Bay on weekends over the peak period.

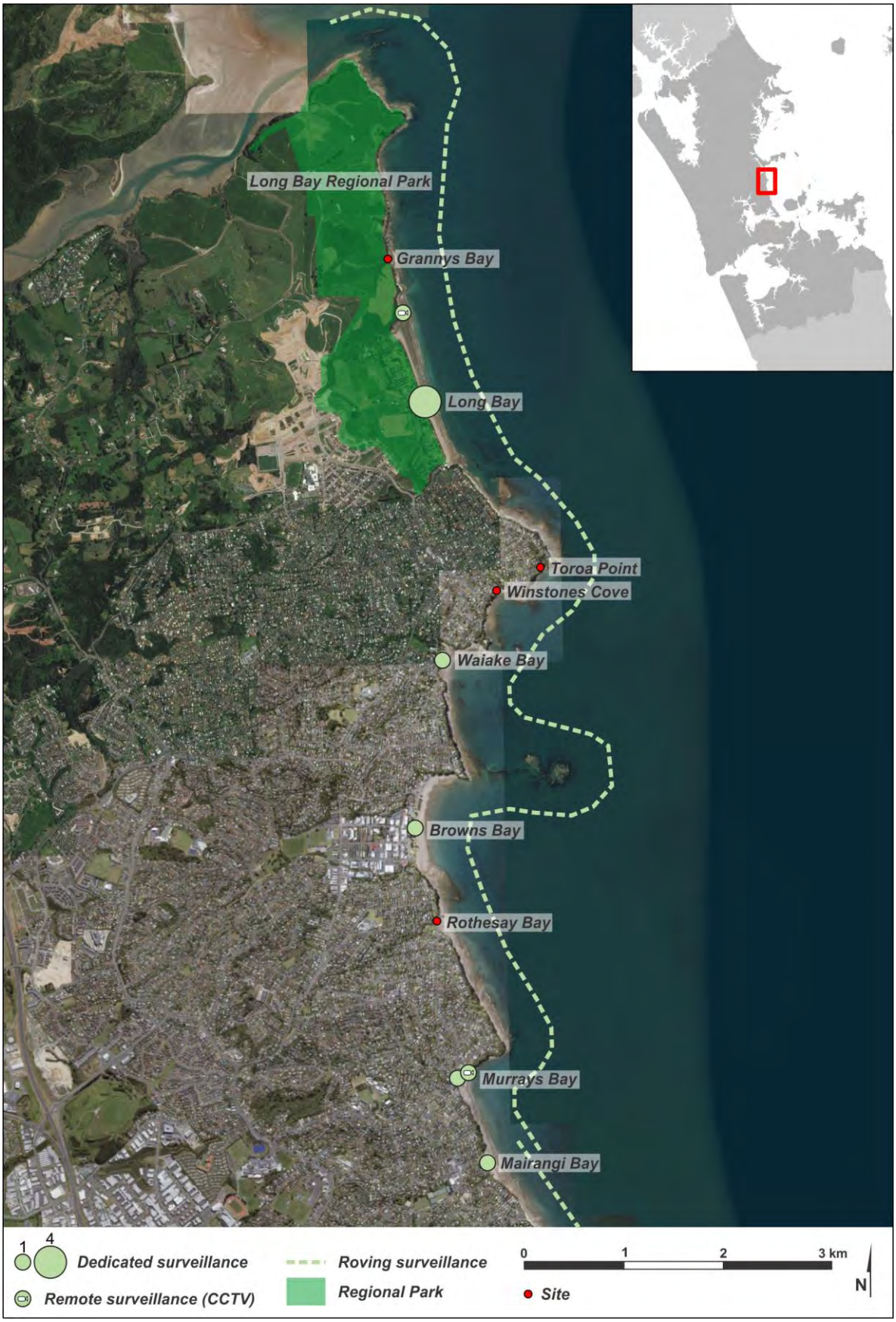



Figure 8-5: Map showing the recommended supervision and surveillance services for Mairangi Bay to Long Bay on weekends over the peak period.

Table 8-7: North Shore beaches and lakes: recommended supervision and surveillance requirements on weekdays.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Takapuna Beach | 37 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | 15:00 - 19:00 | 11:00 - 20:00 | 1 | 2 | 660 | Table 13-36 |
| Lake Pupuke | 88 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | 15:00 - 19:00 | 13:00 - 19:00 | > 0 | | > 0 | - |
| Milford Beach | 56 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 4 | 15:00 - 19:00 | 13:00 - 19:00 | 1 | | 260 | Table 13-38 |
| Mairangi Bay | 57 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 4 | 15:00 - 19:00 | 13:00 - 19:00 | 1 | | 260 | Table 13-40 |
| Murrays Bay | 66 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 5 - January week 2 | - | 13:00 - 19:00 | - | 1 | 90 | Table 13-42 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4, January week 3 - February week 4 | 15:00 - 19:00 | 13:00 - 19:00 | > 0 | | > 0 | Table 13-42 |
| Browns Bay | 52 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 4 | 15:00 - 19:00 | 13:00 - 19:00 | 1 | | 260 | Table 13-44 |
| Waiake Bay | 71 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - January week 4, Waitangi Day | - | 13:00 - 19:00 | - | > 0 | > 0 | Table 13-46 |
| Long Bay | 31 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | 15:00 - 19:00 | 10:00 - 20:00 | 2 | 3 | 1,030 | Table 13-48 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3, February week 1 - February week 4 | 11:00 - 15:00 | - | > 0 | - | > 0 | Table 13-48 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | **2,560** | - |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | **> 0** | - |

Table 8-8: North Shore beaches and lakes: recommended roving surveillance requirements on weekdays.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Mouth of the Waitemata Harbour to Mairangi Bay | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 3 - February week 4 | 15:00 - 19:00 | 11:00 - 20:00 | 1 | | 380 | Table 13-50 |
| Mairangi Bay to the mouth of the Okura River | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 3 - February week 4 | 15:00 - 19:00 | 10:00 - 20:00 | 1 | | 410 | Table 13-52 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | **790** | - |

Table 8-9: North Shore beaches and lakes: recommended supervision and surveillance requirements on weekends.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Torpedo Bay | 67 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 13:00 - 18:00 | - | > 0 | > 0 | - |
| Cheltenham Beach | 74 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 13:00 - 18:00 | - | > 0 | > 0 | - |
| Narrowneck Beach | 61 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 13:00 - 18:00 | - | > 0 | > 0 | - |
| Takapuna Beach | 29 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 1 - March week 4 | 12:00 - 19:00 | 10:00 - 20:00 | 1 | 3 | 678 | Table 13-37 |
| Lake Pupuke | 58 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 13:00 - 18:00 | - | > 0 | > 0 | - |
| Milford Beach | 45 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | 12:00 - 19:00 | 12:00 - 20:00 | 1 | | 170 | Table 13-39 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | - | 13:00 - 18:00 | > 0 | | > 0 | Table 13-39 |
| Mairangi Bay | 40 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | 12:00 - 19:00 | 12:00 - 20:00 | 1 | | 170 | Table 13-41 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | - | 13:00 - 18:00 | > 0 | | > 0 | Table 13-41 |
| Murrays Bay | 48 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | - | 13:00 - 19:00 | - | 1 | 132 | Table 13-43 |
| Browns Bay | 42 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | 12:00 - 19:00 | 12:00 - 20:00 | 1 | | 170 | Table 13-45 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | - | 13:00 - 18:00 | > 0 | | > 0 | Table 13-45 |
| Waiake Bay | 54 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 1 | - | 13:00 - 19:00 | - | 1 | 84 | Table 13-47 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3, February week 2 - February week 4 | 13:00 - 19:00 | - | > 0 | - | > 0 | Table 13-47 |
| Long Bay | 20 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 1 - March week 4 | 12:00 - 19:00 | 10:00 - 20:00 | 2 | 4 | 906 | Table 13-49 |
| **Totals** | | | | | | | | **Formal surveillance: dedicated surveillance** | **2,310** | - |
| | | | | | | | | **Structured informal surveillance: community ranger and/or community responder** | **> 0** | - |

Table 8-10: North Shore beaches and lakes: recommended roving surveillance requirements on weekends.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Mouth of the Waitemata Harbour to Mairangi Bay | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 1 - March week 4 | 12:00 - 19:00 | 10:00 - 20:00 | 1 | | 298 | Table 13-51 |
| Mairangi Bay to the mouth of the Okura River | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 1 - March week 4 | 12:00 - 19:00 | 10:00 - 20:00 | 1 | | 298 | Table 13-53 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | **596** | **-** |

Table 8-11: North Shore beaches and lakes: recommended remote surveillance requirements on weekdays and weekends.

| Site | Types of supervision and surveillance | Type of service | Location(s) | Service length |
|---|---|---|---|---|
| Lake Pupuke | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Lake Pupuke | Aligned with surveillance of Takapuna Beach and/or the operating hours of Takapuna Pool and Leisure Centre |
| Murrays Bay | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Murrays Bay Wharf | Aligned with surveillance of Mairangi Bay (in the absence of services at Murrays Bay) |
| Long Bay | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Northern end of Long Bay | Aligned with surveillance of Long Bay |

Table 8-12: North Shore beaches and lakes: recommended unstructured informal surveillance (water safety responders, water safety advisors, and/or water safety ambassadors).

| Types of supervision and surveillance | Type of service | Description | Site(s) | Group(s) and/or individuals to engage |
|---|---|---|---|---|
| 7.3 Informal surveillance | 7.3.2.1 Water safety responders | Water-based activity operators | Long Bay | Sir Peter Blake Marine Education and Recreation Centre |
| | 7.3.2.2 Water safety advisors | Boating and/or yachting clubs | Torpedo Bay, Narrowneck Beach, Takapuna Beach, Lake Pupuke, Milford Beach, Murrays Bay, Waiake Bay | Devonport Yacht Club, Wakatere Boating Club, Takapuna Boating Club, Pupuke Boating Club, North Shore Canoe Club, Milford Cruising Club, Awataha Young Mariners, Murrays Bay Sailing Club, Torbay Sailing Club |
| | | Water-based equipment hire businesses | North Shore beaches and lakes | Float My Boat: Kayak Hire and Adventures |
| | 7.3.2.3 Water safety ambassadors | Accommodation providers | Takapuna Beach, Long Bay | Takapuna Beach Holiday Park, Vaughan Park Anglican Retreat Centre |

## 8.3 Whangaparaoa beaches

Formal and informal surveillance should be provided at Whangaparaoa beaches that have previously had supervision services. Surveillance services should also be extended to other beaches in the area. The recommended services are briefly outlined below, and details are provided in Table 8-13 to Table 8-18. Maps showing the recommended supervision and surveillance services on weekends over the peak period are also provided (Figure 8-6 and Figure 8-7). Additional details for each site where a formal surveillance service has been recommended are provided in Appendix 13.2.4.

### 8.3.1 Weekdays

i. As detailed in Table 8-13, the provision of dedicated surveillance is recommended on weekdays at Red Beach, Orewa Beach, and Wenderholm Beach; there have previously been supervision services at these sites. These services should be extended beyond their current season length and/or hours of service. In addition, dedicated surveillance should be established at Te Haruhi Bay, Big Manly Bay (Polkinghornes Bay), and Stanmore Bay from mid to late December to early February (summer school holidays).

   Instead of providing supervision, i.e. patrolling an area defined by red and yellow flags, these services should provide surveillance of water users across the beach and surrounding environment. In particular, these services should observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required.

ii. An on-call surveillance service should be established on weekdays at Orewa Beach. This service should be responsive to the environmental conditions, water use, and types of water users. The number of hours recommended for this on-call service has been calculated based on the assumption that it will be delivered on 50% of on-call days.

iii. In addition, as detailed in Table 8-14, roving surveillance should be provided from Army Bay to Red Beach, and from Red Beach to Wenderholm Beach. These services should involve the use of rescue watercraft (RWC), and should be provided from mid or late December to mid or late February. Furthermore, personnel stationed at Te Haruhi Bay should provide roving surveillance to Okoromai Bay.

iv. Finally, as detailed in Table 8-13, structured informal surveillance should be encouraged on weekdays at Okoromai Bay, Army Bay, Waiwera Beach, and Wenderholm Beach. Members of the community could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained). Auckland Council Park Rangers could also provide informal surveillance at Okoromai Bay and Wenderholm Beach. In addition, lifeguards at Waiwera Thermal Resort could be upskilled to provide surveillance and respond to water-based incidents in the Waiwera River and at Waiwera Beach.

### 8.3.2 Weekends

i. As detailed in Table 8-15, the provision of dedicated surveillance, such as an aquatic ranger(s), is recommended on weekends at Red Beach, Orewa Beach, and Wenderholm Beach. These services should be extended beyond their current season length and/or hours of service. Services should be provided from 10:00 am or 11:00 am to 7:00 pm or 8:00 pm over the peak period, and the season length should be extended from mid-

December to the end of February at Wenderholm Beach. The length of service delivered at Red Beach could be reduced.

In addition, dedicated surveillance should be established on weekends at Te Haruhi Bay, Big Manly Bay (Polkinghornes Bay), and Stanmore Bay from mid-December to the end of February.

Instead of providing supervision, i.e. patrolling an area defined by red and yellow flags, these services should provide surveillance of water users across the beach and surrounding environment. In particular, these services should observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required.

ii. In addition, as detailed in Table 8-16, roving surveillance should be provided on weekends from Army Bay to Red Beach, and from Red Beach to Wenderholm Beach. These services should involve the use of rescue watercraft (RWC), and should be provided from the start of December to the end of March. Furthermore, personnel stationed at Te Haruhi Bay should provide roving surveillance to Okoromai Bay.

iii. Finally, as detailed in Table 8-15, structured informal surveillance should be encouraged on weekends at Arkles Bay, Matakatia Bay, Okoromai Bay, Te Haruhi Bay, Army Bay, Big Manly Bay (Polkinghornes Bay), Stanmore Bay, Red Beach, Waiwera Beach, and Wenderholm Beach. Members of the community could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained). Auckland Council Park Rangers could also provide informal surveillance at Okoromai Bay, Te Haruhi Bay, and Wenderholm Beach. In addition, lifeguards at Stanmore Bay Pool and Leisure Centre and Waiwera Thermal Resort could be upskilled to provide surveillance and respond to water-based incidents at the respective beaches.

### 8.3.3 Other supervision and surveillance

i. As detailed in Table 8-17, remote surveillance via closed-circuit television (CCTV) cameras fitted with remote detection software should be provided at Orewa Beach, Hatfields Beach, Waiwera Beach, and Wenderholm Beach.

ii. In addition, a number of individuals, groups, organisations, and commercial operators along Whangaparaoa beaches could be engaged and upskilled as water safety ambassadors, water safety advisors, and/or water safety responders (see Table 8-18). More specifically, members of boardriders clubs, water-based activity operators and/or water-based equipment hire businesses, members of boating and/or yachting clubs, and nearby accommodation providers could be engaged.

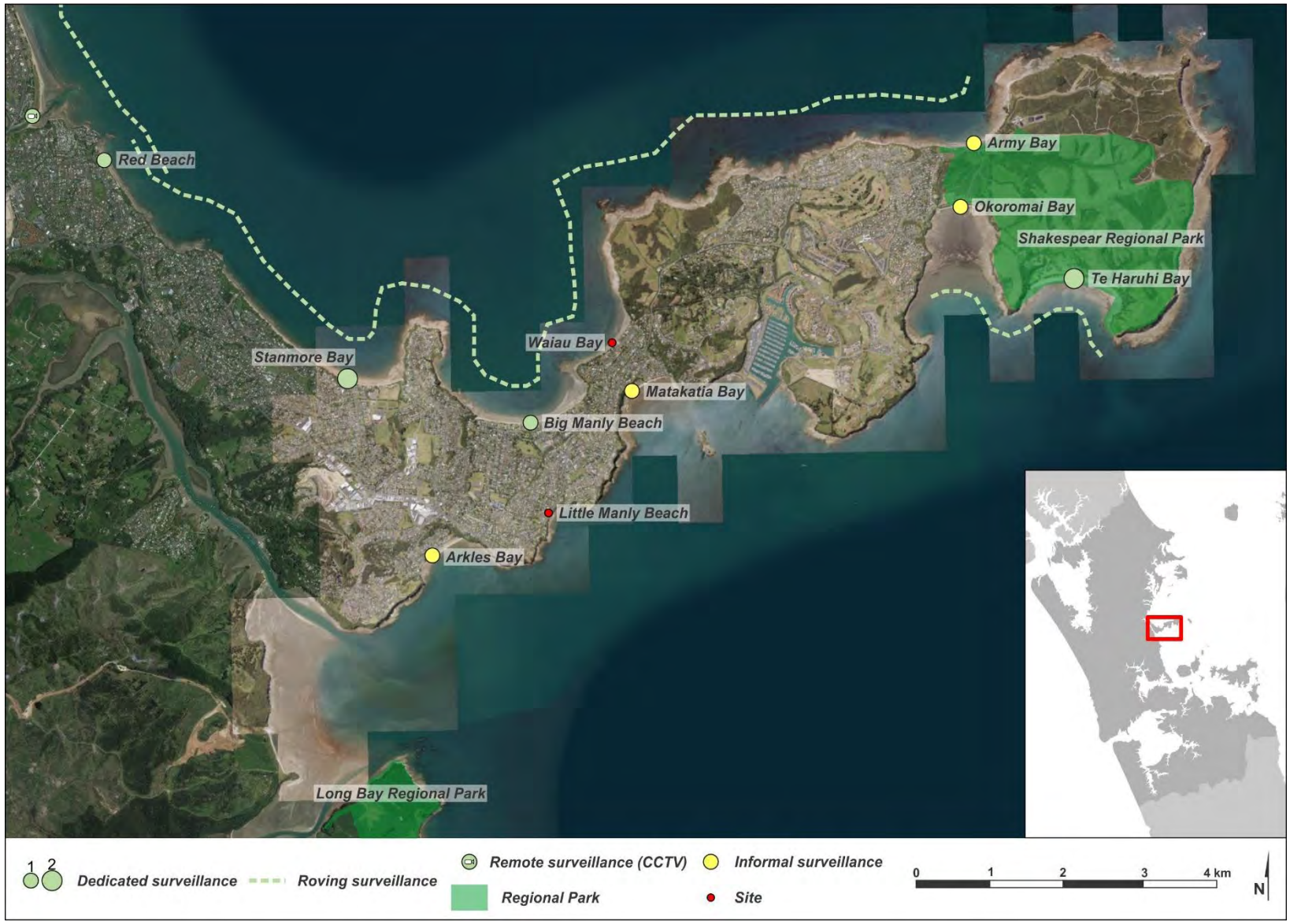



Figure 8-6: Map showing the recommended supervision and surveillance services for Arkles Bay to Red Beach on weekends over the peak period.

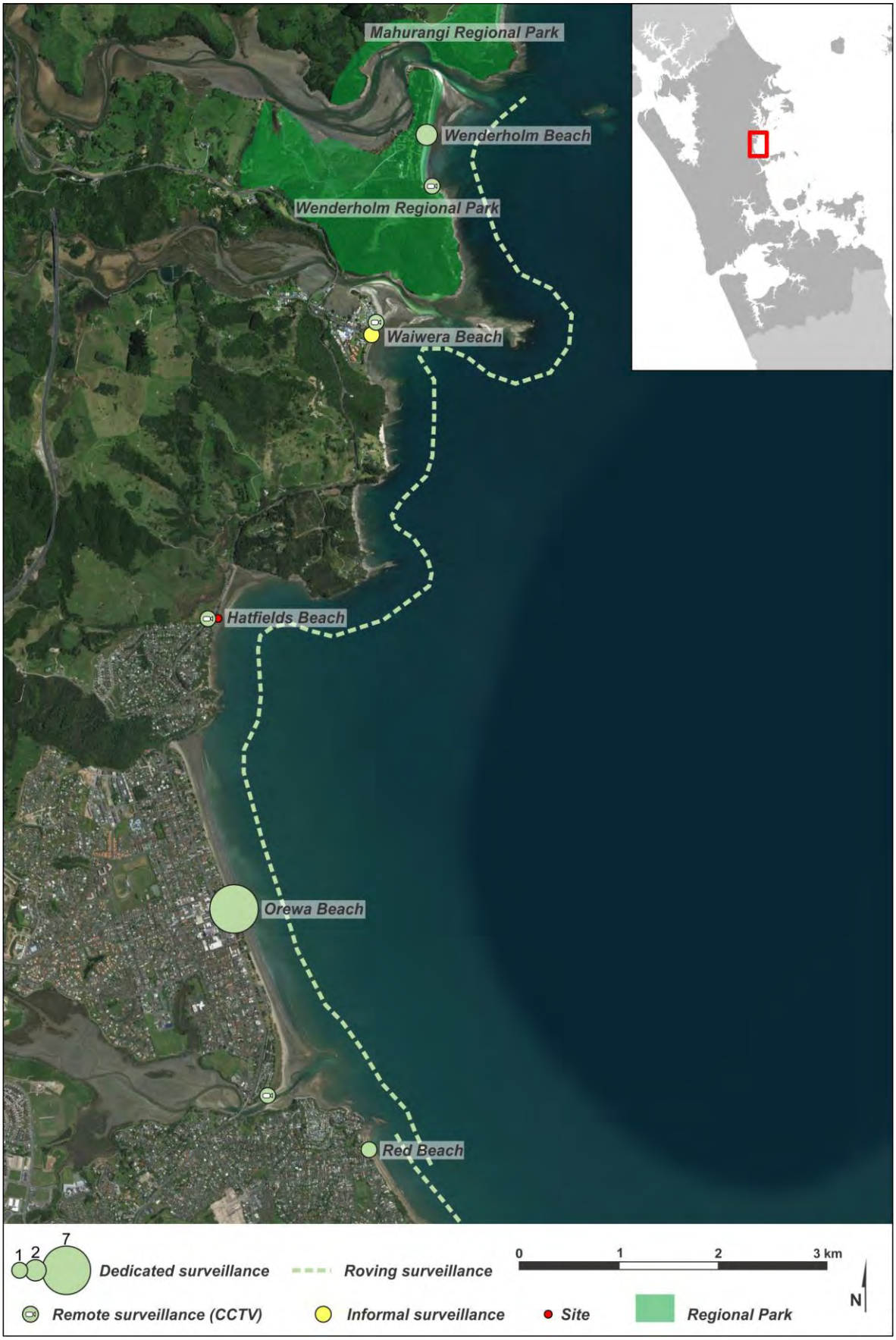



Figure 8-7: Map showing the recommended supervision and surveillance services for Red Beach to Wenderholm Beach on weekends over the peak period.

