

# Safeswim Impact Evaluation

Have improvements to Safeswim changed  
Aucklanders' awareness and behaviour?

Jesse Allpress, Alexandra Clark, Esther Rootham, Ting Huang

March 2018

Technical Report 2018/004





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## Main messages

In November 2017 a new and improved Safeswim water quality reporting programme was launched in Auckland.

An evaluation of the new Safeswim programme reveals changes to the programme had a number of **positive impacts on beach users' awareness and behaviour**:

- Awareness of Safeswim and regular usage of the website has increased notably.
- Awareness that it is sometimes unsafe to swim due to pollution is high and has increased since November 2017.
- A culture of telling friends, family and other beach users about Safeswim is developing and provides fertile ground for future behaviour change efforts.
- Media coverage of water quality issues has increased dramatically since the new Safeswim programme was launched, most of which mentions Safeswim.
- Interest amongst beach users in learning more about Safeswim and water quality is high.

However, **much work is to be done** to broaden this awareness and further motivate behaviour change:

- Around half of all beach users still have not heard about Safeswim.
- Many of those who have heard of Safeswim are not in the habit of using it regularly.
- On-beach signage is inconsistent and requires review.
- There remains widespread misunderstanding of what is causing poor water quality and the likelihood of getting sick after swimming in polluted water.
- The general awareness of water quality issues at Auckland's beaches is often not translating into accurate perceptions about the beaches people visit regularly. Many visitors rated the water at Safeswim long-term no-swim sites as being of better quality than Auckland overall.

The evaluation reveals a number of opportunities to **improve Safeswim and further change behaviour**:

- An evidence-based behaviour change campaign is proposed to increase awareness and to motivate further behaviour change.
- Improvements to website functionality are suggested to make Safeswim easier and more attractive to use.



## **Executive summary**

In November 2017, Safeswim – Auckland’s water quality reporting system – was changed from a weekly monitoring system to a predictive modelling approach that provides real-time water quality forecasts for beaches and freshwater sites around Auckland.

This report presents an evaluation of the impact of the new Safeswim programme on beach users’ awareness, attitudes and behaviour. The evaluation data sources include pre rollout and post rollout online surveys to track changes in attitudes and awareness over time, a survey of visitors on beaches (post-rollout only), and a media analysis.

### **Importance and awareness of water quality issues**

Almost all Auckland beach users (94 per cent) rated the quality of the water at Auckland’s beaches and lagoons as important, a trend that has been stable over time.

Awareness that it is sometimes unsafe to swim at Auckland beaches and lagoons due to polluted water increased +11 percentage points post rollout, to 87 per cent aware.

Only around half of all respondents (54 per cent) were able to accurately identify the primary pollutant (human and animal faeces), although this has increased +7 percentage points since the rollout of Safeswim upgrades.

Ten per cent of 2018 survey respondents reported that they or their children have at some point swum despite a sign or someone telling them the water quality was poor. Of those who had swum, 21 per cent reported that they or their children had become sick afterwards.

### **Attitudes toward checking water quality**

Most people surveyed post rollout agreed that swimming in poor quality water causes illness (85 per cent), that it is important to check water quality before swimming (73 per cent) and that checking before swimming will prevent illness (73 per cent). One-third (33 per cent) of people surveyed agreed that other people close to them regularly check water quality before swimming, reflecting an important perception that checking water quality is normal and expected. The strength of all perceptions above has increased since the rollout of the new Safeswim.

### **Trust and mistrust of water quality reporting**

Most post rollout survey respondents who were aware that water quality is reported for Auckland beaches reported trusting those ratings (75 per cent), similar to pre rollout.

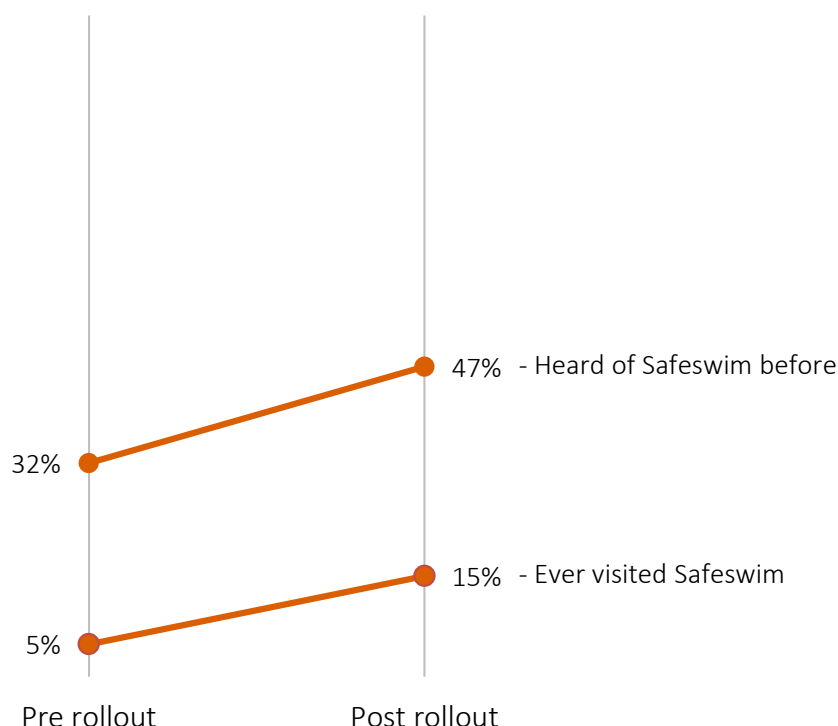
Feelings of mistrust stemmed primarily from misunderstandings about how and how often water quality ratings are produced. The majority of those who mistrusted the ratings believed they were based on physical samples and that they were likely out of date. Others doubted the ratings’ accuracy, didn’t trust the messenger, or had previously swum under a ‘high risk’ warning and didn’t get sick so assumed there is little value in paying attention to future warnings.

### **Use of Safeswim**

The percentage of Aucklanders who had heard of Safeswim and who had ever visited the website increased markedly since November 2017, up +15 and +10 percentage points, respectively.

## Awareness and usage of Safeswim

The proportion of online panel members who have visited the Safeswim website tripled



Nine per cent of all beach visitors who were surveyed on Auckland beaches had checked Safeswim prior to arriving at the beach. A further 37 per cent didn't check Safeswim before visiting the beach, but reported knowing about Safeswim. Fifty-four per cent of beach visitors didn't check Safeswim and didn't know what it was.

There is a strong need to further motivate those who know about Safeswim to use the programme, and educate and engage those who do not know about the programme.

Word of mouth, Facebook and television were particularly important ways that people heard about Safeswim, indicating the importance of social channels of communication.

Beach visitors were clear on whether they would swim under 'low risk' and 'high risk' water quality ratings. They were much less sure about whether they should swim under 'fair' conditions, however, and would benefit from greater guidance on the appropriate behaviour under these conditions.

A range of reasons for were offered for not proactively checking Safeswim:

- **Lack of knowledge** that there was an issue at their beach or how they would check.
- Preferring to **rely on visual cues** at the beach or lagoon to determine whether it is safe to swim or not, including 'trusting their eyes', taking cues from whether other visitors were swimming, or expecting to see on-beach signs.
- **Forgetting or laziness** was commonly reported, indicating stimulating motivation via public communications and encouraging habit formation is important.
- **Low access to technology** or internet access.



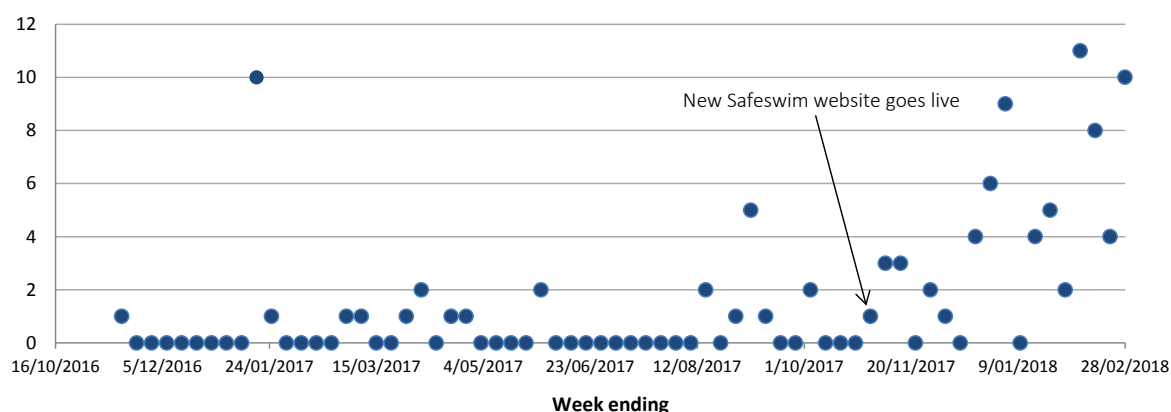
- A minority of people reported weighing up the risks and deciding that the enjoyment of a swim on a hot day outweighed the risks.

Future Safeswim improvements should focus on addressing these barriers to usage.

## Safeswim in the media

The number of water-quality related media articles has increased markedly since the rollout of the new Safeswim programme. In the 12 months to November 2017 there were 32 articles on Auckland's water quality; in the four months following November 2017 there were 74 articles on water quality.

Number of water quality articles per week



Coverage of Safeswim has also increased, with 76 per cent of post rollout articles mentioning Safeswim, compared to 28 per cent of articles pre rollout. Coverage of specific 'high risk' alerts and events disrupted by poor water quality also increased markedly post rollout.

## Public engagement with Safeswim

On-beach researchers took some time after the survey to tell beach users about Safeswim. The majority of beach users were engaged and interested in talking about Safeswim and water quality issues and this proved to be a good opportunity to engage and inform the public.

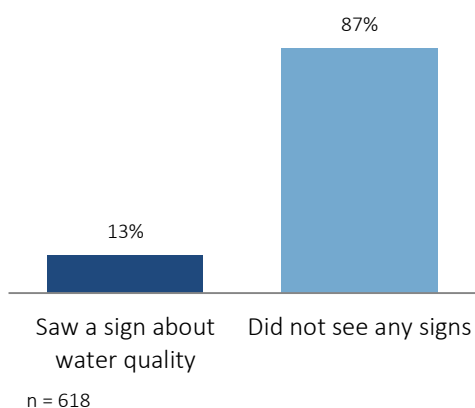
On-beach researchers heard reports of some beach visitors warning other beach users about Safeswim water quality alerts. This should be encouraged in future engagement activities.

## Beach signs

A range of new on-beach signs were trialled as part of the new Safeswim programme, including electronic signs, movable pavement blades administered by Surf Life Saving, and static 'Check before you swim' approach signs.

Across all beaches, only 13 per cent of beach users noticed a sign about water quality.

One in eight beach users noticed water quality signs during their visit



This awareness of signs ranged from 26 per cent (Bethells Beach) to only 3 per cent (Eastern Beach), and visitors were more likely to notice signs at beaches with natural entry and exit funnels.

The findings indicate that the current sign configuration is inadequate as a primary warning system and should be reviewed.

### Perceptions of water quality at long-term no-swim beaches

Forty-nine per cent Auckland beach users surveyed rated Auckland's water quality as 'good' or 'excellent' overall, down from 56 per cent in 2017.

Worryingly, many respondents rated Safeswim long-term, no-swim warning sites as higher quality than the Auckland average, indicating the message about site-specific water quality is not getting through to everyone.

### Improvements to Safeswim

A number of improvements to Safeswim are outlined, drawing on best-practice in behaviour change approaches.

Improvements focus on:

- A proactive, 'social' behaviour change campaign to further boost awareness and motivate use of Safeswim.
- Improvement to the Safeswim website functionality so the system is easier and more attractive to use.
- Conducting a thorough review of the Safeswim signage approach, ensuring this review is in alignment with the behaviour change campaign above.

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## 1.0 Background and Context

A number of Auckland's beaches and lagoons are sometimes contaminated with faecal matter, putting swimmers and people engaged in water activities at risk of illness.<sup>1</sup>

In many areas, contamination is infrequent and temporary; for others it is a frequent and long-standing problem.

The sources and causes are varied, and include wastewater overflows during heavy rain, dry-weather wastewater system faults, poorly maintained private septic systems, and effluent from animals such as birds, dogs and stock.

### 1.1 Safeswim

[Safeswim.org.nz](http://safeswim.org.nz) is Auckland's system for informing the public about beach and lagoon water quality. The system is led by Auckland Council and Watercare, in partnership with Auckland Regional Public Health Service, and Surf Lifesaving Northern Region.

Although the Safeswim programme has been around for a number of years, in 2017 it was redeveloped from a weekly monitoring programme to a real-time predictive model. This new model draws on many years of monitoring results, historical weather and other data in order to be able to predict water quality risk.

Real-time weather, tide and wastewater system data is fed into the model in order to predict current and future water quality at 84 beaches and 8 freshwater locations around Auckland on the Safeswim website.

Safeswim provides forecasts up to two days into the future. The forecasts are updated regularly as weather and other conditions change.

The new Safeswim system was rolled out in November 2017, for the 2017/2018 summer season. The rollout of the new Safeswim system has included a new website (an example of which is shown in Figure 1), new on-beach signage (described in Section 2.8), and public communications.

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<sup>1</sup> <http://www.mfe.govt.nz/publications/fresh-water/microbiological-water-quality-guidelines-marine-and-freshwater-0>

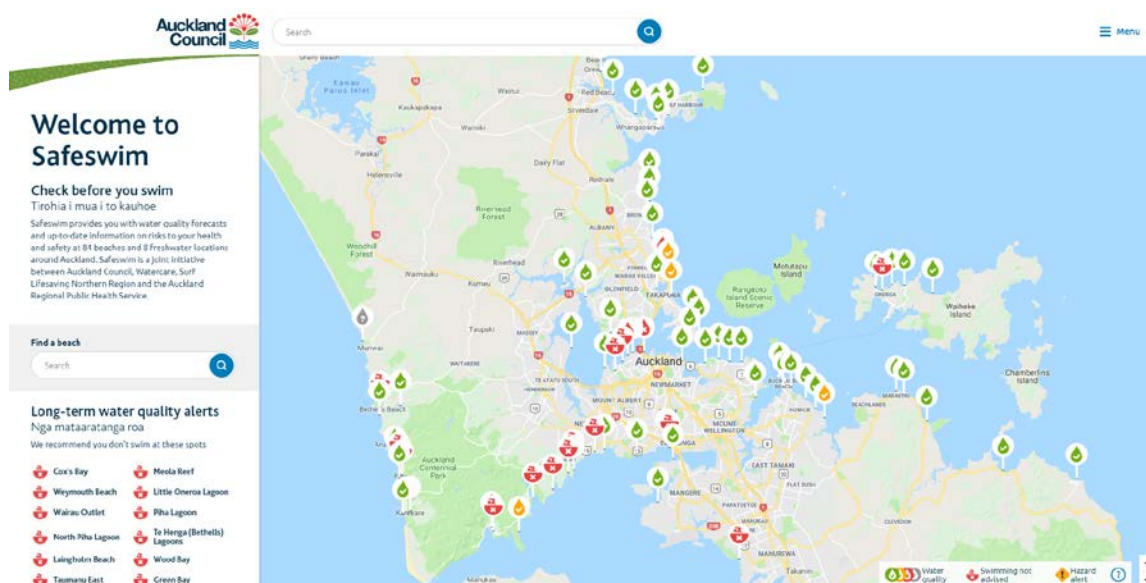


Figure 1. Screenshot of the new Safeswim website (March 2018), showing beach specific risk ratings

## 1.2 Evaluating changes to Safeswim

Auckland Council's Research and Evaluation Unit (RIMU) has conducted an independent evaluation of the impacts of changes to the Safeswim programme.