Table 8-13: Whangaparaoa beaches: recommended supervision and surveillance requirements on weekdays.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Okoromai Bay | 82 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 5 - January week 2 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Te Haruhi Bay | 43 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - January week 4, Waitangi Day | - | 11:00 - 19:00 | - | 2 | 496 | Table 13-54 |
| Army Bay | 76 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 5 - January week 2 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Big Manly Bay | 50 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - January week 4, Waitangi Day | - | 12:00 - 19:00 | - | 1 | 217 | Table 13-56 |
| Stanmore Bay | 43 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - January week 4, Waitangi Day | - | 11:00 - 19:00 | - | 2 | 496 | Table 13-58 |
| Red Beach | 55 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - January week 4, Waitangi Day | - | 12:00 - 19:00 | - | 1 | 217 | Table 13-60 |
| Orewa Beach | 11 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 1 - March week 2 | 15:00 - 19:00 | 10:00 - 20:00 | 3 | 6 | 2,455 | Table 13-62 |
| | | | 7.2.3 On-call surveillance | November week 3 - November week 4, March week 3 - April week 4 | 15:00 - 19:00 | 12:00 - 18:00 | 2 | | 200 (on-call) | Table 13-62 |
| Waiwera Beach | 104 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 5 - January week 2 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Wenderholm Beach | 35 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 1 | - | 11:00 - 19:00 | - | 2 | 496 | Table 13-65 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3, February week 2 - February week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-65 |
| **Totals** | | | | | | | | | | |
| | | | | **Formal surveillance: dedicated surveillance** | | | | | **4,377** | - |
| | | | | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | **200 (on-call)** | - |
| | | | | **Structured informal surveillance: community ranger and/or community responder** | | | | | **> 0** | - |

Table 8-14: Whangaparaoa beaches: recommended roving surveillance requirements on weekdays.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Okoromai Bay to Te Haruhi Bay | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Te Haruhi Bay | | | | | | Table 13-54 |
| Army Bay to Red Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 3 - February week 4 | 15:00 - 19:00 | 11:00 - 19:00 | 1 | | 380 | Table 13-67 |
| Red Beach to Wenderholm Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 4 - February week 2 | - | 11:00 - 19:00 | - | 1 | 320 | Table 13-69 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | **700** | **-** |

Table 8-15: Whangaparaoa beaches: recommended supervision and surveillance requirements on weekends.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Arkles Bay | 73 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Matakatia Bay | 80 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Okoromai Bay | 68 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Te Haruhi Bay | 33 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | - | 11:00 - 19:00 | - | 2 | 352 | Table 13-55 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-55 |
| Army Bay | 60 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Big Manly Bay | 38 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | - | 11:00 - 19:00 | - | 1 | 176 | Table 13-57 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-57 |
| Stanmore Bay | 33 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | - | 11:00 - 19:00 | - | 2 | 352 | Table 13-59 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-59 |
| Red Beach | 39 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | - | 11:00 - 19:00 | - | 1 | 176 | Table 13-61 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-61 |
| Orewa Beach | 7 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | September week 4 - May week 5 | 11:00 - 17:00 | 09:30 - 20:00 | 2 | 7 | 2,380 | Table 13-63 Table 13-64 |
| Waiwera Beach | 70 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Wenderholm Beach | 24 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3 - February week 4 | - | 11:00 - 19:00 | - | 2 | 352 | Table 13-66 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 2, March week 1 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-66 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | **3,788** | - |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | **> 0** | - |

Table 8-16: Whangaparaoa beaches: recommended roving surveillance requirements on weekends.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Okoromai Bay to Te Haruhi Bay | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Te Haruhi Bay | | | | | | Table 13-55 |
| Army Bay to Red Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 1 - March week 4 | 12:00 - 18:00 | 11:00 - 19:00 | 1 | | 248 | Table 13-68 |
| Red Beach to Wenderholm Beach | 7.2 Formal surveillance | 7.2.4 Roving surveillance | December week 1 - March week 4 | 12:00 - 18:00 | 11:00 - 19:00 | 1 | | 248 | Table 13-70 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | **496** | **-** |

Table 8-17: Whangaparaoa beaches: recommended remote surveillance requirements on weekdays and weekends.

| Site | Types of supervision and surveillance | Type of service | Location(s) | Service length |
|---|---|---|---|---|
| Orewa Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Orewa River | Aligned with surveillance of Orewa Beach |
| Hatfields Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Hatfields Beach | Aligned with surveillance of Orewa Beach |
| Waiwera Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Waiwera River | Aligned with surveillance of Wenderholm Beach, Orewa Beach, and/or the operating hours of Waiwera Thermal Resort |
| Wenderholm Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Puhoi River | Aligned with the surveillance of Wenderholm Beach and/or Orewa Beach (in the absence of services at Wenderholm Beach) |

Table 8-18: Whangaparaoa beaches: recommended unstructured informal surveillance (water safety responders, water safety advisors, and/or water safety ambassadors).

| Types of supervision and surveillance | Type of service | Description | Site(s) | Group(s) and/or individuals to engage |
|---|---|---|---|---|
| 7.3 Informal surveillance | 7.3.2.1 Water safety responders | Surfers and craft users | Orewa Beach | Orewa Longboard Club, Orewa Paddleboard Club |
| | | Water-based activity operators and/or water-based equipment hire businesses | Orewa Beach | SUPSHED Paddleboards, KiteAuckland |
| | 7.3.2.2 Water safety advisors | Boating and/or yachting clubs | Weiti River, Hobbs Bay (Gulf Harbour), Manly Beach, Stanmore Bay | Stillwater Boating Club, Weiti Boating Club, Gulf Harbour Yacht Club, Manly Sailing Club, Hibiscus Coast Boating Club, |
| | 7.3.2.3 Water safety ambassadors | Accommodation providers | Te Haruhi Bay, Red Beach, Orewa Beach, Wenderholm Beach | Te Haruhi Bay Campground (Shakespear Regional Park), Pinewoods Holiday Park, Orewa Beach Holiday Park, and Schischka Campground (Wenderholm Regional Park) |

## 8.4 Northeast coast beaches

The provision of supervision and surveillance along beaches on the northeast coast should be extended and diversified. This should include the provision of different types and forms of supervision and surveillance, and the uptake of new and emerging technologies, i.e. closed-circuit television (CCTV) cameras.

The recommended services are briefly outlined below, and details are provided in Table 8-19 to Table 8-24. Maps showing the recommended supervision and surveillance services on weekends over the peak period are also provided (Figure 8-8 and Figure 8-9). Additional details for each site where a formal supervision and/or surveillance service has been recommended are provided in Appendix 13.2.5.

### 8.4.1 Weekdays

i. As detailed in Table 8-19, it is recommended that dedicated supervision (surf lifeguarding service) continue to operate on weekdays at Omaha Beach and Pakiri Beach. These services should be extended beyond their current season length and/or hours of service and should be delivered by surf lifeguards from Surf Life Saving Northern Region's Regional Lifeguard Service. In addition, surf lifeguarding services should be established at Anchor Bay and Te Arai.

ii. In addition, an on-call supervision service (surf lifeguarding service) should be established on weekdays at Anchor Bay, Omaha Beach, Pakiri Beach, and Te Arai. This service should be responsive to the environmental conditions, water use, and types of water users. The number of hours recommended for this on-call service has been calculated based on the assumption that it will be delivered on 50% of on-call days.

iii. The provision of dedicated surveillance, such as an aquatic ranger(s), is recommended on weekdays at Goat Island and Forestry. These services could observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required. Personnel at Goat Island could also upskill those snorkelling, and ensure those scuba diving have undertaken a recent health check and refresher. On-call surveillance should also be established at Goat Island.

iv. In addition, as detailed in Table 8-20, personnel stationed at Omaha Beach should provide roving surveillance to Cape Rodney, as well as Whangateau Harbour. Those stationed at Te Arai should provide surveillance from Forestry to Black Swamp. These services should involve the use of rescue watercraft (RWC).

v. Finally, as detailed in Table 8-19, structured informal surveillance should be encouraged on weekdays at Anchor Bay, Goat Island, Pakiri Beach, Forestry, and Te Arai. Members of the community could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained). Auckland Council Park Rangers could also provide informal surveillance at Anchor Bay, Pakiri Beach, Forestry, and Te Arai.

### 8.4.2 Weekends

i. As detailed in Table 8-21, it is recommended that dedicated supervision (surf lifeguarding service) continue to be delivered on weekends at Omaha Beach and Pakiri Beach; these services should be extended beyond their current season length and/or hours of service. These services should continue to be delivered by surf lifeguards from Omaha Surf Life

Saving Club and Red Beach Surf Life Saving Club respectively. In addition, surf lifeguarding services should be established at Anchor Bay and Te Arai.

ii. On-call supervision (surf lifeguarding services) should be established on weekends at Anchor Bay, Omaha Beach, and Pakiri Beach. These services should be responsive to the environmental conditions, water use, and types of water users. The number of hours recommended for these on-call services have been calculated based on the assumption that it will be delivered on 50% of on-call days.

iii. The provision of dedicated surveillance, such as an aquatic ranger(s), is recommended on weekends at Goat Island, Forestry, and Te Arai. These services could observe members of the public, educate water users, manage a range of water-based activities, and respond to nearshore incidents as required. On-call surveillance should also be provided at times at Goat Island.

iv. In addition, as detailed in Table 8-22, personnel stationed at Omaha Beach should provide roving surveillance to Cape Rodney, as well as Whangateau Harbour. Those stationed at Te Arai should provide surveillance from Forestry to Black Swamp. These services should involve the use of rescue watercraft (RWC).

v. Finally, as detailed in Table 8-21, structured informal surveillance should be encouraged at Martins Bay, Algies Bay, Snells Beach, Sandspit, Anchor Bay, Matheson Bay, Goat Island, Pakiri Beach, Forestry, and Te Arai. Members of the community could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents (where appropriately trained).

### 8.4.3 Other supervision and surveillance

i. As detailed in Table 8-23 remote surveillance via closed-circuit television (CCTV) cameras fitted with remote detection software should be provided at Omaha Beach and Forestry.

ii. Of note, it is recommended that a SEABOB be trialled as part of dedicated surveillance at Goat Island. As Goat Island is in Okakari Point Marine Reserve, it is used by a considerable number of snorkellers, scuba divers, and other water users. The SEABOB enables effective surveillance and response on top of and below the water.

iii. In addition, a number of individuals, groups, organisations, and commercial operators along the northeast coast could be engaged and upskilled as water safety ambassadors, water safety advisors, and/or water safety responders (see Table 8-24). More specifically, instructors at surf schools, water-based activity operators, members of boating and/or yachting clubs, water-based equipment hire businesses, and nearby accommodation providers could be engaged.


Figure 8-8: Map showing the recommended supervision and surveillance services for Martins Bay to Matheson Bay on weekends over the peak period.


Figure 8-9: Map showing the recommended supervision and surveillance services for Matheson Bay to Black Swamp on weekends over the peak period.

Table 8-19: Northeast coast beaches: recommended supervision and surveillance requirements on weekdays.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Anchor Bay | 28 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 4 - February week 1 | 11:00 - 19:00 | | 3 | 4 | 930 | Table 13-71 |
| | | | 7.1.3 On-call supervision | February week 2 | 11:00 - 19:00 | - | 3 | - | 60 (on-call) | Table 13-71 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 3, February week 3 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-71 |
| Omaha Beach | 14 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 4 - February week 2 | 11:00 - 19:00 | 09:30 - 20:00 | 3 | 6 | 1,702.5 | Table 13-73 |
| | | | 7.1.3 On-call supervision | December week 3, February week 3 - February week 4 | 12:00 - 18:00 | - | 3 | - | 135 (on-call) | Table 13-73 |
| Goat Island | 25 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 1 | 11:00 - 19:00 | | 3 | 4 | 930 | Table 13-75 |
| | | | 7.2.3 On-call surveillance | February week 2 | 11:00 - 19:00 | - | 3 | - | 60 (on-call) | Table 13-75 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 3, February week 3 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-75 |
| Pakiri Beach | 23 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 4 - February week 1 | 10:00 - 19:00 | | 3 | 4 | 1,080 | Table 13-77 |
| | | | 7.1.3 On-call supervision | February week 2 | 10:00 - 19:00 | - | 3 | - | 67.5 (on-call) | Table 13-77 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 3, February week 3 - February week 4 | 11:00 - 18:00 | - | > 0 | - | > 0 | Table 13-77 |
| Forestry | 62 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 5 - January week 2 | - | 12:00 - 18:00 | - | 1 | 90 | Table 13-79 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4, January week 3 - February week 1 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-79 |

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Te Arai | 27 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 4 - January week 4 | - | 11:00 - 19:00 | - | 3 | 720 | Table 13-81 |
| | | | 7.1.3 On-call supervision | February week 1 | 11:00 - 19:00 | - | 3 | - | 60 (on-call) | Table 13-81 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 3, February week 2 - February week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-81 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | **4432.5** | - |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | **322.5 (on-call)** | - |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | **1020** | - |
| | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | | | | **60 (on-call)** | - |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | **> 0** | - |

Table 8-20: Northeast coast beaches: recommended roving surveillance requirements on weekdays.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Omaha Beach to Cape Rodney, including Whangateau Harbour | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Omaha Beach | | | | | | Table 13-73 |
| Forestry to Black Swamp | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Te Arai | | | | | | Table 13-81 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | **-** | - |

Table 8-21: Northeast coast beaches: recommended supervision and surveillance requirements on weekends.

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Martins Bay | 63 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Algies Bay | 72 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Snells Beach | 59 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Sandspit | 69 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 4 - February week 4 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Anchor Bay | 17 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 1 - March week 4 | 11:00 - 18:00 | 11:00 - 19:00 | 2 | 4 | 844 | Table 13-72 |
| | | | 7.1.3 On-call supervision | April week 1 - April week 4 | 12:00 - 17:00 | - | 2 | - | 40 (on-call) | Table 13-72 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | November week 1 - November week 4 | 12:00 - 17:00 | - | > 0 | - | > 0 | Table 13-72 |
| Omaha Beach | 6 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | November week 1 - April week 4 | 11:00 - 17:00 | 09:30 - 20:00 | 3 | 7 | 1,996 | Table 13-74 |
| | | | 7.1.3 On-call supervision | October week 3 - October week 4 | 11:00 - 17:00 | - | 3 | - | 45 (on-call) | Table 13-74 |
| Matheson Bay | 77 | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 5 - February week 1 | - | 12:00 - 18:00 | - | > 0 | > 0 | - |
| Goat Island | 15 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 1 - March week 4 | 11:00 - 18:00 | 11:00 - 19:00 | 2 | 4 | 844 | Table 13-76 |
| | | | 7.2.3 On-call surveillance | April week 1 - April week 4 | 12:00 - 17:00 | - | 2 | - | 40 (on-call) | Table 13-76 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | November week 1 - November week 4 | 12:00 - 17:00 | - | > 0 | - | > 0 | Table 13-76 |
| Pakiri Beach | 18 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 3 - March week 4 | 11:00 - 18:00 | 10:00 - 19:00 | 3 | 4 | 920 | Table 13-78 |
| | | | 7.1.3 On-call supervision | December week 1 - December week 2, April week 1 - April week 4 | 11:00 - 17:00 | 11:00 - 18:00 | 3 | | 114 (on-call) | Table 13-78 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | November week 1 - November week 4 | 11:00 - 17:00 | - | > 0 | - | > 0 | Table 13-78 |

| Site | Rank | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Off-peak | Peak | Off-peak | Peak | | |
| Forestry | 51 | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 4 - February week 1 | - | 12:00 - 18:00 | - | 2 | 168 | Table 13-80 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | December week 1 - December week 3, February week 2 - March week 4 | 12:00 - 18:00 | - | > 0 | - | > 0 | Table 13-80 |
| Te Arai | 21 | 7.1 Formal supervision | 7.1.1 Dedicated supervision | December week 4 - February week 4 | - | 11:00 - 19:00 | - | 3 | 480 | Table 13-82 |
| | | 7.2 Formal surveillance | 7.2.1 Dedicated surveillance | December week 3, March week 1 - March week 4 | 11:00 - 18:00 | 11:00 - 19:00 | 2 | | 144 | Table 13-82 |
| | | 7.3 Informal surveillance | 7.3.1 Community rangers and/or community responders | November week 3 - December week 2, April week 1 - April week 4 | 12:00 - 17:00 | - | > 0 | - | > 0 | Table 13-82 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | **4240** | - |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | **199** (on-call) | - |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | **1156** | - |
| | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | | | | **40** (on-call) | - |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | **> 0** | - |

Table 8-22: Northeast coast beaches: recommended roving surveillance requirements on weekends.

| Sites(s) | Types of supervision and surveillance | Type of service | Service length | Service hours | | Number of personnel | | Total hours | Reference |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Off-peak | Peak | Off-peak | Peak | | |
| Omaha Beach to Cape Rodney, including Whangateau Harbour | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Omaha Beach | | | | | | Table 13-74 |
| Forestry to Black Swamp | 7.2 Formal surveillance | 7.2.4 Roving surveillance | Aligned with supervision and surveillance of Te Arai | | | | | | Table 13-82 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | - | - |

Table 8-23: Northeast coast beaches: recommended remote surveillance requirements on weekdays and weekends.

| Site | Types of supervision and surveillance | Type of service | Location(s) | Service length |
|---|---|---|---|---|
| Omaha Beach | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Northern and southern ends of Omaha Beach | Aligned with supervision and surveillance of Omaha Beach |
| Forestry | 7.2 Formal surveillance | 7.2.4 Remote surveillance: CCTV | Forestry | Aligned with supervision and surveillance of Te Arai (in the absence of services at Forestry) |

Table 8-24: Northeast coast beaches: recommended unstructured informal surveillance (water safety responders, water safety advisors, and/or water safety ambassadors).

| Types of supervision and surveillance | Type of service | Description | Site(s) | Group(s) and/or individuals to engage |
|---|---|---|---|---|
| 7.3 Informal surveillance | 7.3.2.1 Water safety responders | Surfers and craft users | Omaha Beach, Pakiri Beach | Omaha Boardriders Club, Pakiri Beach (unofficial) boardriders club |
| | | Surf schools | Omaha Beach, Pakiri Beach, Te Arai | Saltwater Eco, Summer Sessions Surf Centre, Pakiri Surf School, Aotearoa Surf School |
| | | Water-based activity operators | Goat Island | Glass Bottom Boat |
| | 7.3.2.2 Water safety advisors | Boating and/or yachting clubs | Algies Bay, Sandspit, Kawau Island | Algies Bay Yacht Club, Sandspit Yacht Club, Sandspit Marina, Kawau Boating Club |
| | | Water-based equipment hire businesses | Snells Beach, Whangateau Harbour | Mahurangi Marine (Boat Hire), Blue Adventures (Omaha Watersports Centre) |
| | 7.3.2.3 Water safety ambassadors | Accommodation providers | Martins Bay, Sandspit, Anchor Bay, Whangateau Harbour, Pakiri Beach, Te Arai | Martins Bay Holiday Park, Sandspit Holiday Park, Anchor Bay Campground (Tawharanui Regional Park), Whangateau Holiday Park, Pakiri Beach Holiday Park, Te Arai SCC Campground (Te Arai Regional Park) |

# 9 Provision of supervision and surveillance: service guidelines

Supervision and surveillance at beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast should be provided by a sufficient number of personnel (see Section 8) who have been upskilled with the necessary competencies, and have access to appropriate equipment. This helps ensure the health and safety of personnel is managed effectively, and the risk of drowning and injury is reduced as far as practicable.

Section 9.1 discusses scenarios where the minimum number of personnel (as recommended in Section 8) may need to be increased. Section 9.2 then summarises the competencies and considerations required to operate in various physical environments, while Section 9.3 details the equipment requirements. The site-specific recommendations for skills and competencies, and equipment, are then displayed in Table 9-5 to Table 9-8. Guidelines for interpreting the tables are provided in Section 9.4.

## 9.1 Minimum numbers and operational requirements

The recommendations in Section 8 outline the minimum number of personnel required to effectively deliver supervision and/or surveillance at each respective site. Of note, these recommendations do not consider any rest periods, breaks, or the length of time individual personnel can effectively provide supervision or surveillance (the effectiveness of supervision or surveillance can be compromised on long days due to fatigue).

It is recommended that these factors are carefully considered when rostering personnel for services delivered by Surf Life Saving Northern Region's Regional Lifeguard Service and/or other water safety stakeholder(s). In particular, the health and safety of personnel must be effectively managed, and comply with all relevant legislation. Additional personnel may need to be rostered on to allow for appropriate breaks, or a number of shorter shifts could be rostered on across the day.