The evaluation focuses on changes in Auckland beach users' awareness, knowledge and behaviour, and draws on behaviour change research to recommend improvements to the programme.

Three sources are used:

- On-beach intercept surveys of 627 **beach visitors**, conducted in February 2018
- 'Pre rollout' and 'post rollout' surveys using an **online panel of 1,000+ Auckland beach users**, conducted April 2017 and February 2018, respectively.
- An analysis of 106 **media articles** published between November 2016 and February 2018.

The on-beach survey of visitors was conducted at the following sites:

- Mission Bay ( $n = 235$ )
- Red Beach ( $n = 149$ )
- Takapuna Beach ( $n = 130$ )
- Eastern Beach ( $n = 67$ )
- Bethells Lagoon ( $n = 46$ )

Online surveys of Aucklanders were conducted using a professional market research panel; one conducted pre Safeswim rollout (April 2017,  $n = 1,034$ ) and one post rollout (February 2018,  $n = 1,024$ ).

Survey quotas were applied to match as closely as possible the Auckland population in terms of age, ethnicity and sub-region. To be included in the survey, respondents needed to live in Auckland and have swum, supervised children who have swum, or gathered shellfish in

Auckland in the last 12 months. The surveys used the same questions and were conducted using separate samples.

See Appendix A and Appendix B for further information on sample characteristics.

Although all survey questions were designed to minimise social desirability response bias (i.e. providing a 'correct' response or response that reflects socially desirable characteristics), due to the nature of many of the survey questions it is possible that some respondents overstated their awareness and current behaviour.

## 2.0 Results

### 2.1 Water quality is important to Aucklanders

Both beach visitors and online panel respondents were asked about water quality and pollution. The majority of Auckland beach visitors (84 per cent) stated that they were concerned about pollution.

Most Auckland beach visitors are **concerned** about pollution at Auckland beaches

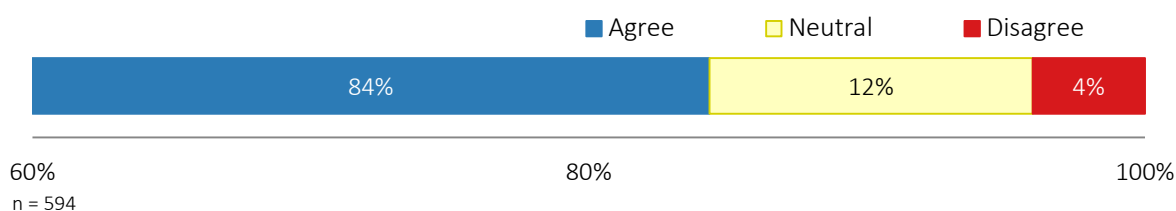


Figure 2. Beach visitors' concern about pollution at beaches and lagoons

As shown in Figure 3, the vast majority of Auckland online panel members rated both the quality of the water at Auckland's beaches / lagoons, and having beaches / lagoons that are free of litter, as very important to them (rating of '4' or '5' out of 5).

#### Importance of different beach and lagoon characteristics to Aucklanders

Quality of water and beach cleanliness rated as 'important' to most

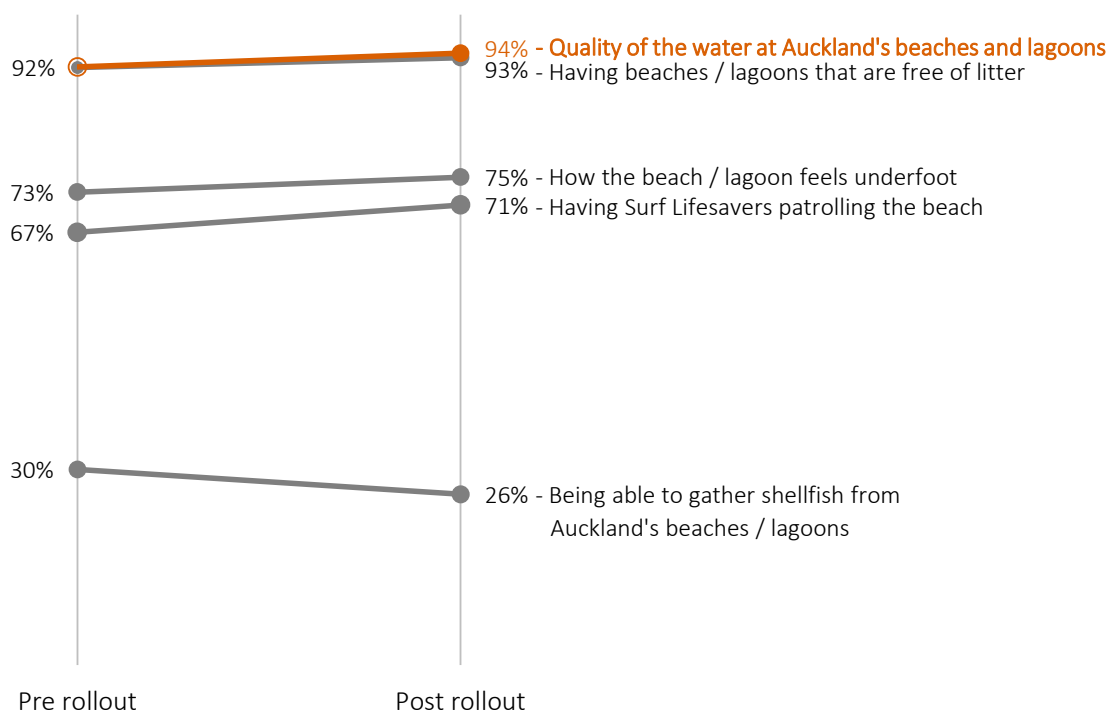


Figure 3. Importance of water quality to an online panel of Aucklanders

The feeling underfoot (e.g. sandy vs muddy bottom), and the presence of Surf Lifesavers, were rated as important by 75 per cent and 71 per cent of respondents, respectively. The ability to gather shellfish was unimportant to a significant percentage of beach users.

The importance of these different beach / lagoon characteristics has remained relatively stable over the last 12 months.

## 2.2 Awareness of water quality issues in Auckland

When asked to rate the water quality of Auckland's beaches overall, 49 per cent of post-rollout online panel respondents rated the water quality as 'good' or 'excellent' ('4' or '5' on a 5-point scale). This is down from 56 per cent in the summer prior to the recent Safeswim rollout.