Similarly, Surf Life Saving Clubs may need to roster on more than the recommended minimum number of personnel for a number of reasons. Additional personnel should be rostered on if there are too few highly skilled and experienced personnel available in comparison to the recommendations (see Table 9-5 to Table 9-8). Furthermore, Surf Life Saving Clubs may decide to increase the number of personnel to enable members to train and upskill at times during patrol, to enable them to have downtime, and to ensure they enjoy the experience. Given the personnel on weekends are volunteers, these factors are important to promote a positive culture, member satisfaction, and volunteer retention.

The specific proportion of increase may vary between Surf Life Saving Clubs, and even between patrols at the same Surf Life Saving Club; some may increase the minimum recommended surf lifeguard numbers by 50%, while others may deliver the minimum service.

## 9.2 Skills and competencies of personnel

Personnel providing supervision and surveillance require skills and competencies appropriate to the environment in which they are working, and to respond to the range of recreational activities operating in that environment; some considerations are described below. Additional details are provided in Section 9.2.1 (Lone personnel) and Section 9.2.2 (Competencies related to a qualifications framework). Site-specific recommendations are then provided in Table 9-5 to Table 9-8.

In the Auckland region, water users are typically at the highest risk of drowning and injury at wave-dominated beaches, in particular west coast beaches. Personnel operating in these environments should therefore have an advanced understanding of beach morphology and surf conditions, as well as surveillance skills to identify potential at risk victims. These skills are also important at tide-modified beaches, and knowledge of relevant hazards and hydrodynamic conditions is essential at lakes and waterfalls. Excellent communication skills are required to communicate with members of the public from a range of backgrounds and levels of English; the ability to converse in other languages would be beneficial.

Advanced surf swimming and board paddling skills are also essential to help manage the personal safety of the personnel, particularly when they are required to rescue members of the public. Where relevant, personnel should also be able to drive and/or crew an inflatable rescue boat and/or rescue watercraft. On west coast beaches and northeast coast beaches, personnel should also be able to rescue patients from shore platforms. Personnel should have the appropriate license to operate all-terrain vehicles where required.

Advanced beach and incident management skills are required to manage a considerable number of people on the beach and in the water, of a range of abilities and engaging in numerous activities. Advanced first aid skills are also required due to the occurrence of serious incidents and the distance of a number of sites from further support.

### 9.2.1 Lone personnel

In some parts of the Auckland region, it has been recommended that surveillance could be provided by lone personnel (Section 8). However, this is only appropriate if the personnel have the necessary skills, access to appropriate equipment, and can receive timely assistance if required. As such, a number of processes and technologies should be utilised to manage their health and safety as much as practicable.

Firstly, ongoing and uninterrupted radio communications should be available with other nearby services, as well as the surf lifesaving communications centre (SurfCom). Secondly, a protocol should be developed for personnel to follow when responding to incidents while working alone, i.e. SurfCom notification and support from rescue watercraft.

Furthermore, additional personal protective equipment, i.e. inflatable buoyancy vests, could also reduce the risks to personnel. In addition, closed-circuit television (CCTV) cameras, unmanned aerial vehicles (UAV), or other new technologies could also enable SurfCom to provide remote surveillance and support. Finally, additional water-based support should always be available when personnel are working alone.

It is recommended that these strategies and processes, as well as others, be carefully investigated. If implemented effectively, these strategies should enable risks to lone personnel to be reduced as far as practicable. If the risks cannot be reduced to an acceptable level, additional personnel may be required.

### 9.2.2 Competencies related to a qualifications framework

In respect of Surf Life Saving New Zealand's current qualifications framework, the following qualifications describe the range of skills that may be required at beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast. The numbers of personnel requiring different levels of qualification are outlined for each site in Table 9-5 to Table 9-8.

- Advanced Lifeguards: Advanced Lifeguard Award, First Aid Level Three, Pain Relief Module (where situated a considerable distance from advanced paramedics)
- Senior Lifeguards: Senior Lifeguard Award (Patrol Captain), Senior Lifeguard Award (IRB Drivers), and/or Rescue Watercraft Operator, Rock Swimming and Navigation Module (wave-dominated beaches), Board Rescue Module, First Aid Level Two
- Lifeguards: Marine VHF Radio, IRB Crewpersons Module (wave-dominated beaches), Board Rescue Module, First Aid Level One

A number of other skills can also assist personnel to provide effective supervision, surveillance, and management of water users, particularly where there is a wide range of water-based activities; these are described in Section 10.1.

## 9.3 Equipment used in the provision of supervision and surveillance

Personnel at beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast require sufficient fit-for-purpose equipment that enables them to provide effective observation of water users and efficient response in the event of an emergency. The equipment should also ensure personnel are not exposed to undue risk. Personnel should be trained in the use of any equipment, and it should be well maintained.

Personnel delivering supervision and surveillance should firstly be equipped with appropriate personal protective equipment (PPE) and other essential equipment to ensure their health and safety in managed effectively (Table 9-1).

Table 9-1: Suggested minimum personal protective equipment.

| Personal protection equipment (PPE): as appropriate for the role and environmental conditions |
|---|
| Long sleeve shirt, shorts, wide-brim hat, long sleeve rash shirt, jacket, pants, sunglasses, and protective footwear |
| Sunscreen (SPF30+ broad-spectrum water-resistant sunscreen) |
| Full body wetsuit, wetsuit booties, wetsuit gloves |
| Set of swimming fins |
| Surf Life Saving New Zealand approved rescue tube |
| Lifejacket (where required) |
| Helmet (where required) |
| VHF radio (or appropriate communications device) |

In addition, personnel should be upskilled and provided with copies of relevant policies, standard operating procedures, safety and navigation rules, bylaws, reporting forms, and other relevant documentation (paper or electronic). An observation facility, i.e. a patrol tower, that provides shelter and protection from ultraviolet radiation and the environmental conditions should also be provided. Binoculars, spinal immobilisation boards, resuscitation and trauma kits, and automated external defibrillators (AED) should be available for use (see Table 9-2).

Rescue boards or stand up paddleboards should also be provided; they enable personnel to provide some surveillance from the water, as well as efficient response to incidents in the nearshore zone. These craft also provide more efficient response to incidents and greater buoyancy than rescue tubes, and enable flotation to be provided to multiple patients at once. Rescue boards can be particularly effective at intermediate beaches with moderate wave energy, as well as tide-modified and tide-dominated beaches.

Table 9-2: Suggested minimum equipment for providing supervision and surveillance.

| Quantity | Minimum equipment for providing supervision or surveillance |
|---|---|
| 1 | Appropriate policies, standard operating procedures, and reporting forms, i.e. Patrol Captains Report Forms |
| ≥ 1 | Patrol tower, observation tower, or naturally elevated and appropriate surveillance vantage point (including appropriate shelter); the number of patrol towers recommended often depends on the length of beach or lake used by members of the public, as well as other site-specific factors |
| ≥ 1 | Set of binoculars (one for each patrol tower, all-terrain vehicle, and as required) |
| ≥ 1 | Spinal immobilisation board (one for each patrol tower and/or all-terrain vehicle, or as required) |
| ≥ 1 | Resuscitation and trauma kit, or equivalent equipment (one for each patrol tower, all-terrain vehicle, or as required) |
| ≥ 1 | Automated external defibrillator (one for each patrol tower, all-terrain vehicle, or as required) |
| ≥ 1 | Surf Life Saving New Zealand approved rescue board, or stand up paddleboard, and stand |

An all-terrain vehicle (ATV) may be required at sites with a large patrol area or where the service provides support to other services further alongshore. For example, an ATV may be appropriate where the patrolled area of the beach exceeds 750 m in either direction, if the viewing distance is obstructed, or if there is another identified need. Table 9-3 outlines the equipment requirements for operating an ATV.

Table 9-3: Equipment required to operate an all-terrain vehicle.

| Minimum equipment for operating an all-terrain vehicle |
|---|
| Surf Life Saving New Zealand approved all-terrain vehicle (ATV) |
| Personal protective equipment where required, i.e. helmets (one for each personnel) |
| Fuel and oil in appropriate storage container and cabinet |
| Appropriate policies, standard operating procedures, and reporting forms |

In addition, an inflatable rescue boat (IRB) or rescue watercraft (RWC) may be required at some sites due to the hazardous environmental conditions, the large number of water users at times, and where the supervision or surveillance service is located a considerable distance from additional water-based support. Furthermore, where there is a wide surf zone, i.e. on west coast beaches, personnel may be required to respond a considerable distance from shore. These craft enable more efficient response under such conditions and expose personnel to less risk, as long as the equipment is operated correctly.

IRBs and RWCs are also suitable for response to incidents involving surfers and craft users, rock fishers swept off shore platforms, capsized vessels, as well as multiple patients in difficulty. Rescue watercraft can also be effective for providing roving surveillance, particularly as only one personnel is required to operate the craft. RWCs also enable efficient support to be provided to other services alongshore. Table 9-4 outlines the equipment requirements for operating an IRB or RWC.

Table 9-4: Equipment required to operate an inflatable rescue boat or rescue watercraft.

| Minimum equipment for operating an inflatable rescue boat and/or rescue watercraft |
|---|
| Inflatable rescue boat (IRB) or rescue watercraft (RWC) |
| Personal protective equipment, i.e. lifejackets, helmets (one for each personnel) |
| Launching and landing zone flags, buoys, and/or markers |
| Fuel and oil in appropriate storage containers and cabinet, as well as appropriate tools, repair kit, and lubricants |
| Appropriate policies, standard operating procedures, and reporting forms |

Finally, a number of technologies have been recommended to enable more efficient and effective supervision and surveillance at beaches and lakes throughout the Auckland region (see Section 8). This includes the use of closed-circuit television (CCTV) cameras fitted with remote detection software, unmanned aerial vehicles (UAV), and a SEABOB. Of note, these could first be implemented as a trial at selected sites to evaluate their effectiveness, prior to being implemented at a larger number of sites.

Furthermore, should any new technologies become available, there should be a clear rationale for their use, and they should aim to address a specific problem. It is recommended that any new technology should first be implemented as a trial and comprehensively evaluated.

## 9.4 Service guidelines: interpreting the tables

The recommended competencies and equipment requirements for beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast are outlined in Table 9-5 to Table 9-8.

The site names and recommended types of service are provided in the first and second column of each table. Up to two scenarios are then provided for each type of service at each site: off-peak (columns 3-12) and peak (columns 13-22). These represent the lowest and highest service provision scenarios, regardless of whether they occur on weekdays or weekends. Only one scenario has been completed where one service level has been recommended. Where the recommended number of personnel is between the lowest and highest service provision scenarios, the number of appropriately trained personnel and amount of equipment should be scaled up or down accordingly.

More specifically, the third and thirteenth columns specify the number personnel in off-peak and peak scenarios, followed by a breakdown of the suggested competencies and qualifications of the personnel. The seventh and seventeenth columns outline the number of patrol towers required by the service, followed by the number of resuscitation and trauma kits, rescue boards, all-terrain vehicles, and inflatable rescue boats and/or rescue watercraft. The twelfth and twenty-second columns detail any additional equipment not previously outlined, i.e. SEABOB.

Table 9-5: West coast beaches, lakes, and waterfalls: recommended competencies and equipment for providing supervision and surveillance.

| Site | Type of service | Off-peak (see Table 8-1 and Table 8-3)* | | | | | | | | | | Peak (see Table 8-1 and Table 8-3)* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Qualifications | | | Equipment | | | | | | | Qualifications | | | Equipment | | | | | |
| | | Number of personnel | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other | Number of personnel | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other |
| Rimmer Road | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **2** | - | 1 | 1 | - | 1 | 1 | 1 | 1 | - |
| Muriwai Beach | 7.1.1 Dedicated supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 2 | 2 | - | **11** | 3 | 6 | 2 | 2 | 4 | 6 | 3 | 2 | - |
| | 7.2.1 Dedicated surveillance | **2** | - | - | 2 | 1 | 2 | 2 | 2 | 2 | - | **-** | - | - | - | - | - | - | - | - | - |
| Maukatia (Maori Bay) | 7.2.1 Dedicated surveillance | **1** | - | - | 1 | 1 | 1 | 1 | - | - | Support from Muriwai Beach | **2** | - | 1 | 1 | 1 | 1 | 2 | - | 1 | Support from Muriwai Beach |
| O'Neill Bay | 7.1.1 Dedicated supervision | **-** | - | - | - | - | - | - | - | - | - | **3** | 1 | 1 | 1 | 1 | 1 | 2 | - | 1 | - |
| | 7.2.1 Dedicated surveillance | **1** | - | 1 | - | 1 | 1 | 1 | - | 1 | Support from Te Henga | **-** | - | - | - | - | - | - | - | - | - |
| Te Henga (Bethells Beach) | 7.1.1 Dedicated supervision | **3** | - | 2 | 1 | 1 | 1 | 2 | 2 | 1 | - | **7** | 1 | 5 | 1 | 1 | 3 | 4 | 2 | 1 | - |
| | 7.1.3 On-call supervision | **3** | - | 2 | 1 | 1 | 1 | 2 | 2 | 1 | - | **-** | - | - | - | - | - | - | - | - | - |
| Anawhata Beach | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **2** | - | - | 2 | 1 | 1 | 1 | - | 1 | - |
| Whites Beach | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | - | 1 | 1 | 1 | 1 | - | - | Support from Anawhata Beach |
| North Piha Beach | 7.1.1 Dedicated supervision | **4** | - | 3 | 1 | 2 | 3 | 4 | 2 | 2 | - | **8** | 1 | 5 | 2 | 2 | 4 | 6 | 2 | 2 | - |
| | 7.1.3 On-call supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 2 | 1 | - | **-** | - | - | - | - | - | - | - | - | - |

| Site | Type of service | Off-peak (see Table 8-1 and Table 8-3)* | | | | | | | | | | Peak (see Table 8-1 and Table 8-3)* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number of personnel | Qualifications | | | Equipment | | | | | | Number of personnel | Qualifications | | | Equipment | | | | | |
| | | | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other | | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other |
| Piha Beach | 7.1.1 Dedicated supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 2 | 2 | - | **10** | 2 | 6 | 2 | 1 | 3 | 4 | 2 | 2 | - |
| | 7.2.1 Dedicated surveillance | **2** | - | - | 2 | 1 | 2 | 2 | 2 | 2 | - | **-** | - | - | - | - | - | - | - | - | - |
| Karekare Beach | 7.1.1 Dedicated supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 2 | 2 | - | **6** | 1 | 3 | 2 | 1 | 3 | 4 | 2 | 2 | - |
| | 7.2.3 On-call surveillance | **2** | - | - | 2 | 1 | 2 | 1 | 2 | 2 | - | **-** | - | - | - | - | - | - | - | - | - |
| Whatipu Beach | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **3** | - | 1 | 2 | - | 1 | 2 | 1 | 2 | - |
| Karioitahi Beach | 7.1.1 Dedicated supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 2 | | - | **7** | 2 | 3 | 2 | 1 | 3 | 5 | 2 | 2 | - |
| | 7.1.3 On-call supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 2 | | - | **-** | - | - | - | - | - | - | - | - | - |

*The off-peak and peak numbers represent the lowest and highest service scenarios regardless of whether they occur on weekdays or weekends; resourcing of services in between should be scaled up or down accordingly.

Table 9-6: North Shore beaches and lakes: recommended competencies and equipment for providing supervision and surveillance.

| Site | Type of service | Off-peak (see Table 8-7 and Table 8-9)* | | | | | | | | | | Peak (see Table 8-7 and Table 8-9)* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Qualifications | | | Equipment | | | | | | | Qualifications | | | Equipment | | | | | |
| | | Number of personnel | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other | Number of personnel | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other |
| Takapuna Beach | 7.2.1 Dedicated surveillance | **1** | - | 1 | - | 1 | 1 | 1 | 1 | - | Support from RWC | **3** | 1 | 2 | - | 1 | 2 | 3 | 1 | - | Support from RWC |
| Milford Beach | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | 1 | - | 1 | 1 | 1 | - | - | Support from RWC |
| Mairangi Bay | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | 1 | - | 1 | 1 | 1 | - | - | Support from RWC |
| Murrays Bay | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | 1 | - | 1 | 1 | 1 | - | - | Support from RWC |
| Browns Bay | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | 1 | - | 1 | 1 | 1 | - | - | Support from RWC |
| Waiake Bay | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | 1 | - | 1 | 1 | 1 | - | - | Support from RWC |
| Long Bay | 7.2.1 Dedicated surveillance | **2** | - | 2 | - | 1 | 2 | 2 | 1 | - | Support from RWC | **4** | 2 | 2 | - | 2 | 2 | 4 | 1 | - | Support from RWC |

*The off-peak and peak numbers represent the lowest and highest service scenarios regardless of whether they occur on weekdays or weekends; resourcing of services in between should be scaled up or down accordingly.

Table 9-7: Whangaparaoa beaches: recommended competencies and equipment for providing supervision and surveillance.

| Site | Type of service | Off-peak (see Table 8-13 and Table 8-15)* | | | | | | | | | | Peak (see Table 8-13 and Table 8-15)* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Qualifications | | | Equipment | | | | | | | Qualifications | | | Equipment | | | | | |
| | | Number of personnel | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other | Number of personnel | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other |
| Te Haruhi Bay | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **2** | - | 2 | - | 1 | 1 | 2 | 1 | 1 | Support from RWC |
| Big Manly Bay | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | 1 | - | 1 | 1 | 1 | - | - | Support from RWC |
| Stanmore Bay | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **2** | 1 | 1 | - | 1 | 1 | 2 | 1 | - | Support from RWC |
| Red Beach | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **1** | - | 1 | - | 1 | 1 | 1 | - | - | Support from RWC |
| Orewa Beach | 7.2.1 Dedicated surveillance | **2** | - | 1 | 1 | 1 | 2 | 2 | 1 | 2 | - | **7** | 2 | 4 | 1 | 3 | 3 | 8 | ≤ 2 | 1 | Support from RWC |
| | 7.2.3 On-call surveillance | **2** | - | 1 | 1 | 1 | 2 | 2 | 1 | 2 | - | **-** | - | - | - | - | - | - | - | - | - |
| Wenderholm Beach | 7.2.1 Dedicated surveillance | **-** | - | - | - | - | - | - | - | - | - | **2** | - | 2 | - | 1 | 1 | 2 | - | - | Support from RWC |

*The off-peak and peak numbers represent the lowest and highest service scenarios regardless of whether they occur on weekdays or weekends; resourcing of services in between should be scaled up or down accordingly.

Table 9-8: Northeast coast beaches: recommended competencies and equipment for providing supervision and surveillance.

| Site | Type of service | Off-peak (see Table 8-7 and Table 8-9)* | | | | | | | | | | Peak (see Table 8-7 and Table 8-9)* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Number of personnel | Qualifications | | | Equipment | | | | | | Number of personnel | Qualifications | | | Equipment | | | | | |
| | | | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other | | Lifeguard* | Senior Lifeguard* | Advanced Lifeguard* | Patrol tower | Resus and trauma kit | Rescue board | All-terrain vehicle | IRB and/or RWC | Other |
| Anchor Bay | 7.1.1 Dedicated supervision | **2** | - | 1 | 1 | 1 | 2 | 2 | 1 | 1 | - | **4** | 1 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | - |
| | 7.1.3 On-call supervision | **2** | - | 1 | 1 | 1 | 2 | 2 | 1 | 1 | - | **3** | - | 2 | 1 | 1 | 1 | 2 | 1 | 1 | - |
| Omaha Beach | 7.1.1 Dedicated supervision | **3** | - | 2 | 1 | 1 | 2 | 3 | 1 | 1 | - | **7** | 2 | 4 | 1 | 2 | 3 | 5 | 2 | 2 | - |
| | 7.1.3 On-call supervision | **3** | - | 2 | 1 | 1 | 2 | 3 | 1 | 1 | - | **-** | - | - | - | - | - | - | - | - | - |
| Goat Island | 7.2.1 Dedicated surveillance | **2** | - | 1 | 1 | 1 | 2 | 2 | - | 1 | Trial SEABOB | **4** | 1 | 2 | 1 | 1 | 2 | 3 | - | 1 | Trial SEABOB |
| | 7.2.3 On-call surveillance | **2** | - | 1 | 1 | 1 | 2 | 2 | - | 1 | Trial SEABOB | **3** | - | 2 | 1 | 1 | 2 | 2 | - | 1 | Trial SEABOB |
| Pakiri Beach | 7.1.1 Dedicated supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 1 | 1 | - | **4** | 1 | 2 | 1 | 1 | 2 | 3 | 1 | 1 | - |
| | 7.1.3 On-call supervision | **3** | - | 2 | 1 | 1 | 2 | 2 | 1 | 1 | - | **-** | - | - | - | - | - | - | - | - | - |
| Forestry | 7.2.1 Dedicated surveillance | **1** | - | - | 1 | 1 | 1 | 1 | 1 | - | Support from Te Arai | **2** | - | 1 | 1 | 1 | 1 | 1 | 1 | - | Support from Te Arai |
| Te Arai | 7.1.1 Dedicated supervision | **-** | - | - | - | - | - | - | - | - | - | **3** | - | 2 | 1 | 1 | 2 | 3 | 1 | 1 | - |
| | 7.1.3 On-call supervision | **3** | - | 2 | 1 | 1 | 2 | 3 | 1 | 1 | - | **-** | - | - | - | - | - | - | - | - | - |
| | 7.2.1 Dedicated surveillance | **2** | - | 1 | 1 | 1 | 2 | 2 | 1 | 1 | - | **-** | - | - | - | - | - | - | - | - | - |

*The off-peak and peak numbers represent the lowest and highest service scenarios regardless of whether they occur on weekdays or weekends; resourcing of services in between should be scaled up or down accordingly.

# 10 Beach, lake, and waterfall management: Auckland region

Personnel providing supervision or surveillance at beaches, lakes, and waterfalls should ensure that the safety of users engaging in a wide range of activities is considered and managed such that the risk of drowning and injury is reduced as far as practicable. While the traditional role of a surf lifeguard has been to supervise swimmers between the red and yellow flags and respond to persons in difficulty, there is the potential to widen the scope of responsibilities in order to manage many sources of risk in the aquatic environment.

The range of roles and responsibilities that personnel providing supervision and surveillance could fulfil are detailed in Section 10.1. This is followed by a discussion of the use of activity zoning flags, markers, and/or buoys to reduce the risks associated with interactions between different activities (Section 10.2).

## 10.1 Roles and responsibilities

Beaches, lakes, and waterfalls are used by a considerable number of people engaging in a wide range of land and water-based activities. Different organisations have responsibilities to manage different land and water-based activities, i.e. boating, fisheries, and bylaws; however, each organisation typically has limited human and financial resources with which to monitor and manage these activities, and the associated risks.

It is therefore recommended that personnel providing supervision and surveillance of water users could also assist with managing other issues in aquatic environments. This could include managing the safety of surf, paddle, and sail craft, advising on safe fishing practices, and managing safety and navigation (as well as the traditional roles of educating water users and responding to patients in difficulty). Personnel could also help manage bylaws and fisheries. The range of responsibilities required at each site should be determined based on the range of activities taking place, the relevant environmental hazards, and any other relevant bylaws and legislation.

The range of roles and responsibilities that could be fulfilled by personnel providing supervision and surveillance are outlined in Section 10.1.1. This is followed by a discussion of some organisational considerations (Section 10.1.2). The different roles and responsibilities for each of the four coastal areas are then summarised (Section 10.1.3 to 10.1.6). The site-specific recommendations on roles and responsibilities are provided in Table 10-2 to Table 10-5, alongside management and zoning recommendations (Section 10.2).

### 10.1.1 Outline of different roles and responsibilities

The following roles and responsibilities could be fulfilled by personnel providing supervision and surveillance, where relevant to the site:

- Manage the safety of those wading, swimming, and bodysurfing in the water
- Manage the safety of those engaged in swash zone activities (or exposed to wave swash), where they are not intending to be immersed, i.e. rock fishers, surf casters, drag netters, set netters, contiki or longline users, and those walking on the shoreline or around shore platforms
- Manage the safety of surf craft users, i.e. bodyboarders, surfers, and stand up paddleboarders
- Manage the safety of paddle craft users, i.e. kayakers and stand up paddleboarders
- Manage the safety of sail craft users, i.e. wind surfers, kite surfers, sailors (yachts)

- Manage the safety and navigation of vessel operators, i.e. recreational boats and personal watercraft (jet ski)
- Manage the safety of those engaging in underwater activities, i.e. snorkeller and scuba divers
- Manage the use and interaction of activities in the water, including the provision of activity zoning and restrictions, as well as the dissemination of education, warnings, and/or enforcement; this could include managing safety and navigation bylaws and/or rules on behalf of the harbourmaster and/or Maritime New Zealand. Personnel could also manage other legislation such as fisheries on behalf of the Ministry for Primary Industries
- Manage the safety of those using the beach and/or environments surrounding lakes and waterfalls, i.e. those climbing cliffs above a waterfall, using a land yacht on the beach, or driving on the beach
- Manage the use and interaction of activities on the beach, including the provision of activity zoning and restrictions, as well as the dissemination of education, warnings, and/or enforcement; this could include managing local government bylaws on behalf on the territorial authority

### 10.1.2 Effective collaboration and upskilling of personnel

As the roles and responsibilities outlined above span the remit and/or legislative authority of multiple organisations, effective collaboration between all relevant stakeholders is essential for this holistic management approach to be effective. While the provision of supervision and surveillance, and management of water safety, should remain the primary purpose of supervision and surveillance personnel, the adoption of additional responsibilities has the potential to maximise benefits for all stakeholders, and reduce the risk of drowning and injury as far as practicable.

Personnel providing formal supervision or surveillance should therefore be appropriately upskilled to manage the additional roles and responsibilities relevant to the site. Informal personnel could be upskilled to a lesser extent. A number of training modules should therefore be developed, i.e. safety and navigation training modules and bylaw management modules, and delivered to experienced personnel. It is suggested that any new training programme be piloted and reviewed for its effectiveness in reducing drowning and injury.

Therefore, it is recommended that Surf Life Saving Northern Region and Surf Life Saving New Zealand discuss options for collaboration with relevant stakeholders including Auckland Council, Auckland Transport (Harbourmasters), Coastguard Northern Region, Coastguard New Zealand, Coastguard Boating Education, Drowning Prevention Auckland, New Zealand Police Maritime Unit (Auckland), Maritime New Zealand, New Zealand Police, Department of Conservation, and Ministry for Primary Industries.

### 10.1.3 West coast beaches, lakes, and waterfalls

The provision of supervision and surveillance on west coast beaches, lakes, and waterfalls should firstly focus on managing the safety of those wading, swimming, bodysurfing, and bodyboarding; these users are at high risk of getting into difficulty. This is particularly important from the early afternoon to evening from mid-December to the end of February. Secondly, emphasis should be placed on managing the safety of those fishing from shore platforms, surfcasting from the nearshore zone, and drag netting. Personnel should also help manage the safety and navigation of recreational vessels launching from beaches and traversing the

subaqueous sand bar at the mouth of the Manukau Harbour; these users should be engaged throughout spring, summer, and autumn.

Furthermore, personnel should engage those learning to surf, and inform them of the most appropriate locations to enter the surf. They should also gauge their competence in the surf relative to the environmental conditions; this is particularly important over summer and early autumn, when the greatest proportion of people learn to surf.

### 10.1.4 North Shore beaches and lakes

Surveillance on North Shore beaches should be provided across multiple users and types of water-based activities. Personnel should advise parents to stay within arm's reach of young children, and manage the safety of children, teenagers, and young adults during outgoing tides and/or offshore winds. These users may be swept beyond their depth by currents and/or blown beyond their depth while using inflatables, paddle craft, or sail craft.

Others using paddle craft, sail craft, and recreational vessels should be engaged to advise them of the appropriateness of the environmental conditions, and ensure they have the relevant safety equipment. Ocean swimmers should be engaged to ensure they use safety floats and plan an appropriate swim with others, i.e. to limit any interaction with recreational vessels. Safety and navigation, the interaction of water-based recreational activities, and bylaws could also be managed by personnel.

### 10.1.5 Whangaparaoa beaches

Surveillance of beaches on the Whangaparaoa should similarly focus on managing the safety of children, teenagers, and young adults (as above). Of note, particular focus should be given to water users at the mouth of the Orewa River, Waiwera River, and Puhoi River, due to the presence of strong currents.

Those drag netting, set netting, and collecting shellfish should be engaged, educated, and informed of ways to best manage their safety; this is particularly important at Okoromai Bay, Te Haruhi Bay, Hatfields Beach, and Wenderholm Beach. In addition, those using paddle craft, sail craft, and recreational vessels should be engaged. Similarly, safety and navigation, the interaction of water-based recreational activities, and bylaws could also be managed by personnel.

### 10.1.6 Northeast coast beaches

Supervision and surveillance of beaches on the northeast coast should focus on managing the safety of those wading, swimming, bodysurfing, and bodyboarding; this is particularly important at times of higher wave energy over the summer school holidays (mid to late December to early February).

In addition, those snorkelling and scuba diving, in particular at Goat Island (Cape Rodney to Okakari Point Marine Reserve), should be educated and upskilled. Furthermore, those using paddle craft, sail craft, and recreational vessels should be engaged to advise them of the appropriateness of the environmental conditions, and ensure they have the relevant safety equipment.

## 10.2 Management of environmental hazards and activity interaction

In many circumstances, it may be possible to isolate water users from some environmental hazards and/or separate them from other activities with which they may conflict. As such, the management of beaches, lakes, and waterfalls could involve the use of flags, markers, and buoys. The use of such markers should bear in mind the nature of the activities, number of water users, typical competence of the water users, and other risk management strategies, i.e. the type of supervision and/or surveillance.

This section describes a number of currently used and proposed flags, markers, and buoys, and describes the circumstances where they may be appropriate; some are displayed in Table 10-1. The corresponding activity zoning recommendations for beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast are then displayed in Table 10-2 to Table 10-5, alongside the recommended roles and responsibilities of personnel.

Of note, the flags, markers, and buoys recommended for each site may not need to all be used simultaneously; the personnel erecting the flags, markers, or buoys should consider the environmental conditions, water use, and types of activities to ensure activity zoning is appropriate.

### 10.2.1 Red and yellow

Currently used on beaches patrolled by surf lifeguards, red and yellow flags should be used where there is a highly variable nearshore zone (wave-dominated dissipative and intermediate beaches) and a considerable number of water users. Specifically, red and yellow flags should be used to define a section of the sand bar away from inshore holes, channels, and rip currents, where members of the public can wade, swim, bodysurf, and bodyboard under formal supervision.

Red and yellow flags are outlined in the existing standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010). Conditions and information signage should also be available for each flagged area.

### 10.2.2 Blue and white

On wave-dominated beaches where there are fewer members of the public wading, swimming, bodysurfing, and bodyboarding (i.e. at a beach with no red and yellow flags or alongshore from a set of red and yellow flags), blue and white flags could be used to identify sand bars. This would communicate to members of the public that the area between the blue and white flags is less likely to contain inshore holes, channels, and rip currents. It would also communicate to other water users, such as those using sail craft and recreational boats, that there may be members of the public swimming in the area. On wave-dominated beaches, these flags should only be erected where formal surveillance is also being provided; these personnel could ensure the markers are moved as required.

On tide-modified beaches, the blue and white flags could be used to identify the preferred swimming area, reducing water users' exposure to environmental hazards, i.e. rock shelves and stream mouths. Similarly, these flags could also communicate to other water users, in particular those using sail craft and recreational boats to stay clear of the area. As inshore holes, channels, and rip currents are not as prevalent on tide-dominated beaches, these flags could be erected by personnel providing formal or structured informal surveillance.

Of note, blue and white flags are not currently included in the existing standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010). Conditions and information signage should also be available for each flagged area where formal or structured informal surveillance is provided.

### 10.2.3 Black and white

Where a considerable number of water users are using surf craft (particularly those who have less awareness and/or competence in the water), black and white flags could be used to indicate a 'surf craft zone' on wave-dominated beaches or a 'paddle craft zone' on tide-modified beaches. This would be particularly beneficial for those learning to surf on wave-dominated beaches. These zones could also be used by surf schools to outline areas where surfing lessons are being provided, and/or to indicate the preferred area for use by members of the public who hire surf craft. Of note, some surf schools already use flags to identify where participants in surf schools and those hiring surf craft should enter the water, i.e. Te Arai.

Black and white flags could also be used on either side of the red and yellow flags to indicate that surfers and other craft users should stay outside of these flags. This would create a buffer between the surfers and the red and yellow flags, and reduce the risk of collision between these user groups.

Black and white flags are outlined in the existing standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010). Conditions and information signage could also be used where black and white flags are erected.

Of note, the intended purpose of the black and white flags currently conflicts with the 'swimming only' areas marked using black and white poles on some beaches in the Auckland region; it is recommended that this issue be discussed with Auckland Transport (Harbourmasters); flags, markers, and/or buoys for 'swimming only' areas should be changed to blue and white, if agreement can be reached on the colours and designs recommended.

### 10.2.4 Yellow and blue

Yellow and blue flags could be used to identify zoned areas for sail craft to operate in order to isolate them from other beach and water users (particularly during launching and landing), reducing the risk of collision. This craft may include kite surfers and/or windsurfers at wave-dominated beaches (i.e. Muriwai Beach), as well as yachts and other craft at tide-modified beaches (i.e. Narrowneck Beach and Orewa Beach).

Of note, yellow and blue flags are not currently included in the existing standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010). Conditions and information signage could also be placed near the blue and yellow flags.

### 10.2.5 Orange and black

Orange and black poles are currently used to indicate access lanes where vessels may exceed 5 knots. These poles and/or similar orange and black flags could also be used to outline preferred locations for recreational vessel operators to launch and land their vessels; this may be where they can traverse the surf zone with the least risk (if the environmental conditions are favourable). These zones could also help limit the interaction between recreational vessels and other water users, i.e. swimmers and surfers. Orange and black poles are already in use on a number of tide-modified beaches in the Auckland region.

The use of orange and black poles and/or flags is not included in the standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010), but is used by Auckland Transport (Harbourmasters). Conditions and information signage, i.e. a reminder to wear lifejackets, could also be placed near the orange and black poles and/or flags.

### 10.2.6 Warning flags, signs, and/or barriers

At beaches, lakes, and waterfalls where supervision or surveillance is provided, red flags should be used when the environmental conditions, water quality, and/or other hazards pose unacceptable risks to water users, and as such, they should be advised against entering the water. It is recommended that red flags, when required, be installed near the shoreline such that they are easily visible. Depending on the length of the shoreline, more than one red flag may be required; it is suggested one red flag be provided for every 100 to 300 m of shoreline. Red flags are outlined in the existing standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010).

Furthermore, warning signs should be used to communicate information on hazards at beaches, lakes, and waterfalls; yellow flags could also be used, as outlined in the existing standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010).

In addition, other information, warning, and/or prohibition signs and/or barriers could be used at beaches, lakes, and waterfalls. For example, barriers, i.e. sections of lightweight fencing with warning signs, could be erected in areas where inshore holes, channels, and/or rip currents persist. Such barriers would not be able to completely prevent access to areas with inshore holes and/or rip currents, but would be more prominent and increase the visual impact in comparison to a flag and/or sign.

### 10.2.7 Windsock

Finally, windsocks (truncated orange cone) could be used to inform those on inflatable craft, paddle craft, and sail craft of strong winds, i.e. offshore winds could result in them being blown offshore and/or finding it difficult to return to shore. Windsocks could be particularly useful on the east coast, i.e. North Shore, where a number of rescues performed by surf lifeguards have been attributed to strong winds. Windsocks are outlined in the existing standard, AS/NZS 2416:2010 (Standards Australia/Standards New Zealand, 2010).

### 10.2.8 Summary

The use of flags, markers, and buoys could enable those providing supervision or surveillance to reduce the interaction of water users with environmental hazards and/or other water-based activities; this would reduce the risk of drowning or injury. In addition, the use of activity zoning could enable those providing supervision or surveillance, as well as other water safety stakeholders, to educate water users about hazards, ensure they have the relevant safety equipment, and upskill individuals where possible.

Furthermore, the use of relevant warning flags, signs, and/or barriers could also assist those providing supervision or surveillance to inform water users of hazards.

Table 10-1: Standardised and proposed colour scheme for flags, markers, and buoys in the Auckland region.

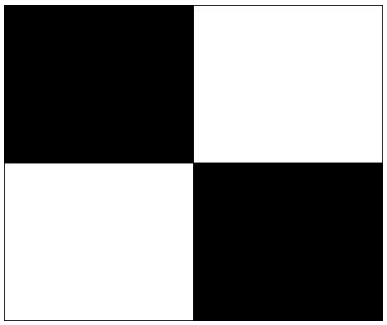
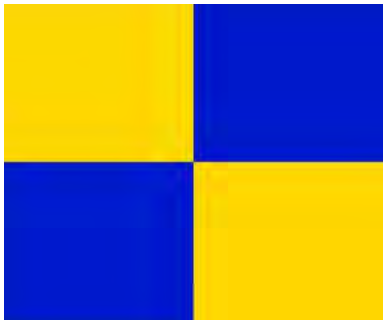
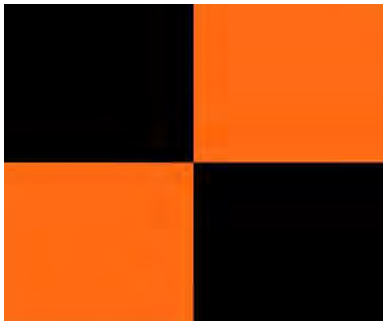
| Description | Purpose | Colour and design |
|---|---|---|
| Red and yellow<br>(standardised, AS/NZS 2416:2010) | To identify a sand bar where swimming is encouraged, and formal supervision is being provided |  |
| Blue and white<br>(proposed) | To identify a sand bar and/or area of beach where swimmers are less exposed to inshore holes and/or rip currents, and clear of conflicting water-based activities |  |
| Black and white<br>(standardised, AS/NZS 2416:2010, but not in use in New Zealand) | To identify an area for surf craft and/or paddle craft |  |
| Yellow and blue<br>(proposed) | To identify an area for sail craft |  |
| Orange and black<br>(standardised as orange and black poles in the Auckland region) | To identify an area for recreational boating |  |

Table 10-2: West coast beaches, lakes, and waterfalls: recommended roles and responsibilities of personnel providing supervision and surveillance, and management techniques.

| Site | Type of service | Roles and responsibilities | | | | | | | | | | | Flags, markers, and buoys | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail Craft | Recreational boats | Underwater activities | Water-based management | Land-based activities | Land-based management | Other | Red and yellow | Blue and white | Black and white | Yellow and blue | Orange and black | Warning flags, signs, and/or barriers | Windsock | Other |
| Rimmer Road | 7.2.1 Dedicated surveillance | Y | Y | Y | - | - | Y | - | Y | - | Y | - | - | Y | - | - | - | Y | - | - |
| Muriwai Beach | 7.1.1 Dedicated supervision | Y | Y | Y | Y | Y | Y | - | Y | Y | Y | - | Y | Y | Y | Y | Y | Y | Y | - |
| | 7.2.1 Dedicated surveillance | Y | Y | Y | Y | Y | Y | - | Y | Y | Y | - | - | Y | Y | Y | Y | Y | Y | - |
| Maukatia (Maori Bay) | 7.2.1 Dedicated surveillance | Y | - | Y | Y | - | - | - | Y | - | - | Engage paragliders | - | - | - | - | - | Y | - | - |
| O'Neill Bay | 7.1.1 Dedicated supervision | Y | Y | Y | - | - | - | - | Y | - | - | - | Y | - | - | - | - | Y | - | - |
| | 7.2.1 Dedicated surveillance | Y | Y | Y | - | - | - | - | Y | - | - | - | - | Y | - | - | - | Y | - | - |
| Te Henga (Bethells Beach) | 7.1.1 Dedicated supervision | Y | Y | Y | - | Y | Y | - | Y | - | Y | - | Y | - | Y | Y | - | Y | Y | - |
| | 7.1.3 On-call supervision | Y | Y | Y | - | Y | Y | - | Y | - | Y | - | Y | - | Y | Y | - | Y | Y | - |
| Anawhata Beach | 7.2.1 Dedicated surveillance | Y | Y | - | - | - | - | - | Y | - | - | - | - | Y | - | - | - | Y | - | - |
| Whites Beach | 7.2.1 Dedicated surveillance | Y | Y | - | - | - | - | - | Y | - | - | - | - | Y | - | - | - | Y | - | - |
| North Piha Beach | 7.1.1 Dedicated supervision | Y | Y | Y | Y | Y | - | - | Y | - | Y | - | Y | - | Y | Y | - | Y | Y | - |
| | 7.1.3 On-call supervision | Y | Y | Y | Y | Y | - | - | Y | - | Y | - | Y | - | Y | Y | - | Y | Y | - |

| Site | Type of service | Roles and responsibilities | | | | | | | | | | | Flags, markers, and buoys | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail Craft | Recreational boats | Underwater activities | Water-based management | Land-based activities | Land-based management | Other | Red and yellow | Blue and white | Black and white | Yellow and blue | Orange and black | Warning flags, signs, and/or barriers | Windsock | Other |
| Piha Beach | 7.1.1 Dedicated supervision | Y | Y | Y | Y | - | Y | - | Y | Y | Y | - | Y | - | Y | - | Y | Y | Y | - |
| | 7.2.1 Dedicated surveillance | Y | Y | Y | Y | - | Y | - | Y | Y | Y | - | - | Y | Y | - | Y | Y | Y | - |
| Karekare Beach | 7.1.1 Dedicated supervision | Y | Y | Y | - | - | - | - | Y | Y | Y | Engage those walking the Hillary Trail | Y | - | Y | - | - | Y | - | - |
| | 7.2.3 On-call surveillance | Y | Y | Y | - | - | - | - | Y | Y | Y | | - | Y | - | - | - | Y | - | - |
| Whatipu Beach | 7.2.1 Dedicated surveillance | Y | Y | Y | - | - | Y | - | Y | Y | Y | Engage vessel operators traversing Manukau Bar | - | - | - | - | - | Y | - | - |
| Karioitahi Beach | 7.1.1 Dedicated supervision | Y | Y | Y | Y | Y | Y | - | Y | Y | Y | Engage paragliders | Y | - | Y | Y | Y | Y | Y | - |
| | 7.1.3 On-call supervision | Y | Y | Y | Y | Y | Y | - | Y | Y | Y | | Y | - | Y | Y | Y | Y | Y | - |

Table 10-3: North Shore beaches and lakes: recommended roles and responsibilities of personnel providing supervision and surveillance, and management techniques.