### Overall ratings of water quality at Auckland beaches

Half of survey respondents rate the overall water quality at Auckland's beaches as 'good' or 'excellent'

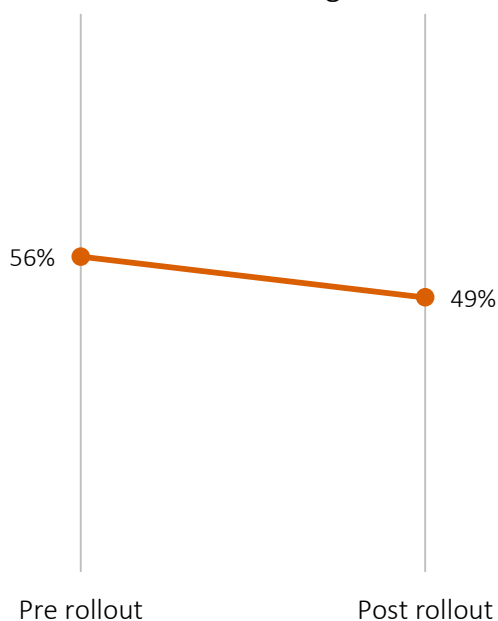


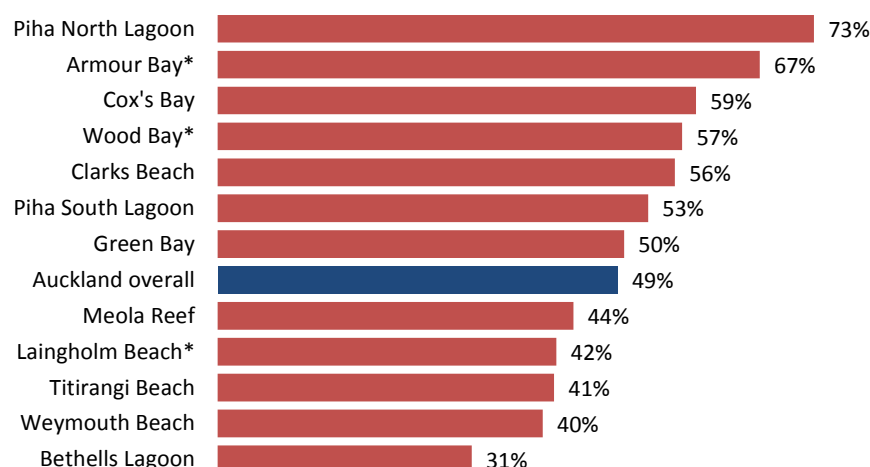
Figure 4. Online panel members' overall perception of the quality of Auckland beaches

Those people who reported visiting sites with long-term no-swim warnings were asked to rate the water quality at these sites. Many visitors perceived these sites to have high water quality, indicating that the message about issues at these sites is not getting through to the public.



## Water quality is seen as 'good' or 'excellent' at a number of 'long-term no-swim' sites

Percentage of beach users rating the quality of water as good or excellent



\* < 10 people provided a rating for this location

Figure 5. Online panel members' ratings of Safeswim long-term no-swim sites

Most visitors who were surveyed at beaches reported understanding the causes of pollution at Auckland beaches and lagoons (73 per cent) and the risks of swimming when water quality is poor (80 per cent).

Most beach visitors felt that they understood the **causes and risks** of polluted water

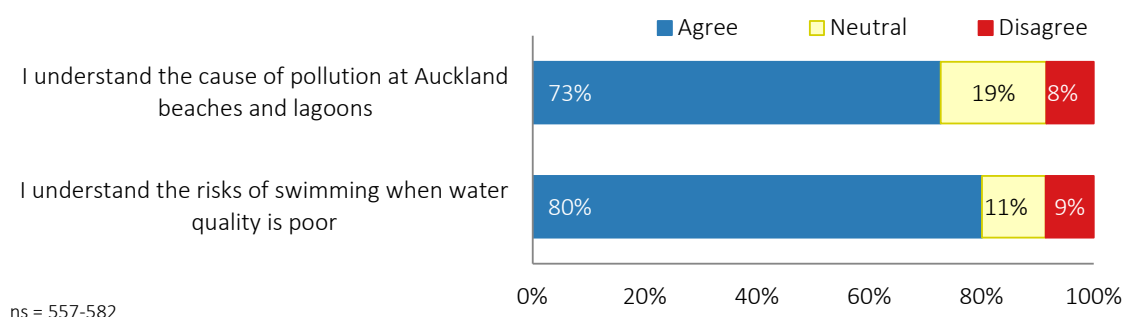


Figure 6. Beach visitors' understanding of the causes and risks of poor water quality

Online panel members were asked similar questions about their awareness and knowledge of water quality issues in Auckland. The majority of respondents post-rollout (87 per cent) reported being aware that it is sometimes unsafe to swim due to pollution, up from 76 per cent prior to the rollout of the new Safeswim (see Figure 7).

## Awareness that it is sometimes unsafe to swim due to pollution

Awareness increasing across Auckland

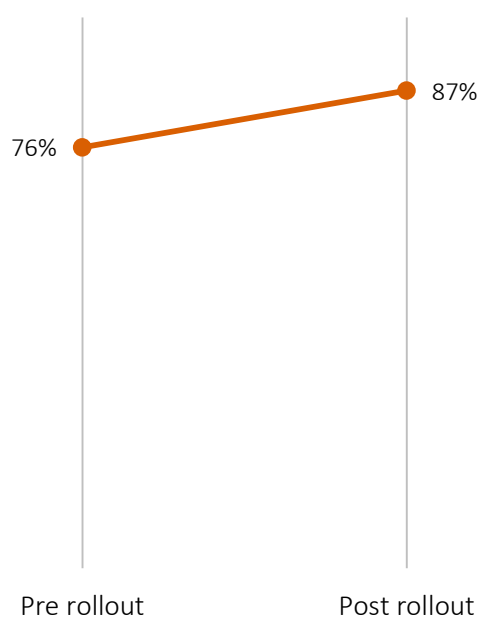


Figure 7. Online panel members' awareness that it is sometimes unsafe to swim at Auckland beaches and lagoons due to pollution

Respondents were asked to identify the primary pollution source making some beaches unsafe to swim (see Figure 8). Post rollout, 54 per cent of respondents could identify human and animal faeces as the primary pollutant, up from 47 per cent prior to the rollout.

## Identification of the primary pollution source making some beaches unswimmable

Faeces increasingly being recognised as the primary problem

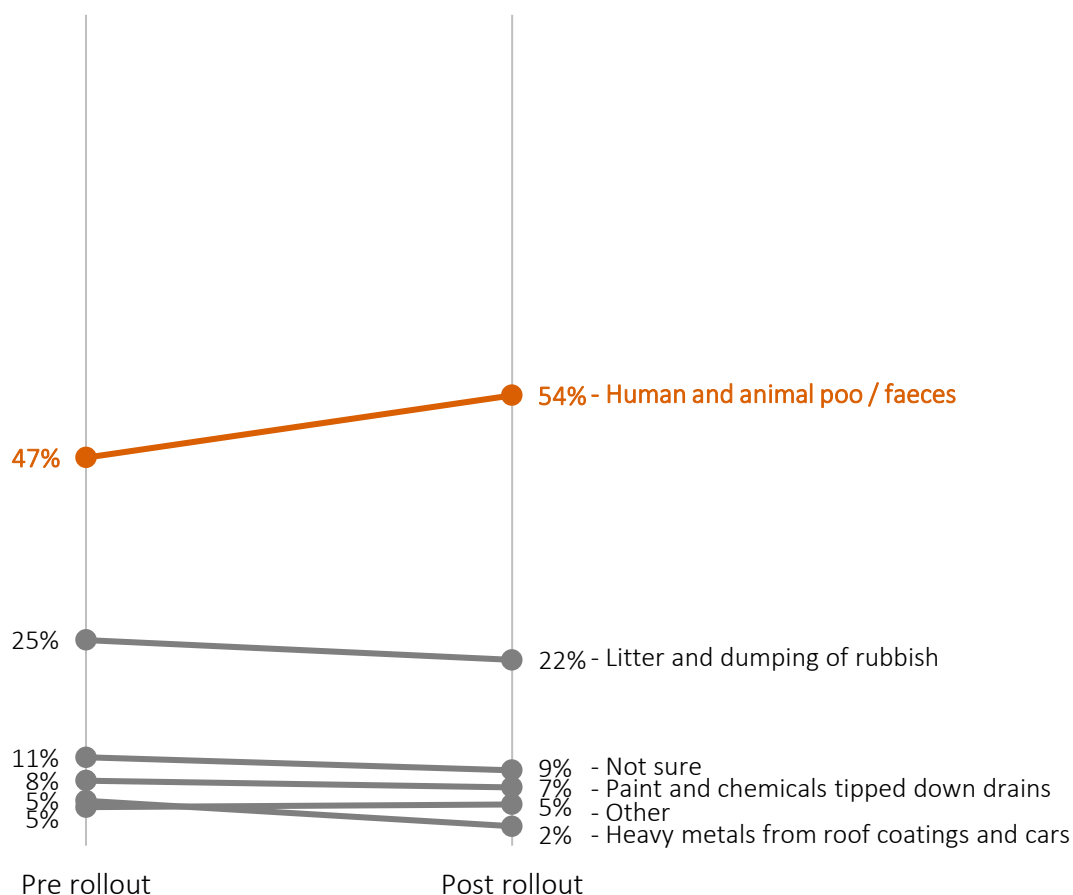


Figure 8. Understanding of pollution sources amongst online panellists

A total of 57 per cent of online panel members reported being aware that water quality ratings are reported for many of Auckland's popular beaches and lagoons following the rollout of Safeswim, similar to the pre rollout figure (55 per cent).

Fifty-nine per cent of those who were aware of water quality ratings could identify Auckland Council as the organisation primarily responsible for water quality monitoring in Auckland, down from 66 per cent pre rollout.

People were asked what they thought could be done to improve the pollution at Auckland's beaches and lagoons. While many people didn't know what could be done, a substantial number of detailed responses were provided, including:

- Addressing littering and rubbish issues
- Fixing struggling wastewater infrastructure to prevent overflow issues
- Preventing dumping of waste to drains
- General raising of awareness
- Better recycling and disposal options for chemicals

- More monitoring and enforcement

These suggestions indicate that, although not all beach users are certain of the causes and solutions to Auckland pollution problem, many are aware of the need for improvements to wastewater infrastructure.

When asked specifically about what is causing some beaches to be contaminated with human and animal faeces in an open-ended question, beach users provided a range of responses, as summarised in Table 1. Only approximately half of those surveyed indicated an understanding that ageing sewage and wastewater systems are contributing to the contamination of beach water (50% in 2017 and 53% in 2018). A significant number of people attribute beach contamination to *local* level problems such as littering, degraded toilet facilities and freedom campers or dog owners not cleaning up after their pets.

	Pre Rollout		Post Rollout	
	<i>Counts</i>	<i>%</i>	<i>Counts</i>	<i>%</i>
Sewage or wastewater infrastructure problems	502	50%	503	53%
Animals (dogs, farm animals)	211	21%	139	15%
Irresponsible people	165	17%	127	13%
Flooding/heavy rain	117	12%	173	18%
Toilets/diapers/campers at the beach	77	8%	61	6%
Maintenance, monitoring and enforcement	42	4%	45	5%
Crowding, population growth	35	4%	28	3%
Dumping/ litter	26	3%	27	3%
Septic tanks	20	2%	6	1%
Other	19	2%	27	3%
Don't know	116	12%	117	12%

Table 1 Understanding of causes of beach contamination amongst on-line panellists

About one quarter of respondents did not know what illness or diseases might be associated with swimming in water polluted with human/animal faeces (25% in 2017 and 26% in 2018). However, many correctly guessed gastrointestinal issues (34% in 2017, 37% in 2018) and skin infections (10% in 2017, 13% in 2018).

The general lack of certainty on what illnesses are associated with swimming in contaminated water provides an opportunity for Safeswim communications to better inform the public of the consequences of swimming when faecal indicator bacteria counts are high.

## 2.3 Trust and mistrust of water quality ratings

Of those who were aware of the published water quality ratings 75 per cent reported trusting them, similar to 77 per cent pre rollout.

### Trust in published water quality ratings

Three-quarters of online panel members report 'trusting' water quality ratings

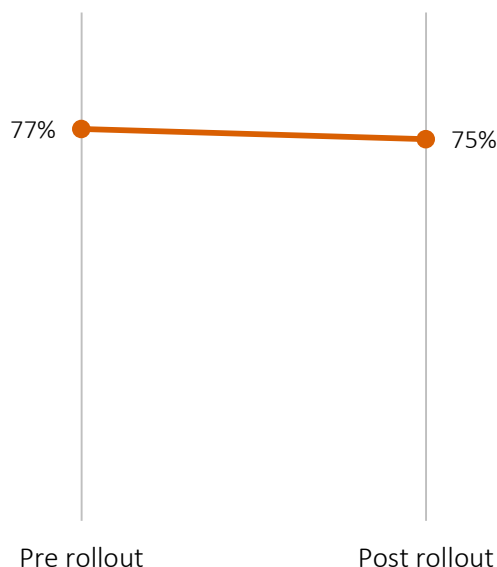


Figure 9. Trust of water quality ratings amongst an online panel of Aucklanders

Those who answered that they do not trust published water quality ratings were asked to state why.

The vast majority of respondents noted they don't fully trust the ratings because they don't know **how up-to-date they are**. Many believed that the ratings are still based on physical sampling and that tide and weather conditions make the ratings quickly out of date.

A large number were distrustful due to being **unsure how the ratings are produced**.

Others felt that the ratings are **sometimes or often inaccurate** and so shouldn't be fully trusted, regardless of the warning content.

A smaller group of people reported **mistrust of the messenger** (council and scientists) and, in some cases, a perception that there is an agenda behind the ratings produced.

A small number of respondents reported mistrusting published ratings because they or their children had **swum at a site with a high risk rating and didn't get sick**. Although this reflects a poor understanding of risk and probability, Safeswim does not currently provide adequate guidance on what risk ratings mean in terms of the likelihood of developing some water-related illness.

Future behaviour change and engagement activities should address these areas of distrust, particularly the perception that the ratings are based on out-of-date samples.

## 2.4 Attitudes toward checking water quality

Beach visitors were asked what they thought the benefits were of checking the water quality before swimming. The vast majority of the 509 beach visitors who answered mentioned avoiding illness from swimming in contaminated water.

*“Avoid getting sick from contaminated water”*

*“Keeping safe from bacteria in water”*

*“I have small children so knowing what the conditions are and what the clarity of water is helps with keeping them healthy and safe”*

*“For your own safety and you can warn families and friends...”*

Future communications might benefit from highlighting avoiding potential illness as a way to motivate Aucklanders to check Safeswim before they swim.

Online panel respondents were asked a range of questions about checking water quality. Most agreed that swimming in poor quality water causes illness (85 per cent), that it is important to check water quality before swimming (73 per cent) and that checking before swimming will prevent illness (73 per cent).

Notable increases were seen in ratings of how important it is to check water quality before swimming (+8 percentage point increase), in the ease of finding information on the quality of Auckland’s beaches and lagoons (+11 percentage point increase), and the perception that other people who are important to respondents check water quality (+7 percentage point increase).