| Site | Type of service | Roles and responsibilities | | | | | | | | | | | Flags, markers, and buoys | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail Craft | Recreational boats | Underwater activities | Water-based management | Land-based activities | Land-based management | Other | Red and yellow | Blue and white | Black and white | Yellow and blue | Orange and black | Warning flags, signs, and/or barriers | Windsock | Other |
| Takapuna Beach | 7.2.1 Dedicated surveillance | Y | Y | - | Y | Y | Y | Y | Y | Y | Y | - | - | Y | - | Y | Y | Y | Y | - |
| Milford Beach | 7.2.1 Dedicated surveillance | Y | Y | - | Y | Y | Y | Y | Y | Y | Y | - | - | Y | - | - | Y | Y | Y | - |
| Mairangi Bay | 7.2.1 Dedicated surveillance | Y | Y | - | Y | - | Y | - | Y | Y | Y | Coastal walkway atop sewer pipeline | - | - | - | - | Y | Y | Y | - |
| Murrays Bay | 7.2.1 Dedicated surveillance | Y | Y | - | Y | Y | - | - | Y | Y | Y | Coastal walkway atop sewer pipeline | - | - | - | Y | - | Y | Y | - |
| Browns Bay | 7.2.1 Dedicated surveillance | Y | - | - | Y | Y | Y | - | Y | Y | Y | - | - | Y | - | - | Y | Y | Y | - |
| Waiake Bay | 7.2.1 Dedicated surveillance | Y | Y | - | Y | Y | Y | - | Y | Y | Y | - | - | - | - | - | Y | Y | Y | - |
| Long Bay | 7.2.1 Dedicated surveillance | Y | Y | - | Y | Y | Y | - | Y | Y | Y | - | - | Y | - | Y | - | Y | Y | - |

Table 10-4: Whangaparaoa beaches: recommended roles and responsibilities of personnel providing supervision and surveillance, and management techniques.

| Site | Type of service | Roles and responsibilities | | | | | | | | | | | Flags, markers, and buoys | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail Craft | Recreational boats | Underwater activities | Water-based management | Land-based activities | Land-based management | Other | Red and yellow | Blue and white | Black and white | Yellow and blue | Orange and black | Warning flags, signs, and/or barriers | Windsock | Other |
| Te Haruhi Bay | 7.2.1 Dedicated surveillance | Y | Y | - | Y | Y | - | Y | Y | Y | Y | - | - | Y | - | Y | - | Y | Y | - |
| Big Manly Bay | 7.2.1 Dedicated surveillance | Y | - | - | Y | Y | Y | - | Y | Y | Y | - | - | Y | - | Y | Y | Y | Y | - |
| Stanmore Bay | 7.2.1 Dedicated surveillance | Y | - | - | Y | Y | Y | - | Y | Y | Y | - | - | Y | - | Y | Y | Y | Y | - |
| Red Beach | 7.2.1 Dedicated surveillance | Y | - | - | Y | - | Y | - | Y | Y | Y | - | - | Y | - | - | Y | Y | Y | - |
| Orewa Beach | 7.2.1 Dedicated surveillance | Y | - | Y | Y | Y | Y | - | Y | Y | Y | - | - | Y | Y | Y | Y | Y | Y | - |
| | 7.2.3 On-call surveillance | Y | - | Y | Y | Y | Y | - | Y | Y | Y | - | - | Y | Y | Y | Y | Y | Y | - |
| Wenderholm Beach | 7.2.1 Dedicated surveillance | Y | Y | - | Y | Y | Y | - | Y | Y | Y | - | - | Y | - | - | - | Y | Y | - |

Table 10-5: Northeast coast beaches: recommended roles and responsibilities of personnel providing supervision and surveillance, and management techniques.

| Site | Type of service | Roles and responsibilities | | | | | | | | | | | Flags, markers, and buoys | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Swimmers | Swash zone activities | Surf craft | Paddle craft | Sail Craft | Recreational boats | Underwater activities | Water-based management | Land-based activities | Land-based management | Other | Red and yellow | Blue and white | Black and white | Yellow and blue | Orange and black | Warning flags, signs, and/or barriers | Windsock | Other |
| Anchor Bay | 7.1.1 Dedicated supervision | Y | Y | Y | Y | - | - | Y | Y | Y | Y | - | Y | - | Y | - | - | Y | Y | - |
| | 7.1.3 On-call supervision | Y | Y | Y | Y | - | - | Y | Y | Y | Y | - | Y | - | Y | - | - | Y | Y | - |
| Omaha Beach | 7.1.1 Dedicated supervision | Y | Y | Y | Y | Y | Y | - | Y | Y | Y | - | Y | Y | Y | - | - | Y | Y | - |
| | 7.1.3 On-call supervision | Y | Y | Y | Y | Y | Y | - | Y | Y | Y | - | Y | Y | Y | - | - | Y | Y | - |
| Goat Island | 7.2.1 Dedicated surveillance | Y | Y | Y | Y | - | Y | Y | Y | Y | - | - | - | - | - | - | Y | Y | Y | Access lane for Glass Bottom Boat |
| | 7.2.3 On-call surveillance | Y | Y | Y | Y | - | Y | Y | Y | Y | - | - | - | - | - | - | Y | Y | Y | |
| Pakiri Beach | 7.1.1 Dedicated supervision | Y | Y | Y | Y | - | - | - | Y | Y | Y | - | Y | - | Y | - | - | Y | Y | - |
| | 7.1.3 On-call supervision | Y | Y | Y | Y | - | - | - | Y | Y | Y | - | Y | - | Y | - | - | Y | Y | - |
| Forestry | 7.2.1 Dedicated surveillance | Y | Y | Y | Y | - | - | Y | Y | - | - | - | - | Y | - | - | - | Y | - | - |
| Te Arai | 7.1.1 Dedicated supervision | Y | Y | Y | Y | - | - | Y | Y | Y | - | - | Y | - | Y | - | - | Y | Y | - |
| | 7.1.3 On-call supervision | Y | Y | Y | Y | - | - | Y | Y | Y | - | - | Y | - | Y | - | - | Y | Y | - |
| | 7.2.1 Dedicated surveillance | Y | Y | Y | Y | - | - | Y | Y | Y | - | - | - | Y | Y | - | - | Y | Y | - |

## 10.3 Additional management recommendations: Auckland region

A number of other management recommendations would also improve the effectiveness of supervision and surveillance on beaches, lakes, and waterfalls in the Auckland region, including:

i. The recommendations provided in this report have focused on the provision of dedicated, on-call, roving, and remote supervision and surveillance. However, as environmental conditions and water use fluctuate considerably, the recommended services may not always use resources as efficiently as possible, i.e. services may be over or under-resourced at times.

   As such, the provision of flexible services would enable the type of service as well as service length, hours, and number and competencies of personnel to be adjusted to best meet the changing needs of the site. However, the provision of such services would require predictive and real-time risk analysis, i.e. using forecast environmental conditions to predict physical hazardousness and water use. In addition, appropriate management systems and processes, as well as flexible personnel, would be required. Considerable investment in these systems would be essential to enable flexible services to be implemented.

   Coastal Research Ltd should be engaged to further develop the supervision and surveillance model to enable it to be applied to a real-time and/or predictive system.

ii. It is recommended that supervision and surveillance services separately record the number of swimmers and other types of water users on the hour, every hour, as part of their regular counts. This will enable more accurate analysis of the different types of water use at beaches in the Auckland region, and as such the most efficient and effective types of supervision and surveillance. Furthermore, more consistent recording of water use across all hours of the day will provide further evidence of the times of highest use.

   Coastal Research Ltd could assist in the design of appropriate forms and collection methodologies to enable this data to be captured efficiently and accurately.

iii. Surf Life Saving Northern Region and Surf Life Saving New Zealand should consider developing and using visual communication tools to convey critical surf safety information across language barriers. This could include the use of internationally recognised warning signs or pictograms conveying hazards, and actions to be taken to reduce personal exposure. This could assist with communicating with the diverse range of users of beaches, lakes, and waterfalls in the Auckland region, a number of whom are unable to speak English.

# 11 Conclusion

This report details the findings of the supervision and surveillance assessment undertaken at beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, and northeast coast of the Auckland region. The data used in the report was gathered on-site, provided by local stakeholders, and passed on by water safety agencies and emergency services.

To ensure the recommended supervision and surveillance services meet the risk threshold of the site, the physical environment, water use, user groups, and user behaviours were analysed. Based on the calculated risk-adjusted water use values for each site, and how they relate to the risk thresholds for formal supervision, formal surveillance, and informal surveillance, the following services have been recommended:

**West coast beaches, lakes, and waterfalls**

- On the west coast, dedicated and/or on-call formal supervision is recommended at Muriwai Beach, O'Neill Bay, Te Henga (Bethells Beach), North Piha Beach, Piha Beach, Karekare Beach, and Karioitahi Beach. In addition, dedicated and/or on-call formal surveillance should be provided at Rimmer Road, Maukatia (Maori Bay), O'Neill Bay, Anawhata Beach, Whites Beach, and Whatipu Beach. Surveillance services should also be considered for Muriwai Beach and Piha Beach in late autumn, winter, and early spring.
- Furthermore, roving and remote surveillance should be provided at a number of beaches and lakes on the west coast. Members of the community and/or Auckland Council Park Rangers could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents. Other stakeholders, such as members of boardriders clubs, could be upskilled as water safety ambassadors, water safety advisors, and/or water safety responders.

**North Shore beaches and lakes**

- On the North Shore, dedicated and/or on-call formal surveillance should be provided at Takapuna Beach, Milford Beach, Mairangi Bay, Murrays Bay, Browns Bay, Waiake Bay, and Long Bay. In addition, roving surveillance should be provided from the mouth of the Waitemata Harbour to Mairangi Bay, and from Mairangi Bay to the mouth of the Okura River. Remote surveillance should also be provided at selected locations.
- Furthermore, informal surveillance could be encouraged at times at Torpedo Bay, Cheltenham Beach, Narrowneck Beach, Lake Pupuke, Milford Beach, Mairangi Bay, Murrays Bay, Browns Bay, Waiake Bay, and Long Bay. Members of the community, Auckland Council Park Rangers, and/or lifeguards from nearby swimming pools could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents. Other stakeholders, such as members of boating and/or yachting clubs, could be upskilled as water safety ambassadors, water safety advisors, and/or water safety responders.

**Whangaparaoa beaches**

- On the Whangaparaoa, dedicated and/or on-call formal surveillance should be provided at Te Haruhi Bay, Big Manly Bay (Polkinghornes Bay), Stanmore Bay, Red Beach, Orewa Beach, and Wenderholm Beach. In addition, roving surveillance should be provided from Army Bay to Red Beach, and from Red Beach to Wenderholm Beach. Remote surveillance should also be provided at selected locations.

- Furthermore, informal surveillance could be encouraged at times at Arkles Bay, Matakatia Bay, Okoromai Bay, Te Haruhi Bay, Army Bay, Big Manly Bay, Stanmore Bay, Red Beach, Waiwera Beach, and Wenderholm Beach. Members of the community, Auckland Council Park Rangers, and/or lifeguards from nearby swimming pools could be upskilled as community rangers and/or community responders to educate, inform, and respond to incidents. Other stakeholders could be upskilled as water safety ambassadors, water safety advisors, and/or water safety responders.

**Northeast coast beaches**

- On the northeast coast, dedicated and/or on-call formal supervision is recommended at Anchor Bay, Omaha Beach, Pakiri Beach, and Te Arai. In addition, dedicated and/or on-call formal surveillance should be provided at Goat Island, Forestry, and Te Arai. Roving and remote surveillance should also be provided at a number of beaches.
- Furthermore, informal surveillance should be encouraged at Martins Bay, Algies Bay, Snells Beach, Sandspit, Anchor Bay, Matheson Bay, Goat Island, Pakiri Beach, Forestry, and Te Arai.

**Service guidelines and beach, lake, and waterfall management**

- In addition to the types and levels of supervision and surveillance, this report details the skills, competencies, and equipment that personnel require to provide supervision and surveillance across the respective sites (Section 9). A suggested expansion of the roles and responsibilities that personnel could fulfil, and additional strategies to best manage environmental hazards and interactions of recreational activities, is also discussed (Section 10).

## 11.1 Monitoring and review

Water use at beaches, lakes, and waterfalls should be monitored on an ongoing basis to note any changes in the level of use, user groups, and user behaviours; this is particularly important where no water use data was previously available, i.e. sites that were unpatrolled. The recommended supervision and surveillance services may subsequently need to change; this should be determined using the same methodology outlined in this report.

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# 13 Appendices

## 13.1 Site-specific fatal and non-fatal incident statistics

The following fatal and non-fatal incident statistics have been recorded at beaches, lakes, and waterfalls on the west coast, North Shore, Whangaparaoa, northeast coast, and elsewhere in the Auckland region. Fatal drowning statistics recorded between 1980 and March 2016 are displayed; these have been sourced from Water Safety New Zealand's DrownBase™ database (Water Safety New Zealand, 2017). Non-fatal incident statistics, as well preventative actions, recorded by surf lifeguards between July 2006 to June 2016 are also displayed; these have been sourced from Surf Life Saving New Zealand's Patrol and Memberships (PAM) database (Surf Life Saving New Zealand, 2016).

### 13.1.1 West coast beaches, lakes, and waterfalls

Table 13-1: Fatal and non-fatal incidents at beaches, lakes, and waterfalls on the west coast.

| Site | Fatal drowning | Non-fatal incidents | | | Preventative actions | Number of public in preventatives |
|---|---|---|---|---|---|---|
| | | Rescues | Searches | First aids | | |
| Rimmer Road | - | - | - | - | - | - |
| Muriwai Beach | 25 | 741 | 115 | 626 | 113,558 | 394,549 |
| Maukatia (Maori Bay) | 3 | 28 | 9 | 17 | - | - |
| O'Neill Bay | 4 | 7 | 23 | 12 | - | - |
| Te Henga (Bethells Beach) | 15 | 322 | 52 | 271 | 60,877 | 163,984 |
| Lake Wainamu | 1 | - | - | 1 | - | - |
| Anawhata Beach | 2 | 0 | 2 | 1 | - | - |
| Whites Beach | 2 | 3 | 1 | 2 | - | - |
| North Piha Beach | 9 | 258 | 65 | 249 | 39,350 | 141,624 |
| Piha Beach | 31 | 754 | 127 | 860 | 75,592 | 311,490 |
| Kitekite Falls | - | - | - | 1 | - | - |
| Mercer Bay | 1 | - | - | - | - | - |
| Karekare Beach | 12 | 143 | 25 | 115 | 22,723 | 62,845 |
| Karekare Falls | - | - | - | 1 | - | - |
| Whatipu Beach | 10 | 0 | 2 | 1 | - | - |
| Hamilton's Gap | - | - | - | - | - | - |
| Karioitahi Beach* | 18 | 357 | 55 | 252 | 42,246 | 186,688 |
| Other beaches, lakes, and waterfalls | 1 | 8 | 16 | 11 | - | - |
| **Total** | **134** | **2,621** | **492** | **2,420** | **354,346** | **1,261,180** |

## 13.1.2 North Shore beaches and lakes

Table 13-2: Fatal and non-fatal incidents at beaches and lakes on the North Shore.

| Site | Fatal drowning | Non-fatal incidents | | | Preventative actions | Number of public in preventatives |
|---|---|---|---|---|---|---|
| | | Rescues | Searches | First aids | | |
| Torpedo Bay | - | - | - | - | - | - |
| Cheltenham Beach | - | 1 | - | - | - | - |
| Narrowneck Beach | 3 | - | - | - | - | - |
| St Leonards Beach | - | - | - | - | - | - |
| Takapuna Beach | 5 | 13 | 14 | 71 | 11,642 | 31,108 |
| Lake Pupuke | 15 | - | - | - | - | - |
| Thorne Bay | - | - | - | 2 | - | - |
| Milford Beach | - | 22 | 6 | 65 | 6,817 | 22,605 |
| Castor Bay | 2 | - | - | - | - | - |
| Kennedy Park | - | - | - | - | - | - |
| Campbells Bay | 2 | - | - | - | - | - |
| Mairangi Bay | 1 | 31 | 18 | 284 | 12,891 | 33,053 |
| Murrays Bay | 1 | - | - | - | - | - |
| Rothesay Bay | 1 | - | - | - | - | - |
| Browns Bay | 5 | 28 | 21 | 55 | 6,983 | 23,476 |
| Waiake Bay | 2 | - | - | - | - | - |
| Winstones Cove | - | - | - | - | - | - |
| Toroa Point | - | - | - | - | - | - |
| Long Bay | 2 | 23 | 81 | 87 | 9,939 | 47,650 |
| Grannys Bay | - | - | - | - | - | - |
| Other beaches, lakes, and waterfalls | - | 5 | 3 | 8 | - | - |
| **Total** | **39** | **123** | **143** | **572** | **48,272** | **157,892** |

### 13.1.3 Whangaparaoa beaches

Table 13-3: Fatal and non-fatal incidents at beaches on the Whangaparaoa.

| Site | Fatal drowning | Non-fatal incidents | | | Preventative actions | Number of public in preventatives |
|---|---|---|---|---|---|---|
| | | Rescues | Searches | First aids | | |
| Arkles Bay | - | - | - | - | - | - |
| Little Manly Bay | - | - | - | - | - | - |
| Matakatia Bay | 1 | - | - | - | - | - |
| Okoromai Bay | 1 | - | - | - | - | - |
| Te Haruhi Bay | - | - | - | - | - | - |
| Army Bay | 2 | - | - | - | - | - |
| Waiau Bay | 1 | 1 | 1 | 0 | - | - |
| Big Manly Bay | - | - | - | - | - | - |
| Stanmore Bay | 1 | 2 | 4 | 0 | - | - |
| Red Beach | | 51 | 11 | 257 | 7,511 | 21,579 |
| Orewa Beach | 1 | 218 | 145 | 1209 | 37,293 | 112,198 |
| Hatfields Beach | - | - | - | - | - | - |
| Waiwera Beach | 4 | 2 | 6 | 36 | - | - |
| Wenderholm Beach | 4 | 0 | 2 | 0 | 3,710 | 12,512 |
| Other beaches, lakes, and waterfalls | 7 | 1 | 6 | 1 | - | - |
| **Total** | **22** | **275** | **175** | **1503** | **48,514** | **146,289** |

### 13.1.4 Northeast coast beaches

Table 13-4: Fatal and non-fatal incidents at beaches on the northeast coast.

| Site | Fatal drowning | Non-fatal incidents | | | Preventative actions | Number of public in preventatives |
|---|---|---|---|---|---|---|
| | | Rescues | Searches | First aids | | |
| Martins Bay | 2 | - | - | - | - | - |
| Scandretts Bay | - | - | - | - | - | - |
| Algies Bay | 1 | - | - | - | - | - |
| Snells Beach | - | - | - | - | - | - |
| Sandspit | - | - | - | - | - | - |
| Baddeleys Beach | - | - | - | - | - | - |
| Campbells Bay | - | - | - | - | - | - |
| Jones Bay | - | - | - | - | - | - |
| Anchor Bay | - | - | - | - | - | - |
| Omaha Beach | 2 | 163 | 44 | 456 | 23,811 | 98,067 |
| Matheson Bay | | 8 | 0 | 0 | - | - |
| Goat Island | 5 | 1 | 0 | 0 | - | - |
| Pakiri Beach | 4 | 84 | 7 | 81 | 16,290 | 54,809 |
| Forestry | - | - | - | - | - | - |
| Te Arai | - | - | - | - | - | - |
| Black Swamp | - | - | - | - | - | - |
| Other beaches, lakes, and waterfalls | 6 | 17 | 6 | 3 | - | - |
| **Total** | **20** | **273** | **57** | **540** | **40,101** | **152,876** |

### 13.1.5 Beaches, lakes, and waterfalls elsewhere in the Auckland region

Table 13-5: Fatal and non-fatal incidents at beaches, lakes, and waterfalls elsewhere in the Auckland region.

| Site | Fatal drowning | Non-fatal incidents | | | Preventative actions | Number of public in preventatives |
|---|---|---|---|---|---|---|
| | | Rescues | Searches | First aids | | |
| Kaipara Harbour | 5 | - | - | - | | |
| Manukau Harbour | 57 | 5 | 4 | 1 | - | - |
| Southeast coast | 53 | 34 | 3 | 1 | - | - |
| Waitemata Harbour | 75 | - | - | 3 | - | - |
| Hauraki Gulf and islands | 96 | 2 | 1 | 1 | - | - |
| Other beaches, rivers, lakes, and waterfalls | 61 | 4 | 2 | 7 | - | - |
| **Total** | **347** | **45** | **10** | **13** | **-** | **-** |

## 13.2 Site-specific tables: supervision and surveillance recommendations

This section provides comprehensive details on the supervision and surveillance recommendations for beaches, lakes, and waterfalls in the Auckland region, focusing on sites where formal supervision and/or formal surveillance have been recommended. As outlined in Section 8, different types and levels of supervision and surveillance have been recommended based on analysis of the calculated risk-adjusted water use values (see Section 6.2) and relevant site-specific factors (see Sections 4 and 5).

In general, formal supervision, i.e. a surf lifeguarding service, has been recommended where risk-adjusted water use values are equal to or above the 'Formal Supervision Threshold' of 25 (Figure 13-1). Formal surveillance, i.e. an aquatic ranger service, has typically been recommended where risk-adjusted water use values are equal to or above the 'Formal Surveillance Threshold' of 15, but below 25 (Figure 13-1). Formal surveillance has also been recommended at some sites where the risk-adjusted water use values are equal to or above 25, but where formal supervision is not considered appropriate (due to site-specific factors).