## Attitudes toward checking water quality

Information rated as easier to find and a culture of checking is developing

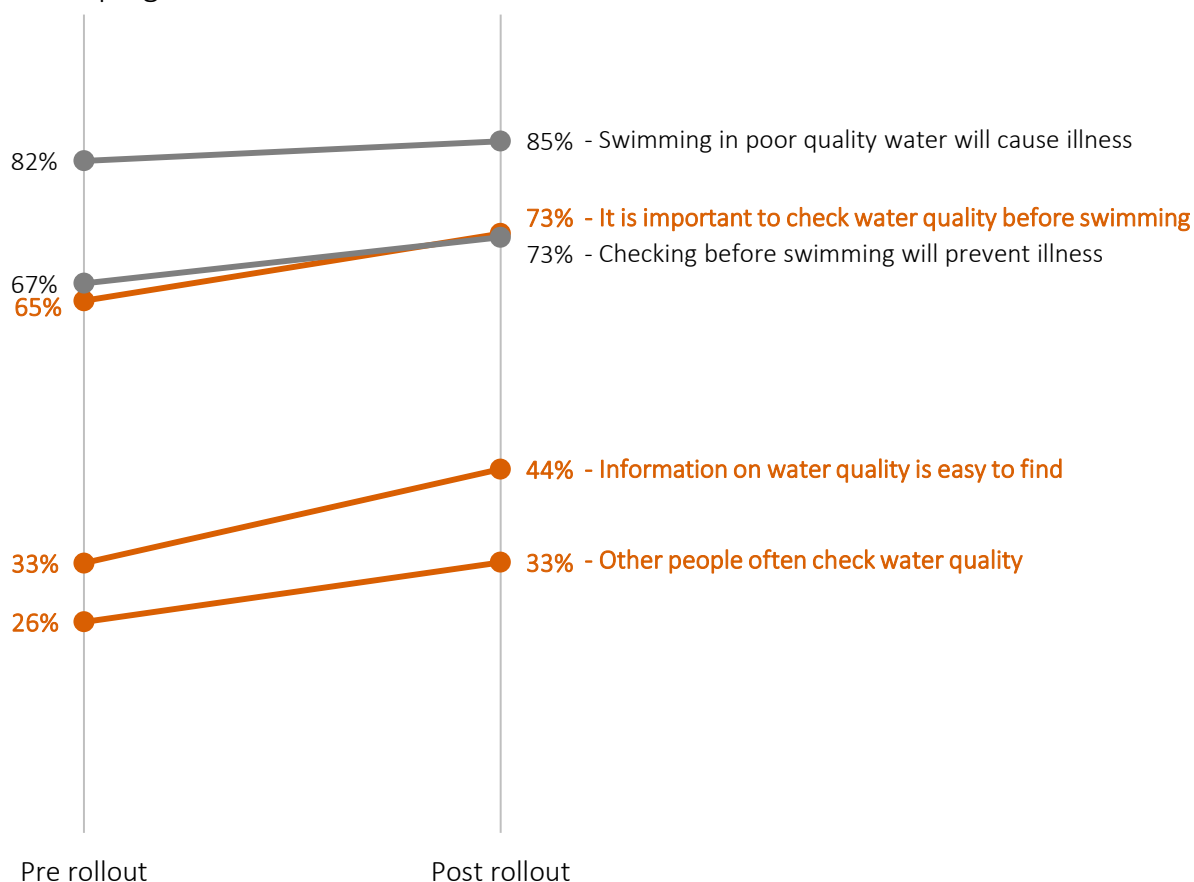


Figure 10. Online panel members' attitudes toward checking water quality

The perception that close relatives and friends often check water quality before they swim links to a perception that a social norm exists for checking water quality. As social norms have been shown to be powerful motivators of behaviour (see Section 4.1.3 for more discussion), further strengthening this perception is likely to encourage Aucklanders to regularly check water quality before swimming.

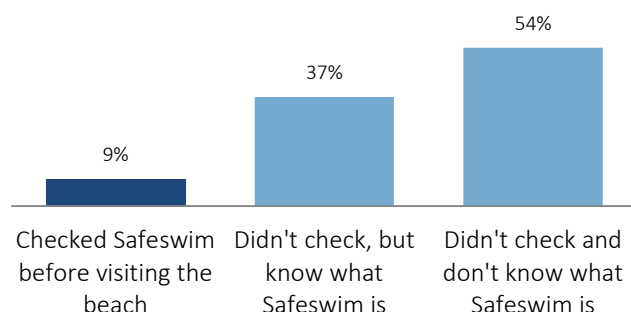
## 2.5 Are people using Safeswim?

Every beach visitor was asked whether they had checked Safeswim before visiting the beach that day.

Nine per cent of all beach visitors had checked Safeswim before visiting the beach. A further 37 per cent didn't check Safeswim before visiting the beach, but reported knowing what Safeswim is.

Fifty-four per cent of beach visitors didn't check Safeswim and didn't know what it is.

One in eleven beach visitors checked Safeswim before visiting



n = 617

Figure 11. How many beach visitors checked Safeswim before visiting the beach

Online panel members were asked both before and after the new Safeswim rollout whether they had heard of Safeswim before, and whether they had ever visited the website. Both awareness and website usage increased markedly post rollout. Prior to the rollout, 32 per cent of respondents had heard of Safeswim and only 5 per cent had ever visited the website. Four months after the new Safeswim website was launched, this awareness had increased to 47 per cent and website visitation to 15 per cent of respondents.



## Awareness and usage of Safeswim

The proportion of online panel members who have visited the Safeswim website tripled

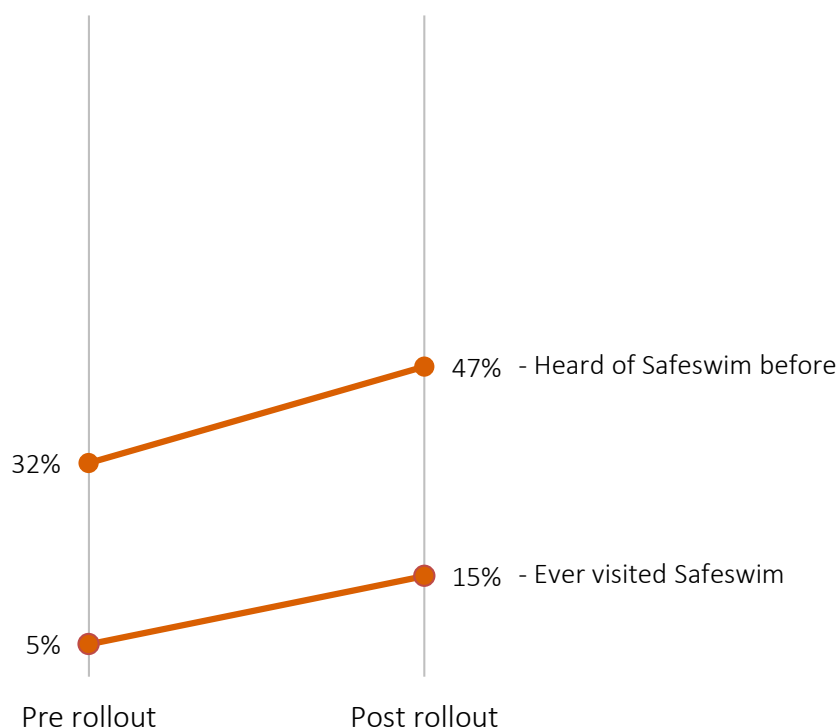
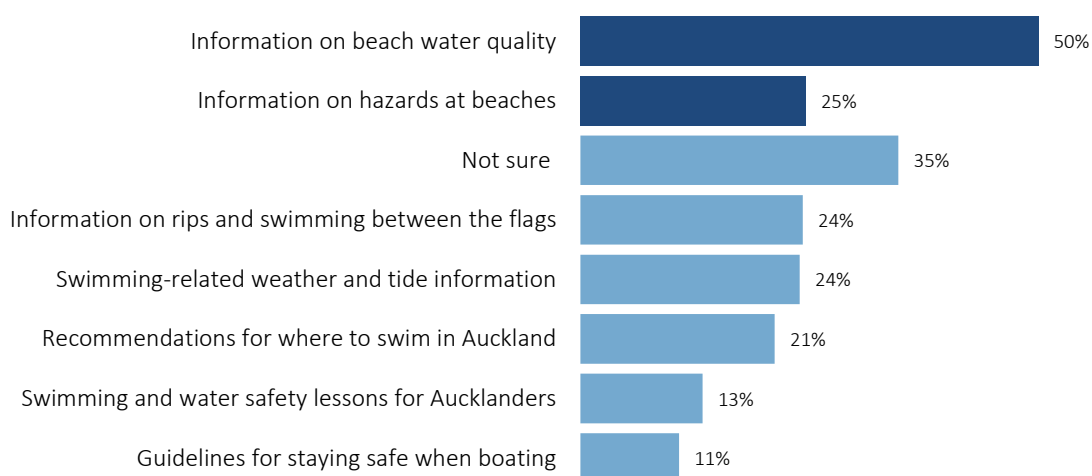