Structured informal surveillance has typically been recommended where the risk-adjusted water use values are equal to or above the 'Informal Surveillance Threshold: Structured' of 7.5, but below 15. However, structured informal surveillance recommendations are only outlined in the tables below if formal supervision and/or surveillance has also been recommended for the site. Full details on the informal surveillance recommendations are provided in Section 8.

| Type of supervision or surveillance | Risk-adjusted water use value |
|---|---|
| **'Formal Supervision Threshold' ≥25**<br>'Formal Supervision', i.e. surf lifeguarding service<br>▪ Dedicated, flexible, on-call | ≥400<br>375 - (400)<br>350 - (375)<br>325 - (350)<br>300 - (325) |
| **'Formal Surveillance Threshold' ≥15**<br>'Formal Surveillance', i.e. aquatic ranger service<br>▪ Dedicated, flexible, on-call<br>▪ Remote surveillance, i.e. CCTV and UAV<br>▪ Roving surveillance, i.e. RWC | 275 - (300)<br>250 - (275)<br>225 - (250)<br>200 - (225)<br>175 - (200)<br>150 - (175) |
| **'Informal Surveillance Threshold: Structured' ≥7.5**<br>'Informal Surveillance', i.e. community ranger service (community responders and community rangers)<br>▪ Dedicated, flexible, on-call | 125 - (150)<br>100 - (125)<br>75 - (100)<br>50 - (75)<br>25 - (50) |
| **Informal Surveillance: Unstructured >0**<br>'Informal Surveillance', i.e. incidental surveillance<br>▪ Water safety responders, i.e. surfers and craft users<br>▪ Water safety advisors, i.e. members of angling clubs<br>▪ Water safety ambassadors, i.e. accommodation providers | 22.5 - (25)<br>20 - (22.5)<br>17.5 - (20)<br>15 - (17.5)<br>12.5 - (15)<br>10 - (12.5)<br>7.5 - (10)<br>0 - (7.5) |

Figure 13-1: Supervision and surveillance model.

### 13.2.1 Structure of the site-specific supervision and surveillance tables

Site-specific tables have been provided for each site where formal supervision and/or surveillance has been recommended, with separate tables for weekday and weekend services (Table 13-7 to Table 13-82). The time of year is outlined in the first column of each table; the month and week number are provided. The number of personnel required across the hours of the day (9:00 am to 8:00 pm) is then specified.

The total number of days that the service is required is then listed; this is typically five days for weekdays, and two days for weekends. The total number of service hours for that period is then calculated. Service totals are provided at the bottom of each table. Of note, where on-call supervision or surveillance has been recommended, the total number of hours has been calculated based on these services being delivered on 50% of on-call days.

The colours in the tables signify the type of supervision or surveillance that has been recommended, as displayed in Figure 13-1. The intensity of the colour shading in Table 13-7 to Table 13-82 correlates with the number of personnel recommended; darker colours represent more personnel. For sites where structured informal surveillance (community ranger service) has been recommended, the time of greatest need has been shaded yellow, but total hours are not calculated. Finally, the abbreviations outlined in Table 13-6 are used in the site-specific supervision and surveillance tables.

Table 13-6: Abbreviations.

| Abbreviation | Description |
|---|---|
| 1 | Labour Day falls within this period |
| 2 | Christmas Day, Boxing Day, New Year's Day, and Day after New Year's Day fall within this period |
| 3 | Auckland Anniversary Day falls within this period |
| 4 | Waitangi Day falls within this period |
| 5 | Good Friday and Easter Monday fall within this period |
| 6 | ANZAC Day falls within this period |
| SH | Schools holidays fall within this period |
| * | Data is not currently available for these times; as such, recommendations are made based on the extrapolation of trends from existing data. Supervision or surveillance services should be trialled, and the data reviewed within the context of the weather and surf conditions. |

### 13.2.2 Recommended supervision and surveillance requirements for West coast beaches

Table 13-7: Rimmer Road: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 5: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 1: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 2: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 4: Monday - Friday[3, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 1: Monday - Friday[4, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **35** | **> 0** |

Table 13-8: Rimmer Road: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 3: Saturday - Sunday[SH] | | | | | | | | | | | | 2 | > 0 |
| December week 4: Saturday - Sunday[2, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| December week 5: Saturday - Sunday[2, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 1: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 2: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 3: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 4: Saturday - Sunday[3, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 1: Saturday - Sunday[4, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 2: Saturday - Sunday[4] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 3: Saturday - Sunday | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 4: Saturday - Sunday | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **20** | **240** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **10** | **> 0** |

Table 13-9: Muriwai Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 4 | 56 |
| November week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| November week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| November week 3: Monday - Friday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| November week 4: Monday - Friday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| December week 1: Monday - Friday | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| December week 2: Monday - Friday | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| December week 3: Monday - Friday[SH] | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| December week 4: Monday - Friday[SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| December week 5: Monday - Friday[2, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 1: Monday - Friday[2, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 2: Monday - Friday[SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 3: Monday - Friday[SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 4: Monday - Friday[3, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| February week 1: Monday - Friday[4, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| February week 2: Monday - Friday[4] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| February week 3: Monday - Friday | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| February week 4: Monday - Friday | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| March week 1: Monday - Friday | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| March week 2: Monday - Friday | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| March week 3: Monday - Friday | | 3 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 3* | | 5 | 205 |
| March week 4: Monday - Friday[5] | | 3* | 5* | 5* | 5* | 5* | 5* | 5* | 5* | 3* | | 5 | 205 |
| April week 1: Monday - Friday[5, SH] | | 3* | 5* | 5* | 5* | 5* | 5* | 5* | 5* | | | 5 | 190 |
| April week 2: Monday - Friday[5, SH] | | 3* | 5* | 5* | 5* | 5* | 5* | 5* | 5* | | | 5 | 190 |
| April week 3: Monday - Friday[5, SH] | | 3* | 5* | 5* | 5* | 5* | 5* | 5* | 5* | | | 5 | 190 |
| April week 4: Monday - Friday[5, 6, SH] | | 3* | 5* | 5* | 5* | 5* | 5* | 5* | 5* | | | 5 | 190 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **115** | **5,635** |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **14** | **196** |

Table 13-10: Muriwai Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 3 | 138 |
| October week 4: Saturday - Sunday | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| November week 1: Saturday - Sunday | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| November week 2: Saturday - Sunday | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| November week 3: Saturday - Sunday | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| November week 4: Saturday - Sunday | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| December week 1: Saturday - Sunday | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | 3* | | 2 | 98 |
| December week 2: Saturday - Sunday | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | 3* | | 2 | 98 |
| December week 3: Saturday - Sunday[SH] | 5* | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | 5* | 2 | 165 |
| December week 4: Saturday - Sunday[2, SH] | 5* | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | 5* | 2 | 165 |
| December week 5: Saturday - Sunday[2, SH] | 5* | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | 5* | 2 | 165 |
| January week 1: Saturday - Sunday[SH] | 5* | 8 | 8 | 11 | 11 | 11 | 11 | 11 | 11* | 9* | 5* | 2 | 197 |
| January week 2: Saturday - Sunday[SH] | 5* | 8 | 8 | 11 | 11 | 11 | 11 | 11 | 11* | 9* | 5* | 2 | 197 |
| January week 3: Saturday - Sunday[SH] | 5* | 8 | 8 | 11 | 11 | 11 | 11 | 11 | 11* | 9* | 5* | 2 | 197 |
| January week 4: Saturday - Sunday[3, SH] | 5* | 8 | 8 | 11 | 11 | 11 | 11 | 11 | 11* | 9* | 5* | 2 | 197 |
| February week 1: Saturday - Sunday[4, SH] | 5* | 8 | 8 | 11 | 11 | 11 | 11 | 11 | 11* | 9* | 5* | 2 | 197 |
| February week 2: Saturday - Sunday[4] | 5* | 8 | 8 | 11 | 11 | 11 | 11 | 11 | 11* | 9* | 5* | 2 | 197 |
| February week 3: Saturday - Sunday | | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | | 2 | 150 |
| February week 4: Saturday - Sunday | | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | | 2 | 150 |
| March week 1: Saturday - Sunday | | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | | 2 | 150 |
| March week 2: Saturday - Sunday | | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | | 2 | 150 |
| March week 3: Saturday - Sunday | | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | | 2 | 150 |
| March week 4: Saturday - Sunday[5] | | 7 | 7 | 9 | 9 | 9 | 9 | 9 | 9* | 7* | | 2 | 150 |
| April week 1: Saturday - Sunday[5, SH] | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| April week 2: Saturday - Sunday[5, SH] | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| April week 3: Saturday - Sunday[5, SH] | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| April week 4: Saturday - Sunday[5, 6, SH] | | 3 | 5 | 5 | 7 | 7 | 7 | 7 | 5* | | | 2 | 92 |
| **Total** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **3,739** |

Table 13-11: Maukatia (Maori Bay): recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| December week 2: Monday - Friday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| December week 3: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| December week 4: Monday - Friday[SH] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| December week 5: Monday - Friday[2, SH] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| January week 1: Monday - Friday[2, SH] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| January week 2: Monday - Friday[SH] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| January week 3: Monday - Friday[SH] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| January week 4: Monday - Friday[3, SH] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| February week 1: Monday - Friday[4, SH] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| February week 2: Monday - Friday[4] | | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 1* | | 5 | 65 |
| February week 3: Monday - Friday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| February week 4: Monday - Friday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| March week 1: Monday - Friday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| March week 2: Monday - Friday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| March week 3: Monday - Friday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| March week 4: Monday - Friday[5] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **85** | **880** |

Table 13-12: Maukatia (Maori Bay): recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | 1* | 1* | 1* | 1* | 1* | | | | 3 | 15 |
| October week 4: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | | | | 2 | 10 |
| November week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | | | | 2 | 10 |
| November week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | | | | 2 | 10 |
| November week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | | | | 2 | 10 |
| November week 4: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | | | | 2 | 10 |
| December week 1: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| December week 2: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| December week 3: Saturday - Sunday[SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 1* | 2 | 32 |
| December week 4: Saturday - Sunday[2, SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 1* | 2 | 32 |
| December week 5: Saturday - Sunday[2, SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 1* | 2 | 32 |
| January week 1: Saturday - Sunday[SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 2 | 34 |
| January week 2: Saturday - Sunday[SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 2 | 34 |
| January week 3: Saturday - Sunday[SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 2 | 34 |
| January week 4: Saturday - Sunday[3, SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 2 | 34 |
| February week 1: Saturday - Sunday[4, SH] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 2 | 34 |
| February week 2: Saturday - Sunday[4] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | 2 | 34 |
| February week 3: Saturday - Sunday | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | | 2 | 30 |
| February week 4: Saturday - Sunday | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | | 2 | 30 |
| March week 1: Saturday - Sunday | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | | 2 | 30 |
| March week 2: Saturday - Sunday | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | | 2 | 30 |
| March week 3: Saturday - Sunday | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | | 2 | 30 |
| March week 4: Saturday - Sunday[5] | | 1* | 1* | 2* | 2* | 2* | 2* | 2* | 2* | 1* | | 2 | 30 |
| April week 1: Saturday - Sunday[5, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| April week 2: Saturday - Sunday[5, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| April week 3: Saturday - Sunday[5, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **55** | **629** |

Table 13-13: Muriwai Beach and Maukatia (Maori Bay): recommended off-peak supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 5: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 5: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 5: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| October week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| October week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| October week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **130** | **1,590** |

Table 13-14: Muriwai Beach and Maukatia (Maori Bay): recommended off-peak supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 5: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 5: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 5: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| October week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| October week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **50** | **612** |

Table 13-15: O'Neill Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 35 |
| December week 4: Monday - Friday[SH] | | 1* | 1* | 3* | 3* | 3* | 3* | 3* | 1* | 1* | | 5 | 95 |
| December week 5: Monday - Friday[2, SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 5 | 115 |
| January week 1: Monday - Friday[2, SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 5 | 115 |
| January week 2: Monday - Friday[SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 5 | 115 |
| January week 3: Monday - Friday[SH] | | 1* | 1* | 3* | 3* | 3* | 3* | 3* | 1* | 1* | | 5 | 95 |
| January week 4: Monday - Friday[3, SH] | | 1* | 1* | 3* | 3* | 3* | 3* | 3* | 1* | 1* | | 5 | 95 |
| February week 1: Monday - Friday[4, SH] | | 1* | 1* | 3* | 3* | 3* | 3* | 3* | 1* | 1* | | 5 | 95 |
| February week 2: Monday - Friday[4] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 35 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **35** | **615** |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **45** | **180** |

Table 13-16: O'Neill Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 1: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| December week 2: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| December week 3: Saturday - Sunday[SH] | | | 1* | 3* | 3* | 3* | 3* | 3* | 1* | | | 2 | 34 |
| December week 4: Saturday - Sunday[2, SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| December week 5: Saturday - Sunday[2, SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| January week 1: Saturday - Sunday[SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| January week 2: Saturday - Sunday[SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| January week 3: Saturday - Sunday[SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| January week 4: Saturday - Sunday[3, SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| February week 1: Saturday - Sunday[4, SH] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| February week 2: Saturday - Sunday[4] | | 1* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 1* | | 2 | 46 |
| February week 3: Saturday - Sunday | | | 1* | 3* | 3* | 3* | 3* | 3* | 1* | | | 2 | 34 |
| February week 4: Saturday - Sunday | | | 1* | 3* | 3* | 3* | 3* | 3* | 1* | | | 2 | 34 |
| March week 1: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| March week 2: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| March week 3: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| March week 4: Saturday - Sunday[5] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 14 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 2 | > 0 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **22** | **426** |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **34** | **128** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-17: Te Henga (Bethells Beach) and Lake Wainamu: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| December week 2: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| December week 3: Monday - Friday[SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| December week 4: Monday - Friday[SH] | 3* | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 5 | 197.5 |
| December week 5: Monday - Friday[2, SH] | 3* | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5* | 3* | 5 | 232.5 |
| January week 1: Monday - Friday[2, SH] | 3* | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5* | 3* | 5 | 232.5 |
| January week 2: Monday - Friday[SH] | 3* | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5* | 3* | 5 | 232.5 |
| January week 3: Monday - Friday[SH] | 3* | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 5 | 197.5 |
| January week 4: Monday - Friday[3, SH] | 3* | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 5 | 197.5 |
| February week 1: Monday - Friday[4, SH] | 3* | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 5 | 197.5 |
| February week 2: Monday - Friday[4] | 3* | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 5 | 197.5 |
| February week 3: Monday - Friday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| February week 4: Monday - Friday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| March week 1: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 2: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 3: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 4: Monday - Friday[5] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| April week 1: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 2: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 3: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 4: Monday - Friday[5, 6, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **2,090** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **25 (on-call)** | **495 (on-call)** |

Table 13-18: Te Henga (Bethells Beach) and Lake Wainamu: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 3 | 67.5 |
| October week 4: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| November week 1: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| November week 2: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| November week 3: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| November week 4: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| December week 1: Saturday - Sunday | | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5* | 4* | | 2 | 82 |
| December week 2: Saturday - Sunday | | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5* | 4* | | 2 | 82 |
| December week 3: Saturday - Sunday[SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| December week 4: Saturday - Sunday[2, SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| December week 5: Saturday - Sunday[2, SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| January week 1: Saturday - Sunday[SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| January week 2: Saturday - Sunday[SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| January week 3: Saturday - Sunday[SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| January week 4: Saturday - Sunday[3, SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| February week 1: Saturday - Sunday[4, SH] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| February week 2: Saturday - Sunday[4] | 4* | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 126 |
| February week 3: Saturday - Sunday | | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | | 2 | 114 |
| February week 4: Saturday - Sunday | | 4 | 5 | 7 | 7 | 7 | 7 | 7 | 7* | 6* | | 2 | 114 |
| March week 1: Saturday - Sunday | | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5* | 4* | | 2 | 82 |
| March week 2: Saturday - Sunday | | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5* | 4* | | 2 | 82 |
| March week 3: Saturday - Sunday | | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5* | 4* | | 2 | 82 |
| March week 4: Saturday - Sunday[5] | | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 5* | 4* | | 2 | 82 |
| April week 1: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| April week 2: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| April week 3: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| April week 4: Saturday - Sunday[5, 6, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 45 |
| **Total** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **2,326.5** |

Table 13-19: Anawhata Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 5: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 1: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 2: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 4: Monday - Friday[3, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 1: Monday - Friday[4, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **35** | **> 0** |

Table 13-20: Anawhata Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 3: Saturday - Sunday[SH] | | | | | | | | | | | | 2 | > 0 |
| December week 4: Saturday - Sunday[2, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| December week 5: Saturday - Sunday[2, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 1: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 2: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 3: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 4: Saturday - Sunday[3, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 1: Saturday - Sunday[4, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 2: Saturday - Sunday[4] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 3: Saturday - Sunday | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 4: Saturday - Sunday | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **20** | **240** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **10** | **> 0** |

Table 13-21: Whites Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 5: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 1: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 2: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 4: Monday - Friday[3, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 1: Monday - Friday[4, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **35** | **> 0** |

Table 13-22: Whites Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 3: Saturday - Sunday[SH] | | | | | | | | | | | | 2 | > 0 |
| December week 4: Saturday - Sunday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| December week 5: Saturday - Sunday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| January week 1: Saturday - Sunday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| January week 2: Saturday - Sunday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| January week 3: Saturday - Sunday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| January week 4: Saturday - Sunday[3, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| February week 1: Saturday - Sunday[4, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| February week 2: Saturday - Sunday[4] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| February week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| February week 4: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **20** | **120** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **10** | **> 0** |

Table 13-23: Wigmore Bay to Whites Beach: recommended roving surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 5: Monday - Friday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 30 |
| January week 1: Monday - Friday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 30 |
| January week 2: Monday - Friday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 30 |
| January week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| January week 4: Monday - Friday[3, SH] | | | | | | | | | | | | 0 | 0 |
| February week 1: Monday - Friday[4, SH] | | | | | | | | | | | | 0 | 0 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **15** | **90** |

Table 13-24: North Piha Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| December week 2: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| December week 3: Monday - Friday[SH] | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 180 |
| December week 4: Monday - Friday[SH] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| December week 5: Monday - Friday[2, SH] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| January week 1: Monday - Friday[2, SH] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| January week 2: Monday - Friday[SH] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| January week 3: Monday - Friday[SH] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| January week 4: Monday - Friday[3, SH] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| February week 1: Monday - Friday[4, SH] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| February week 2: Monday - Friday[4] | 4* | 4 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 5* | 4* | 5 | 300 |
| February week 3: Monday - Friday | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 180 |
| February week 4: Monday - Friday | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 180 |
| March week 1: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 2: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 3: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 4: Monday - Friday[5] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| April week 1: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 2: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 3: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 4: Monday - Friday[5, 6, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **2,940** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **25 (on-call)** | **495 (on-call)** |

Table 13-25: North Piha Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 3 | 108 |
| October week 4: Saturday - Sunday | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| November week 1: Saturday - Sunday | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| November week 2: Saturday - Sunday | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| November week 3: Saturday - Sunday | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| November week 4: Saturday - Sunday | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| December week 1: Saturday - Sunday | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | 4* | | 2 | 80 |
| December week 2: Saturday - Sunday | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | 4* | | 2 | 80 |
| December week 3: Saturday - Sunday[SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| December week 4: Saturday - Sunday[2, SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| December week 5: Saturday - Sunday[2, SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| January week 1: Saturday - Sunday[SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| January week 2: Saturday - Sunday[SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| January week 3: Saturday - Sunday[SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| January week 4: Saturday - Sunday[3, SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| February week 1: Saturday - Sunday[4, SH] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| February week 2: Saturday - Sunday[4] | 4* | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | 4* | 2 | 136 |
| February week 3: Saturday - Sunday | | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | | 2 | 124 |
| February week 4: Saturday - Sunday | | 4 | 6 | 6 | 8 | 8 | 8 | 8 | 8* | 6* | | 2 | 124 |
| March week 1: Saturday - Sunday | | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6* | 4* | | 2 | 92 |
| March week 2: Saturday - Sunday | | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6* | 4* | | 2 | 92 |
| March week 3: Saturday - Sunday | | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6* | 4* | | 2 | 92 |
| March week 4: Saturday - Sunday[5] | | 4 | 4 | 4 | 6 | 6 | 6 | 6 | 6* | 4* | | 2 | 92 |
| April week 1: Saturday - Sunday[5, SH] | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| April week 2: Saturday - Sunday[5, SH] | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| April week 3: Saturday - Sunday[5, SH] | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| April week 4: Saturday - Sunday[5, 6, SH] | | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4* | | | 2 | 72 |
| **Total** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **2,756** |

Table 13-26: Piha Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 4 | 56 |
| November week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| November week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| November week 3: Monday - Friday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| November week 4: Monday - Friday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| December week 1: Monday - Friday | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 170 |
| December week 2: Monday - Friday | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 170 |
| December week 3: Monday - Friday[SH] | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 170 |
| December week 4: Monday - Friday[SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| December week 5: Monday - Friday[2, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 1: Monday - Friday[2, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 2: Monday - Friday[SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 3: Monday - Friday[SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| January week 4: Monday - Friday[3, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| February week 1: Monday - Friday[4, SH] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| February week 2: Monday - Friday[4] | 3* | 3 | 6 | 6 | 9 | 9 | 9 | 9 | 9 | 6* | 3* | 5 | 352.5 |
| February week 3: Monday - Friday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 4* | | 5 | 225 |
| February week 4: Monday - Friday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 4* | | 5 | 225 |
| March week 1: Monday - Friday | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 170 |
| March week 2: Monday - Friday | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 170 |
| March week 3: Monday - Friday | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 170 |
| March week 4: Monday - Friday[5] | | 3* | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 4* | | 5 | 170 |
| April week 1: Monday - Friday[5, SH] | | 3* | 3* | 4* | 4* | 4* | 4* | 4* | 4* | | | 5 | 150 |
| April week 2: Monday - Friday[5, SH] | | 3* | 3* | 4* | 4* | 4* | 4* | 4* | 4* | | | 5 | 150 |
| April week 3: Monday - Friday[5, SH] | | 3* | 3* | 4* | 4* | 4* | 4* | 4* | 4* | | | 5 | 150 |
| April week 4: Monday - Friday[5, 6, SH] | | 3* | 3* | 4* | 4* | 4* | 4* | 4* | 4* | | | 5 | 150 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **115** | **5,270** |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **14** | **196** |