Figure 12. Awareness and usage of Safeswim amongst an online panel of Aucklanders

When asked to identify what Safeswim is, just over half of all beach visitors (55 per cent) selected either or both 'information on beach water quality' and 'other beach hazard information' responses.

### One in two beach visitors could correctly identify what Safeswim is



n = 618

Figure 13. Beach visitors' understanding of what Safeswim is

As with beach visitors, online panel members were asked to indicate what they thought Safeswim was. Prior to the launch of the new Safeswim, most people incorrectly thought

Safeswim was swimming and water safety lessons or information on rips and swimming between the flags. Only one in four (26 per cent) correctly identified that Safeswim was about information on beach and lagoon water quality.<sup>2</sup> Figure 14 shows that knowledge has improved markedly, where 40 per cent of respondents identified water quality post rollout.

A total of 50 per cent of respondents selected either or both 'information on beach water quality' and 'other beach hazard information' responses post rollout.

Knowledge of what Safeswim is has increased markedly amongst online panel members

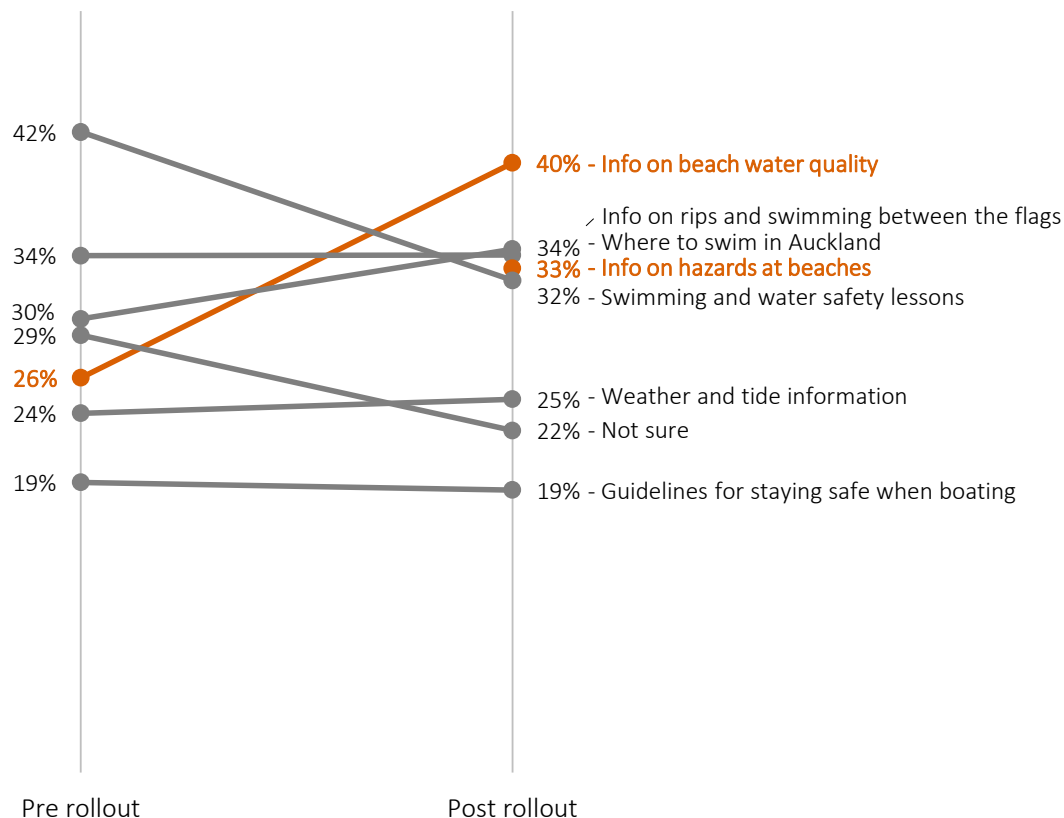


Figure 14. Understanding of what Safeswim is amongst an online panel of Aucklanders

In the post rollout survey, those who reported having heard of Safeswim before were asked where they had heard of it (see Figure 15). Social channels, where people were told by friends and family – notably word of mouth and Facebook – proved to be important ways that people heard of Safeswim. An example of the 'social transmission' of information via Facebook can be seen in Figure 16, where individuals tagged their friends to encourage them to look at a Safeswim advertisement.

Social sharing and social norms around informing others on beaches should be encouraged in future communications campaigns. This is discussed more in Section 4.1.3.

<sup>2</sup> The response option 'information on hazards at beaches' was included only in the post rollout survey

## How online panel members heard of Safeswim

Word of mouth, Facebook and TV important communication channels

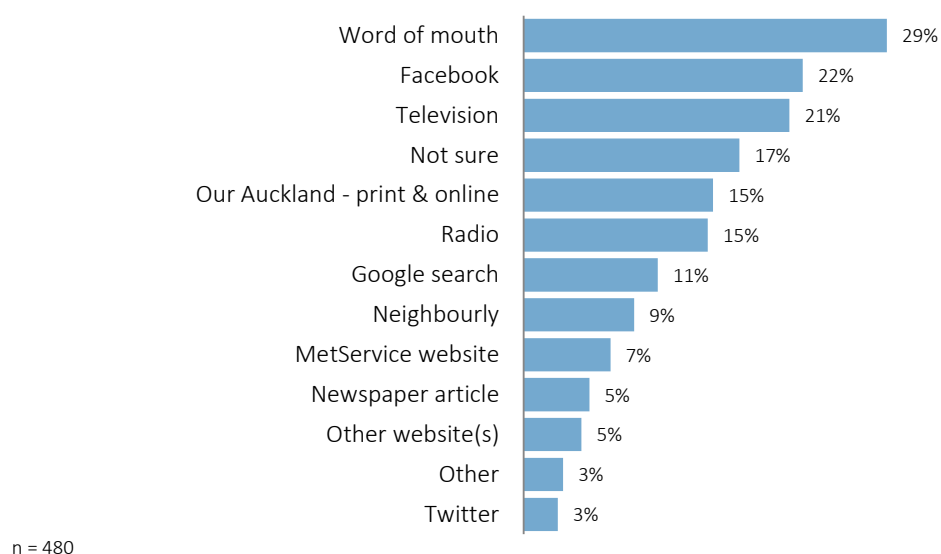


Figure 15. How an online panel of Aucklanders heard about Safeswim (post rollout only)

Consistent with the findings that people heard about Safeswim from others, our on-beach researchers heard stories of members of the public warning other beach visitors who were swimming when water quality was reported as poor on Safeswim.