Table 13-27: Piha Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | | | 3 | 117 |
| October week 4: Saturday - Sunday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | | | 2 | 78 |
| November week 1: Saturday - Sunday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | | | 2 | 78 |
| November week 2: Saturday - Sunday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | | | 2 | 78 |
| November week 3: Saturday - Sunday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | | | 2 | 78 |
| November week 4: Saturday - Sunday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | | | 2 | 78 |
| December week 1: Saturday - Sunday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | 4* | | 2 | 86 |
| December week 2: Saturday - Sunday | | 3 | 4 | 4 | 6 | 6 | 6 | 6 | 4* | 4* | | 2 | 86 |
| December week 3: Saturday - Sunday[SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| December week 4: Saturday - Sunday[2, SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| December week 5: Saturday - Sunday[2, SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| January week 1: Saturday - Sunday[SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| January week 2: Saturday - Sunday[SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| January week 3: Saturday - Sunday[SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| January week 4: Saturday - Sunday[3, SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| February week 1: Saturday - Sunday[4, SH] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| February week 2: Saturday - Sunday[4] | 3* | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | 4* | 2 | 161 |
| February week 3: Saturday - Sunday | | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | | 2 | 150 |
| February week 4: Saturday - Sunday | | 4 | 7 | 7 | 10 | 10 | 10 | 10 | 10* | 7* | | 2 | 150 |
| March week 1: Saturday - Sunday | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | | 2 | 114 |
| March week 2: Saturday - Sunday | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | | 2 | 114 |
| March week 3: Saturday - Sunday | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | | 2 | 114 |
| March week 4: Saturday - Sunday[5] | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | | 2 | 114 |
| April week 1: Saturday - Sunday[5, SH] | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | | | 2 | 102 |
| April week 2: Saturday - Sunday[5, SH] | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | | | 2 | 102 |
| April week 3: Saturday - Sunday[5, SH] | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | | | 2 | 102 |
| April week 4: Saturday - Sunday[5, 6, SH] | | 4 | 6 | 6 | 7 | 7 | 7 | 7 | 7* | | | 2 | 102 |
| **Total** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **3,292** |

Table 13-28: Piha Beach and North Piha Beach: recommended off-peak supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| May week 5: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| June week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| July week 5: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| August week 5: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| September week 4: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 5 | 60 |
| October week 1: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| October week 2: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| October week 3: Monday - Friday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 5 | 70 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **130** | **1,590** |

Table 13-29: Piha Beach and North Piha Beach: recommended off-peak supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 5: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| July week 5: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| August week 5: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| September week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| October week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| October week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **50** | **612** |

Table 13-30: Karekare Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 70 (on-call) |
| December week 2: Monday - Friday | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 70 (on-call) |
| December week 3: Monday - Friday[SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | | 5 | 160 |
| December week 4: Monday - Friday[SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| December week 5: Monday - Friday[2, SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| January week 1: Monday - Friday[2, SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| January week 2: Monday - Friday[SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| January week 3: Monday - Friday[SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| January week 4: Monday - Friday[3, SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| February week 1: Monday - Friday[4, SH] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| February week 2: Monday - Friday[4] | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | 3* | 5 | 167.5 |
| February week 3: Monday - Friday | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | | 5 | 160 |
| February week 4: Monday - Friday | | 3 | 3 | 3 4 | 4 | 4 | 4 | 4 | 4 3 | 3* | | 5 | 160 |
| March week 1: Monday - Friday | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 70 (on-call) |
| March week 2: Monday - Friday | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 70 (on-call) |
| March week 3: Monday - Friday | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 70 (on-call) |
| March week 4: Monday - Friday[5] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 70 (on-call) |
| April week 1: Monday - Friday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| April week 2: Monday - Friday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| April week 3: Monday - Friday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| April week 4: Monday - Friday[5, 6, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **1,820** |
| | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **25 (on-call)** | **330 (on-call)** |

Table 13-31: Karekare Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 3 | 63 |
| October week 4: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 1: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 2: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 3: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 4: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| December week 1: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| December week 2: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| December week 3: Saturday - Sunday[SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| December week 4: Saturday - Sunday[2, SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| December week 5: Saturday - Sunday[2, SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| January week 1: Saturday - Sunday[SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| January week 2: Saturday - Sunday[SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| January week 3: Saturday - Sunday[SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| January week 4: Saturday - Sunday[3, SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| February week 1: Saturday - Sunday[4, SH] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| February week 2: Saturday - Sunday[4] | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | 4* | 2 | 104 |
| February week 3: Saturday - Sunday | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | | 2 | 100 |
| February week 4: Saturday - Sunday | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | | 2 | 100 |
| March week 1: Saturday - Sunday | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | | 2 | 100 |
| March week 2: Saturday - Sunday | | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 6* | 5* | | 2 | 100 |
| March week 3: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| March week 4: Saturday - Sunday[5] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| April week 1: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| April week 2: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| April week 3: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| April week 4: Saturday - Sunday[5, 6, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| **Total** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **2,049** |

Table 13-32: Whatipu Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| December week 4: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| December week 5: Monday - Friday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| January week 1: Monday - Friday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| January week 2: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| January week 3: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| January week 4: Monday - Friday[3, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| February week 1: Monday - Friday[4, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| February week 2: Monday - Friday[4] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 5 | 105 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **45** | **945** |

Table 13-33: Whatipu Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| December week 4: Saturday - Sunday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| December week 5: Saturday - Sunday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| January week 1: Saturday - Sunday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| January week 2: Saturday - Sunday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| January week 3: Saturday - Sunday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| January week 4: Saturday - Sunday[3, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| February week 1: Saturday - Sunday[4, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| February week 2: Saturday - Sunday[4] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| February week 3: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| February week 4: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| March week 1: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| March week 2: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| March week 3: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| March week 4: Saturday - Sunday[5] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 2 | > 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **30** | **630** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **20** | **> 0** |

Table 13-34: Karioitahi Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| December week 2: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| December week 3: Monday - Friday[SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| December week 4: Monday - Friday[SH] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| December week 5: Monday - Friday[2, SH] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| January week 1: Monday - Friday[2, SH] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| January week 2: Monday - Friday[SH] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| January week 3: Monday - Friday[SH] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| January week 4: Monday - Friday[3, SH] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| February week 1: Monday - Friday[4, SH] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| February week 2: Monday - Friday[4] | 3* | 3 | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 4* | 3* | 5 | 247.5 |
| February week 3: Monday - Friday | | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3* | | 5 | 155 |
| February week 4: Monday - Friday | | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3* | | 5 | 155 |
| March week 1: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 2: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 3: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| March week 4: Monday - Friday[5] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 105 (on-call) |
| April week 1: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 2: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 3: Monday - Friday[5, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| April week 4: Monday - Friday[5, 6, SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| **Total** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **2,425** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **25 (on-call)** | **495 (on-call)** |

Table 13-35: Karioitahi Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 3 | 63 |
| October week 4: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 1: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 2: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 3: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| November week 4: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| December week 1: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| December week 2: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| December week 3: Saturday - Sunday[SH] | 3* | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 3* | 2 | 77 |
| December week 4: Saturday - Sunday[2, SH] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| December week 5: Saturday - Sunday[2, SH] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| January week 1: Saturday - Sunday[SH] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| January week 2: Saturday - Sunday[SH] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| January week 3: Saturday - Sunday[SH] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| January week 4: Saturday - Sunday[3, SH] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| February week 1: Saturday - Sunday[4, SH] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| February week 2: Saturday - Sunday[4] | 3* | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | 3* | 2 | 113 |
| February week 3: Saturday - Sunday | | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | | 2 | 104 |
| February week 4: Saturday - Sunday | | 3 | 5 | 5 | 6 | 7 | 7 | 7 | 7* | 5* | | 2 | 104 |
| March week 1: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| March week 2: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| March week 3: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| March week 4: Saturday - Sunday[5] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| April week 1: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| April week 2: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| April week 3: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| April week 4: Saturday - Sunday[5, 6, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 42 |
| **Total** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **55** | **2,038** |

### 13.2.3 Recommended supervision and surveillance requirements for North Shore beaches

Table 13-36: Takapuna Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | 2* | 2* | 2* | 2* | | 5 | 40 |
| December week 4: Monday - Friday[SH] | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2* | 1* | 5 | 75 |
| December week 5: Monday - Friday[2, SH] | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2* | 1* | 5 | 75 |
| January week 1: Monday - Friday[2, SH] | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2* | 1* | 5 | 75 |
| January week 2: Monday - Friday[SH] | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2* | 1* | 5 | 75 |
| January week 3: Monday - Friday[SH] | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2* | 1* | 5 | 75 |
| January week 4: Monday - Friday[3, SH] | | | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2* | 1* | 5 | 75 |
| February week 1: Monday - Friday[4, SH] | | | | | | | 2* | 2* | 2* | 2* | 1* | 5 | 45 |
| February week 2: Monday - Friday[4] | | | | | | | 2* | 2* | 2* | 2* | 1* | 5 | 45 |
| February week 3: Monday - Friday | | | | | | | 2* | 2* | 2* | 2* | | 5 | 40 |
| February week 4: Monday - Friday | | | | | | | 2* | 2* | 2* | 2* | | 5 | 40 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **55** | **660** |

Table 13-37: Takapuna Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | 1* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 26 |
| December week 2: Saturday - Sunday | | | | 1* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 26 |
| December week 3: Saturday - Sunday[SH] | | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2* | 2* | | 2 | 30 |
| December week 4: Saturday - Sunday[2, SH] | | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 2 | 50 |
| December week 5: Saturday - Sunday[2, SH] | | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 2 | 50 |
| January week 1: Saturday - Sunday[SH] | | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 2 | 50 |
| January week 2: Saturday - Sunday[SH] | | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 2 | 50 |
| January week 3: Saturday - Sunday[SH] | | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 2 | 50 |
| January week 4: Saturday - Sunday[3, SH] | | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 2 | 50 |
| February week 1: Saturday - Sunday[4, SH] | | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 2 | 50 |
| February week 2: Saturday - Sunday[4] | | 1* | 2* | 2* | 3* | 3* | 3* | 3* | 3* | 3* | 2* | 2 | 50 |
| February week 3: Saturday - Sunday | | 1* | 2* | 2* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 46 |
| February week 4: Saturday - Sunday | | 1* | 2* | 2* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 46 |
| March week 1: Saturday - Sunday | | | | 1* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 26 |
| March week 2: Saturday - Sunday | | | | 1* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 26 |
| March week 3: Saturday - Sunday | | | | 1* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 26 |
| March week 4: Saturday - Sunday[5] | | | | 1* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 26 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **34** | **678** |

Table 13-38: Milford Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| December week 5: Monday - Friday[2, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 1: Monday - Friday[2, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 2: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 3: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 4: Monday - Friday[3, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| February week 1: Monday - Friday[4, SH] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 2: Monday - Friday[4] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 3: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 4: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **50** | **260** |

Table 13-39: Milford Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | | 2 | 14 |
| December week 4: Saturday - Sunday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| December week 5: Saturday - Sunday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 1: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 2: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 3: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 4: Saturday - Sunday[3, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| February week 1: Saturday - Sunday[4, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| February week 2: Saturday - Sunday[4] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 16 |
| February week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| February week 4: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **170** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-40: Mairangi Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| December week 5: Monday - Friday[2, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 1: Monday - Friday[2, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 2: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 3: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 4: Monday - Friday[3, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| February week 1: Monday - Friday[4, SH] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 2: Monday - Friday[4] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 3: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 4: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **50** | **260** |

Table 13-41: Mairangi Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 14 |
| December week 4: Saturday - Sunday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| December week 5: Saturday - Sunday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| January week 1: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| January week 2: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| January week 3: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| January week 4: Saturday - Sunday[3, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| February week 1: Saturday - Sunday[4, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| February week 2: Saturday - Sunday[4] | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 1* | 2 | 16 |
| February week 3: Saturday - Sunday | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 14 |
| February week 4: Saturday - Sunday | | | | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 14 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **170** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-42: Murrays Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 5: Monday - Friday[2, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 30 |
| January week 1: Monday - Friday[2, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 30 |
| January week 2: Monday - Friday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 30 |
| January week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 4: Monday - Friday[3, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 1: Monday - Friday[4, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 5 | > 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **15** | **90** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **35** | **> 0** |

Table 13-43: Murrays Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 3: Saturday - Sunday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| December week 4: Saturday - Sunday[2, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| December week 5: Saturday - Sunday[2, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 1: Saturday - Sunday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 2: Saturday - Sunday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 3: Saturday - Sunday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 4: Saturday - Sunday[3, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| February week 1: Saturday - Sunday[4, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| February week 2: Saturday - Sunday[4] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| February week 3: Saturday - Sunday | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| February week 4: Saturday - Sunday | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **132** |

Table 13-44: Browns Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| December week 5: Monday - Friday[2, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 1: Monday - Friday[2, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 2: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 3: Monday - Friday[SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| January week 4: Monday - Friday[3, SH] | | | | | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 30 |
| February week 1: Monday - Friday[4, SH] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 2: Monday - Friday[4] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 3: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 4: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **50** | **260** |

Table 13-45: Browns Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | | 2 | 14 |
| December week 4: Saturday - Sunday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| December week 5: Saturday - Sunday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 1: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 2: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 3: Saturday - Sunday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| January week 4: Saturday - Sunday[3, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| February week 1: Saturday - Sunday[4, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | 2 | 16 |
| February week 2: Saturday - Sunday[4] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 16 |
| February week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| February week 4: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **170** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-46: Waiake Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 5: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 1: Monday - Friday[2, SH] | | | | | | | | | | | | 5 | > 0 |
| January week 2: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 4: Monday - Friday[3, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 1: Monday - Friday[4, SH] | | | | | | | | | | | | 1 | > 0 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **31** | **> 0** |

Table 13-47: Waiake Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 3: Saturday - Sunday[SH] | | | | | | | | | | | | 2 | > 0 |
| December week 4: Saturday - Sunday[2, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| December week 5: Saturday - Sunday[2, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 1: Saturday - Sunday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 2: Saturday - Sunday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 3: Saturday - Sunday[SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| January week 4: Saturday - Sunday[3, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| February week 1: Saturday - Sunday[4, SH] | | | | | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 12 |
| February week 2: Saturday - Sunday[4] | | | | | | | | | | | | 2 | > 0 |
| February week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| February week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **14** | **84** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **8** | **> 0** |

Table 13-48: Long Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | 2* | 2* | 2* | 2* | | 5 | > 40 |
| December week 4: Monday - Friday[SH] | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 5 | 135 |
| December week 5: Monday - Friday[2, SH] | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 5 | 135 |
| January week 1: Monday - Friday[2, SH] | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 5 | 135 |
| January week 2: Monday - Friday[SH] | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 5 | 135 |
| January week 3: Monday - Friday[SH] | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 5 | 135 |
| January week 4: Monday - Friday[3, SH] | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | 2* | 5 | 135 |
| February week 1: Monday - Friday[4, SH] | | | | | | | 2* | 2* | 2* | 2* | 2* | 5 | > 50 |
| February week 2: Monday - Friday[4] | | | | | | | 2* | 2* | 2* | 2* | 2* | 5 | > 50 |
| February week 3: Monday - Friday | | | | | | | 2* | 2* | 2* | 2* | | 5 | > 40 |
| February week 4: Monday - Friday | | | | | | | 2* | 2* | 2* | 2* | | 5 | > 40 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **55** | **1,030** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **25** | **> 0** |

Table 13-49: Long Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 28 |
| December week 2: Saturday - Sunday | | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 28 |
| December week 3: Saturday - Sunday[SH] | | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 2 | 50 |
| December week 4: Saturday - Sunday[2, SH] | | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | 2 | 66 |
| December week 5: Saturday - Sunday[2, SH] | | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | 2 | 66 |
| January week 1: Saturday - Sunday[SH] | | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | 2 | 66 |
| January week 2: Saturday - Sunday[SH] | | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | 2 | 66 |
| January week 3: Saturday - Sunday[SH] | | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | 2 | 66 |
| January week 4: Saturday - Sunday[3, SH] | | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | 2 | 66 |
| February week 1: Saturday - Sunday[4, SH] | | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | 2 | 66 |
| February week 2: Saturday - Sunday[4] | | 2* | 2* | 3* | 4* | 4* | 4* | 4* | 4* | 3* | 3* | 2 | 66 |
| February week 3: Saturday - Sunday | | 2* | 2* | 3* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| February week 4: Saturday - Sunday | | 2* | 2* | 3* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| March week 1: Saturday - Sunday | | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | 2 | 38 |
| March week 2: Saturday - Sunday | | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | 2 | 38 |
| March week 3: Saturday - Sunday | | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | 2 | 38 |
| March week 4: Saturday - Sunday[5] | | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | 2 | 38 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **34** | **906** |

Table 13-50: Mouth of the Waitemata Harbour to Mairangi Bay: recommended roving surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| December week 4: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 45 |
| December week 5: Monday - Friday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 45 |
| January week 1: Monday - Friday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 45 |
| January week 2: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 45 |
| January week 3: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 45 |
| January week 4: Monday - Friday[3, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 45 |
| February week 1: Monday - Friday[4, SH] | | | | | | | 1* | 1* | 1* | 1* | 1* | 5 | 25 |
| February week 2: Monday - Friday[4] | | | | | | | 1* | 1* | 1* | 1* | 1* | 5 | 25 |
| February week 3: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 4: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **55** | **380** |

Table 13-51: Mouth of the Waitemata Harbour to Mairangi Bay: recommended roving surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| December week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| December week 3: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 18 |
| December week 4: Saturday - Sunday[2, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| December week 5: Saturday - Sunday[2, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 1: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 2: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 3: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 4: Saturday - Sunday[3, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| February week 1: Saturday - Sunday[4, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| February week 2: Saturday - Sunday[4] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| February week 3: Saturday - Sunday | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 18 |
| February week 4: Saturday - Sunday | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 18 |
| March week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 4: Saturday - Sunday[5] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **34** | **298** |

Table 13-52: Mairangi Bay to the mouth of the Okura River: recommended roving surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| December week 4: Monday - Friday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 50 |
| December week 5: Monday - Friday[2, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 50 |
| January week 1: Monday - Friday[2, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 50 |
| January week 2: Monday - Friday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 50 |
| January week 3: Monday - Friday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 50 |
| January week 4: Monday - Friday[3, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 5 | 50 |
| February week 1: Monday - Friday[4, SH] | | | | | | | 1* | 1* | 1* | 1* | 1* | 5 | 25 |
| February week 2: Monday - Friday[4] | | | | | | | 1* | 1* | 1* | 1* | 1* | 5 | 25 |
| February week 3: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 4: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **55** | **410** |

Table 13-53: Mairangi Bay to the mouth of the Okura River: recommended roving surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| December week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| December week 3: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 18 |
| December week 4: Saturday - Sunday[2, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| December week 5: Saturday - Sunday[2, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 1: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 2: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 3: Saturday - Sunday[SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| January week 4: Saturday - Sunday[3, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| February week 1: Saturday - Sunday[4, SH] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| February week 2: Saturday - Sunday[4] | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 2 | 20 |
| February week 3: Saturday - Sunday | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 18 |
| February week 4: Saturday - Sunday | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 18 |
| March week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| March week 4: Saturday - Sunday[5] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 14 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **34** | **298** |

### 13.2.4 Recommended supervision and surveillance requirements for Whangaparaoa beaches

Table 13-54: Te Haruhi Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| December week 5: Monday - Friday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 1: Monday - Friday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 2: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 3: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 4: Monday - Friday[3, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| February week 1: Monday - Friday[4, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 1 | 16 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **31** | **496** |

Table 13-55: Te Haruhi Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| December week 4: Saturday - Sunday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| December week 5: Saturday - Sunday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 1: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 2: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 3: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 4: Saturday - Sunday[3, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 1: Saturday - Sunday[4, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 2: Saturday - Sunday[4] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **352** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-56: Big Manly Bay (Polkinghornes Bay): recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| December week 5: Monday - Friday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| January week 1: Monday - Friday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| January week 2: Monday - Friday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| January week 3: Monday - Friday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| January week 4: Monday - Friday[3, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| February week 1: Monday - Friday[4, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 1 | 7 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **31** | **217** |

Table 13-57: Big Manly Bay (Polkinghornes Bay): recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| December week 4: Saturday - Sunday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| December week 5: Saturday - Sunday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 1: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 2: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 3: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 4: Saturday - Sunday[3, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 1: Saturday - Sunday[4, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 2: Saturday - Sunday[4] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 3: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 4: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **176** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-58: Stanmore Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| December week 5: Monday - Friday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 1: Monday - Friday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 2: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 3: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 4: Monday - Friday[3, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| February week 1: Monday - Friday[4, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 1 | 16 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **31** | **496** |

Table 13-59: Stanmore Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| December week 4: Saturday - Sunday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| December week 5: Saturday - Sunday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 1: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 2: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 3: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 4: Saturday - Sunday[3, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 1: Saturday - Sunday[4, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 2: Saturday - Sunday[4] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **352** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-60: Red Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 35 |
| December week 5: Monday - Friday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 35 |
| January week 1: Monday - Friday[2, SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 35 |
| January week 2: Monday - Friday[SH] | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | | 5 | 35 |
| January week 3: Monday - Friday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| January week 4: Monday - Friday[3, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 35 |
| February week 1: Monday - Friday[4, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 1 | 7 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **31** | **217** |

Table 13-61: Red Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| December week 4: Saturday - Sunday[2, SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| December week 5: Saturday - Sunday[2, SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| January week 1: Saturday - Sunday[SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| January week 2: Saturday - Sunday[SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| January week 3: Saturday - Sunday[SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| January week 4: Saturday - Sunday[3, SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| February week 1: Saturday - Sunday[4, SH] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| February week 2: Saturday - Sunday[4] | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| February week 3: Saturday - Sunday | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| February week 4: Saturday - Sunday | | | 1 | 1 | 1 | 1 | 1 | 1 | 1* | 1* | | 2 | 16 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **176** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-62: Orewa Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 40 (on-call) |
| November week 4: Monday - Friday | | | | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 40 (on-call) |
| December week 1: Monday - Friday | | | | | | | 3* | 3* | 3* | 3* | | 5 | 60 |
| December week 2: Monday - Friday | | | | | | | 3* | 3* | 3* | 3* | | 5 | 60 |
| December week 3: Monday - Friday[SH] | | | | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 105 |
| December week 4: Monday - Friday[SH] | | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 5 | 5* | 4* | 5 | 255 |
| December week 5: Monday - Friday[2, SH] | | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 5 | 5* | 4* | 5 | 255 |
| January week 1: Monday - Friday[2, SH] | | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 5 | 5* | 4* | 5 | 255 |
| January week 2: Monday - Friday[SH] | | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 5 | 5* | 4* | 5 | 255 |
| January week 3: Monday - Friday[SH] | | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 5 | 5* | 4* | 5 | 255 |
| January week 4: Monday - Friday[3, SH] | | 4 | 4 | 5 | 6 | 6 | 6 | 6 | 5 | 5* | 4* | 5 | 255 |
| February week 1: Monday - Friday[4, SH] | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 5 | 185 |
| February week 2: Monday - Friday[4] | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | 5 | 185 |
| February week 3: Monday - Friday | | | | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 105 |
| February week 4: Monday - Friday | | | | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 105 |
| March week 1: Monday - Friday | | | | | | | 3* | 3* | 3* | 3* | | 5 | 60 |
| March week 2: Monday - Friday | | | | | | | 3* | 3* | 3* | 3* | | 5 | 60 |
| March week 3: Monday - Friday | | | | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 40 (on-call) |
| March week 4: Monday - Friday[5] | | | | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | 5 (on-call) | 40 (on-call) |
| April week 1: Monday - Friday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| April week 2: Monday - Friday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| April week 3: Monday - Friday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| April week 4: Monday - Friday[5, 6, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | 5 (on-call) | 60 (on-call) |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **75** | **2,455** |
| | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **20 (on-call)** | **200 (on-call)** |

Table 13-63: Orewa Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 3 | 72 |
| October week 4: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 48 |
| November week 1: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 48 |
| November week 2: Saturday - Sunday | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 48 |
| November week 3: Saturday - Sunday | | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4* | | | 2 | 58 |
| November week 4: Saturday - Sunday | | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4* | | | 2 | 58 |
| December week 1: Saturday - Sunday | | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 64 |
| December week 2: Saturday - Sunday | | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 64 |
| December week 3: Saturday - Sunday[SH] | | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 64 |
| December week 4: Saturday - Sunday[2, SH] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| December week 5: Saturday - Sunday[2, SH] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| January week 1: Saturday - Sunday[SH] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| January week 2: Saturday - Sunday[SH] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| January week 3: Saturday - Sunday[SH] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| January week 4: Saturday - Sunday[3, SH] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| February week 1: Saturday - Sunday[4, SH] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| February week 2: Saturday - Sunday[4] | 3* | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | 4* | 2 | 121 |
| February week 3: Saturday - Sunday | | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | | 2 | 110 |
| February week 4: Saturday - Sunday | | 4 | 4 | 7 | 7 | 7 | 7 | 7 | 7* | 5* | | 2 | 110 |
| March week 1: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| March week 2: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| March week 3: Saturday - Sunday | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| March week 4: Saturday - Sunday[5] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| April week 1: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 48 |
| April week 2: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 48 |
| April week 3: Saturday - Sunday[5, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 48 |
| April week 4: Saturday - Sunday[5, 6, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | | 2 | 48 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **55** | **2,176** |

Table 13-64: Orewa Beach: recommended off-peak supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| May week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| May week 5: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | | | | 2 | 24 |
| June week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| June week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| June week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| June week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| July week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| July week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| July week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| July week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| July week 5: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| August week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| August week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| August week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| August week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| August week 5: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| September week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| September week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| September week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| September week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| October week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| October week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| **Total** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **16** | **204** |

Table 13-65: Wenderholm Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 4: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| December week 5: Monday - Friday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 1: Monday - Friday[2, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 2: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 3: Monday - Friday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| January week 4: Monday - Friday[3, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 5 | 80 |
| February week 1: Monday - Friday[4, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 1 | 16 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 5 | > 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **31** | **496** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **20** | **> 0** |

Table 13-66: Wenderholm Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| December week 4: Saturday - Sunday[2, SH] | | | 2 | 2 | 2 | 2 | 2 | 2 | 2* | 2* | | 2 | 32 |
| December week 5: Saturday - Sunday[2, SH] | | | 2 | 2 | 2 | 2 | 2 | 2 | 2* | 2* | | 2 | 32 |
| January week 1: Saturday - Sunday[SH] | | | 2 | 2 | 2 | 2 | 2 | 2 | 2* | 2* | | 2 | 32 |
| January week 2: Saturday - Sunday[SH] | | | 2 | 2 | 2 | 2 | 2 | 2 | 2* | 2* | | 2 | 32 |
| January week 3: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| January week 4: Saturday - Sunday[3, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 1: Saturday - Sunday[4, SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 2: Saturday - Sunday[4] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| February week 4: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **22** | **352** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-67: Army Bay to Red Beach: recommended roving surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| December week 4: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| December week 5: Monday - Friday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 1: Monday - Friday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 2: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 3: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 4: Monday - Friday[3, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| February week 1: Monday - Friday[4, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| February week 2: Monday - Friday[4] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| February week 3: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| February week 4: Monday - Friday | | | | | | | 1* | 1* | 1* | 1* | | 5 | 20 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **55** | **380** |

Table 13-68: Army Bay to Red Beach: recommended roving surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| December week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| December week 3: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| December week 4: Saturday - Sunday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| December week 5: Saturday - Sunday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 1: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 2: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 3: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 4: Saturday - Sunday[3, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 1: Saturday - Sunday[4, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 2: Saturday - Sunday[4] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 3: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 4: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| March week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| March week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| March week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| March week 4: Saturday - Sunday[5] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **34** | **248** |

Table 13-69: Red Beach to Wenderholm Beach: recommended roving surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| December week 5: Monday - Friday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 1: Monday - Friday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 2: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 3: Monday - Friday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| January week 4: Monday - Friday[3, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| February week 1: Monday - Friday[4, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| February week 2: Monday - Friday[4] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 5 | 40 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **40** | **320** |

Table 13-70: Red Beach to Wenderholm Beach: recommended roving surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| December week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| December week 3: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| December week 4: Saturday - Sunday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| December week 5: Saturday - Sunday[2, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 1: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 2: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 3: Saturday - Sunday[SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| January week 4: Saturday - Sunday[3, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 1: Saturday - Sunday[4, SH] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 2: Saturday - Sunday[4] | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 3: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| February week 4: Saturday - Sunday | | | 1* | 1* | 1* | 1* | 1* | 1* | 1* | 1* | | 2 | 16 |
| March week 1: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| March week 2: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| March week 3: Saturday - Sunday | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| March week 4: Saturday - Sunday[5] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 2 | 12 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Total** | **Formal surveillance: roving surveillance** | | | | | | | | | | | **34** | **248** |

## 13.2.5 Recommended supervision and surveillance requirements for northeast coast beaches

Table 13-71: Anchor Bay: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 4: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| December week 5: Monday - Friday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 5 | 150 |
| January week 1: Monday - Friday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 5 | 150 |
| January week 2: Monday - Friday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 5 | 150 |
| January week 3: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| January week 4: Monday - Friday[3, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| February week 1: Monday - Friday[4, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| February week 2: Monday - Friday[4] | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 120 (on-call) |
| February week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 5 | > 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **35** | **930** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **2.5 (on-call)** | **60 (on-call)** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **45** | **> 0** |

Table 13-72: Anchor Bay: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| December week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| December week 3: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| December week 4: Saturday - Sunday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| December week 5: Saturday - Sunday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 1: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 2: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 3: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 4: Saturday - Sunday[3, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| February week 1: Saturday - Sunday[4, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| February week 2: Saturday - Sunday[4] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| February week 3: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| February week 4: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| March week 1: Saturday - Sunday | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| March week 2: Saturday - Sunday | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| March week 3: Saturday - Sunday | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| March week 4: Saturday - Sunday[5] | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| April week 1: Saturday - Sunday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| April week 2: Saturday - Sunday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| April week 3: Saturday - Sunday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **34** | **844** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **4 (on-call)** | **40 (on-call)** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **8** | **> 0** |

Table 13-73: Omaha Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| December week 4: Monday - Friday[SH] | 3* | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 3* | 3* | 5 | 217.5 |
| December week 5: Monday - Friday[2, SH] | 4* | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 5 | 4* | 4* | 5 | 270 |
| January week 1: Monday - Friday[2, SH] | 4* | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 5 | 4* | 4* | 5 | 270 |
| January week 2: Monday - Friday[SH] | 4* | 4 | 5 | 6 | 6 | 6 | 6 | 6 | 5 | 4* | 4* | 5 | 270 |
| January week 3: Monday - Friday[SH] | 3* | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 3* | 3* | 5 | 217.5 |
| January week 4: Monday - Friday[3, SH] | 3* | 3 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 3* | 3* | 5 | 217.5 |
| February week 1: Monday - Friday[4, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| February week 2: Monday - Friday[4] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| February week 3: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| February week 4: Monday - Friday | | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 5 (on-call) | 90 (on-call) |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **40** | **1,702.5** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **7.5 (on-call)** | **135 (on-call)** |

Table 13-74: Omaha Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | 3 (on-call) | 3 (on-call) | 3 (on-call) | 3 (on-call) | 3 (on-call) | 3 (on-call) | | | | 3 (on-call) | 54 (on-call) |
| October week 4: Saturday - Sunday | | | 3 (on-call) | 3 (on-call) | 3 (on-call) | 3 (on-call) | 3 (on-call) | 3 (on-call) | | | | 2 (on-call) | 36 (on-call) |
| November week 1: Saturday - Sunday | | | 3 | 3 | 3 | 3 | 3 | 3 | | | | 2 | 36 |
| November week 2: Saturday - Sunday | | | 3 | 3 | 3 | 3 | 3 | 3 | | | | 2 | 36 |
| November week 3: Saturday - Sunday | | | 3 | 3 | 3 | 3 | 3 | 3 | | | | 2 | 36 |
| November week 4: Saturday - Sunday | | | 3 | 3 | 3 | 3 | 3 | 3 | | | | 2 | 36 |
| December week 1: Saturday - Sunday | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | | | 2 | 58 |
| December week 2: Saturday - Sunday | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | | | 2 | 58 |
| December week 3: Saturday - Sunday[SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| December week 4: Saturday - Sunday[2, SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| December week 5: Saturday - Sunday[2, SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| January week 1: Saturday - Sunday[SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| January week 2: Saturday - Sunday[SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| January week 3: Saturday - Sunday[SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| January week 4: Saturday - Sunday[3, SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| February week 1: Saturday - Sunday[4, SH] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| February week 2: Saturday - Sunday[4] | 4* | 4 | 5 | 6 | 7 | 7 | 7 | 7 | 7* | 6* | 4* | 2 | 124 |
| February week 3: Saturday - Sunday | | 3 | 5 | 6 | 6 | 6 | 6 | 5 | 3* | 3* | | 2 | 86 |
| February week 4: Saturday - Sunday | | 3 | 5 | 6 | 6 | 6 | 6 | 5 | 3* | 3* | | 2 | 86 |
| March week 1: Saturday - Sunday | | 3 | 5 | 6 | 6 | 6 | 6 | 5 | 3* | | | 2 | 80 |
| March week 2: Saturday - Sunday | | 3 | 5 | 6 | 6 | 6 | 6 | 5 | 3* | | | 2 | 80 |
| March week 3: Saturday - Sunday | | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3* | | | 2 | 56 |
| March week 4: Saturday - Sunday[5] | | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3* | | | 2 | 56 |
| April week 1: Saturday - Sunday[5, SH] | | | 3 | 4 | 4 | 4 | 4 | 3 | | | | 2 | 44 |
| April week 2: Saturday - Sunday[5, SH] | | | 3 | 4 | 4 | 4 | 4 | 3 | | | | 2 | 44 |
| April week 3: Saturday - Sunday[5, SH] | | | 3 | 4 | 4 | 4 | 4 | 3 | | | | 2 | 44 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | 3 | 4 | 4 | 4 | 4 | 3 | | | | 2 | 44 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **50** | **1,996** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **2.5 (on-call)** | **45 (on-call)** |

Table 13-75: Goat Island: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 4: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| December week 5: Monday - Friday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 5 | 150 |
| January week 1: Monday - Friday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 5 | 150 |
| January week 2: Monday - Friday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 5 | 150 |
| January week 3: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| January week 4: Monday - Friday[3, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| February week 1: Monday - Friday[4, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| February week 2: Monday - Friday[4] | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 120 (on-call) |
| February week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 5 | > 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **35** | **930** |
| | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **2.5 (on-call)** | **60 (on-call)** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **45** | **0** |

Table 13-76: Goat Island: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| December week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| December week 3: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| December week 4: Saturday - Sunday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| December week 5: Saturday - Sunday[2, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 1: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 2: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 3: Saturday - Sunday[SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| January week 4: Saturday - Sunday[3, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| February week 1: Saturday - Sunday[4, SH] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| February week 2: Saturday - Sunday[4] | | | 3* | 4* | 4* | 4* | 4* | 4* | 4* | 3* | | 2 | 60 |
| February week 3: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| February week 4: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| March week 1: Saturday - Sunday | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| March week 2: Saturday - Sunday | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| March week 3: Saturday - Sunday | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| March week 4: Saturday - Sunday[5] | | | 2* | 3* | 3* | 3* | 3* | 3* | 2* | | | 2 | 38 |
| April week 1: Saturday - Sunday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| April week 2: Saturday - Sunday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| April week 3: Saturday - Sunday[5, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | 2* (on-call) | | | | 2 (on-call) | 20 (on-call) |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **34** | **844** |
| | **Formal surveillance: on-call surveillance (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **4 (on-call)** | **40 (on-call)** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **8** | **> 0** |

Table 13-77: Pakiri Beach: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 4: Monday - Friday[SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| December week 5: Monday - Friday[2, SH] | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 180 |
| January week 1: Monday - Friday[2, SH] | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 180 |
| January week 2: Monday - Friday[SH] | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | | 5 | 180 |
| January week 3: Monday - Friday[SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| January week 4: Monday - Friday[3, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| February week 1: Monday - Friday[4, SH] | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3* | | 5 | 135 |
| February week 2: Monday - Friday[4] | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 135 (on-call) |
| February week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **35** | **1,080** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **2.5 (on-call)** | **67.5 (on-call)** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **15** | **> 0** |

Table 13-78: Pakiri Beach: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 1: Saturday - Sunday | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 2 (on-call) | 42 (on-call) |
| December week 2: Saturday - Sunday | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | 2 (on-call) | 42 (on-call) |
| December week 3: Saturday - Sunday[SH] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| December week 4: Saturday - Sunday[2, SH] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| December week 5: Saturday - Sunday[2, SH] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| January week 1: Saturday - Sunday[SH] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| January week 2: Saturday - Sunday[SH] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| January week 3: Saturday - Sunday[SH] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| January week 4: Saturday - Sunday[3, SH] | | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4* | 3* | | 2 | 68 |
| February week 1: Saturday - Sunday[4, SH] | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | | 2 | 64 |
| February week 2: Saturday - Sunday[4] | | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3* | 3* | | 2 | 64 |
| February week 3: Saturday - Sunday | | 3* | 3* | 4* | 4* | 4* | 4* | 4* | 3* | 3* | | 2 | 64 |
| February week 4: Saturday - Sunday | | 3* | 3* | 4* | 4* | 4* | 4* | 4* | 3* | 3* | | 2 | 64 |
| March week 1: Saturday - Sunday | | | 3* | 4* | 4* | 4* | 4* | 4* | 3* | | | 2 | 52 |
| March week 2: Saturday - Sunday | | | 3* | 4* | 4* | 4* | 4* | 4* | 3* | | | 2 | 52 |
| March week 3: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| March week 4: Saturday - Sunday[5] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | | 2 | 42 |
| April week 1: Saturday - Sunday[5, SH] | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | | 2 (on-call) | 36 (on-call) |
| April week 2: Saturday - Sunday[5, SH] | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | | 2 (on-call) | 36 (on-call) |
| April week 3: Saturday - Sunday[5, SH] | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | | 2 (on-call) | 36 (on-call) |
| April week 4: Saturday - Sunday[5, 6, SH] | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | | | 2 (on-call) | 36 (on-call) |
| **Totals** | | | | | | | | | | | **Formal supervision: dedicated supervision** | **30** | **920** |
| | | | | | | | | | | | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | **6 (on-call)** | **114 (on-call)** |
| | | | | | | | | | | | **Structured informal surveillance: community ranger and/or community responder** | **8** | **> 0** |

Table 13-79: Forestry: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 0 | 0 |
| December week 4: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 5: Monday - Friday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 30 |
| January week 1: Monday - Friday[2, SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 30 |
| January week 2: Monday - Friday[SH] | | | | 1* | 1* | 1* | 1* | 1* | 1* | | | 5 | 30 |
| January week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| January week 4: Monday - Friday[3, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 1: Monday - Friday[4, SH] | | | | | | | | | | | | 5 | > 0 |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 0 | 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **15** | **90** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **20** | **> 0** |

Table 13-80: Forestry: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | | | | | | | | | | 2 | > 0 |
| December week 4: Saturday - Sunday[2, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| December week 5: Saturday - Sunday[2, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 1: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 2: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 3: Saturday - Sunday[SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| January week 4: Saturday - Sunday[3, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 1: Saturday - Sunday[4, SH] | | | | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 24 |
| February week 2: Saturday - Sunday[4] | | | | | | | | | | | | 2 | > 0 |
| February week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| February week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| March week 4: Saturday - Sunday[5] | | | | | | | | | | | | 2 | > 0 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **14** | **168** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **12** | **> 0** |

Table 13-81: Te Arai: recommended supervision and surveillance requirements on weekdays.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 4: Tuesday - Friday[1] | | | | | | | | | | | | 0 | 0 |
| November week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| November week 4: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| December week 1: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| December week 2: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| December week 3: Monday - Friday[SH] | | | | | | | | | | | | 5 | > 0 |
| December week 4: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| December week 5: Monday - Friday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| January week 1: Monday - Friday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| January week 2: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| January week 3: Monday - Friday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| January week 4: Monday - Friday[3, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 5 | 120 |
| February week 1: Monday - Friday[4, SH] | | | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | 3* (on-call) | | 5 (on-call) | 120 (on-call) |
| February week 2: Monday - Friday[4] | | | | | | | | | | | | 5 | > 0 |
| February week 3: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| February week 4: Monday - Friday | | | | | | | | | | | | 5 | > 0 |
| March week 1: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 2: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 3: Monday - Friday | | | | | | | | | | | | 0 | 0 |
| March week 4: Monday - Friday[5] | | | | | | | | | | | | 0 | 0 |
| April week 1: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 2: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 3: Monday - Friday[5, SH] | | | | | | | | | | | | 0 | 0 |
| April week 4: Monday - Friday[5, 6, SH] | | | | | | | | | | | | 0 | 0 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **30** | **720** |
| | **Formal supervision: on-call supervision (if services are delivered on 50% of on-call days)** | | | | | | | | | | | **2.5 (on-call)** | **60 (on-call)** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **30** | **> 0** |

Table 13-82: Te Arai: recommended supervision and surveillance requirements on weekends.

| Day / Time | 09:00 - 10:00 | 10:00 - 11:00 | 11:00 - 12:00 | 12:00 - 13:00 | 13:00 - 14:00 | 14:00 - 15:00 | 15:00 - 16:00 | 16:00 - 17:00 | 17:00 - 18:00 | 18:00 - 19:00 | 19:00 - 20:00 | Days | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| October week 3: Saturday - Monday[1] | | | | | | | | | | | | 0 | 0 |
| October week 4: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 1: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 2: Saturday - Sunday | | | | | | | | | | | | 0 | 0 |
| November week 3: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| November week 4: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 1: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 2: Saturday - Sunday | | | | | | | | | | | | 2 | > 0 |
| December week 3: Saturday - Sunday[SH] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | 2 | 32 |
| December week 4: Saturday - Sunday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| December week 5: Saturday - Sunday[2, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| January week 1: Saturday - Sunday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| January week 2: Saturday - Sunday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| January week 3: Saturday - Sunday[SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| January week 4: Saturday - Sunday[3, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| February week 1: Saturday - Sunday[4, SH] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| February week 2: Saturday - Sunday[4] | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| February week 3: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| February week 4: Saturday - Sunday | | | 3* | 3* | 3* | 3* | 3* | 3* | 3* | 3* | | 2 | 48 |
| March week 1: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| March week 2: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| March week 3: Saturday - Sunday | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| March week 4: Saturday - Sunday[5] | | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | | | 2 | 28 |
| April week 1: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 2: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 3: Saturday - Sunday[5, SH] | | | | | | | | | | | | 2 | > 0 |
| April week 4: Saturday - Sunday[5, 6, SH] | | | | | | | | | | | | 2 | > 0 |
| **Totals** | **Formal supervision: dedicated supervision** | | | | | | | | | | | **20** | **480** |
| | **Formal surveillance: dedicated surveillance** | | | | | | | | | | | **10** | **144** |
| | **Structured informal surveillance: community ranger and/or community responder** | | | | | | | | | | | **16** | **> 0** |