Additionally, on-beach surveying was used as an opportunity to engage with the public about water quality and Safeswim. After visitors had completed the survey, the researchers talked to them about Safeswim and water quality issues at the beach. The majority of people were keen to discuss Safeswim and to learn more.

This engagement and enthusiasm provides a platform for future behaviour change activities suggested in Section 4.1.

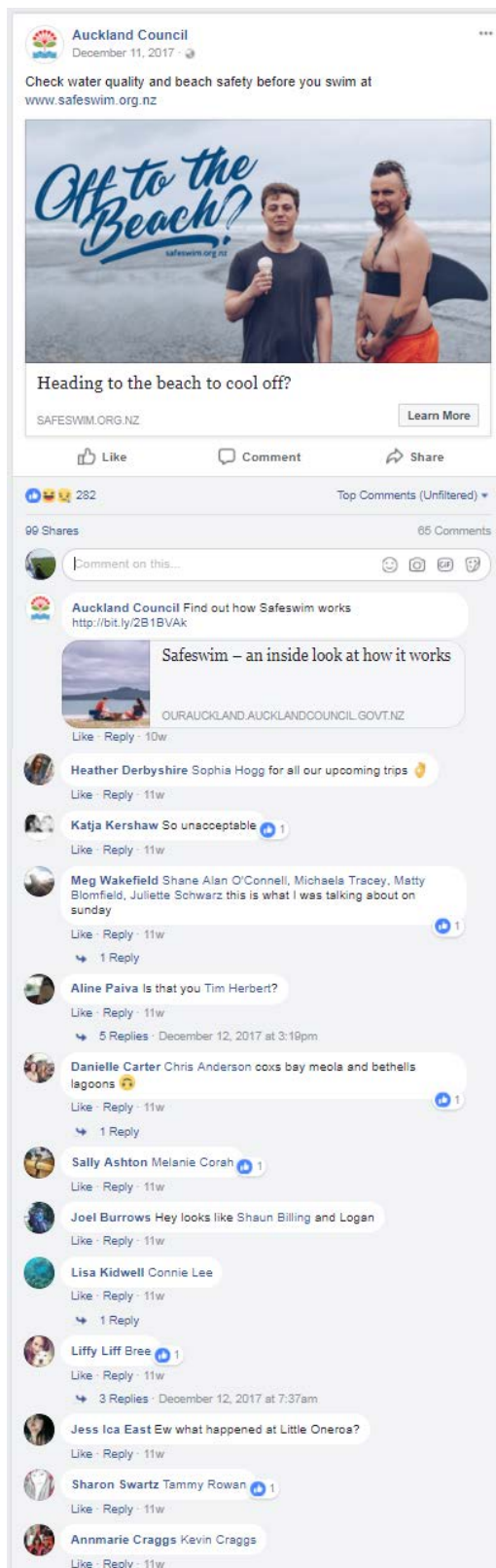


Figure 16. Example of the public sharing Safeswim information with their friends on Facebook

### 2.5.1 Likelihood of swimming under different Safeswim ratings

Beach visitors were asked whether they or their family would swim under the four different Safeswim conditions, with images of the warnings as they appear on the Safeswim website: Low Risk, Fair, High Risk (temporary), and High Risk (long-term).

More than 90 per cent of visitors were clear on whether they would or would not swim under low risk and high risk conditions. Beach visitors were less clear about the appropriate course of action under fair conditions, however. Fifty-eight per cent were happy to swim, but 25 per cent felt it wasn't worth the risk, and 18 per cent were unsure.

Future communications may wish to focus on providing clearer guidance to the public on how to interpret 'fair' risk warnings.

#### Whether beach visitors would swim under different risk ratings

More visitors unsure what 'fair' means

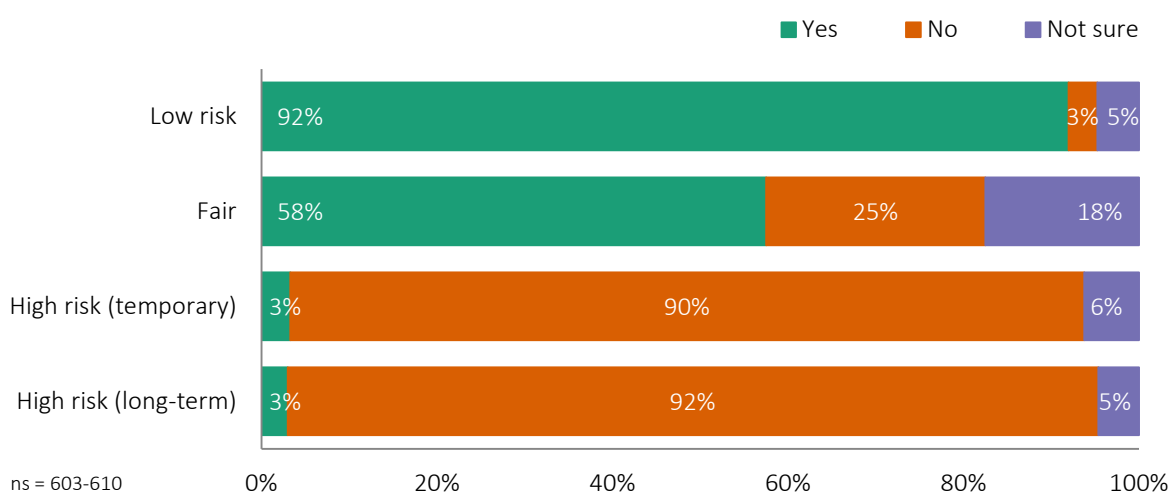


Figure 17. Likelihood of swimming under different Safeswim risk ratings

### 2.5.2 Website reliability

Although a detailed review of website performance is outside the scope of this evaluation, some survey respondents reported frustration to our on-beach researchers (February 2018) that they had tried to check the Safeswim website but it was unavailable when they needed it.

Anecdotally, RIMU accessed the Safeswim website regularly throughout the 2017/2018 summer period and experienced relatively frequent instances where the website would not load. Typically the outage would last a few minutes and it would return after periodic refreshing. Figure 18 and Figure 19 show the errors encountered.

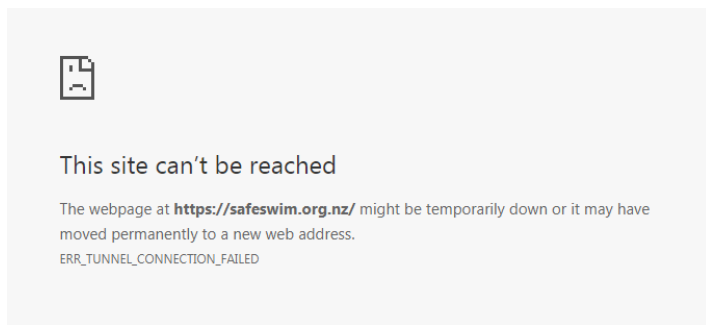


Figure 18. Safeswim loading error: Google Chrome

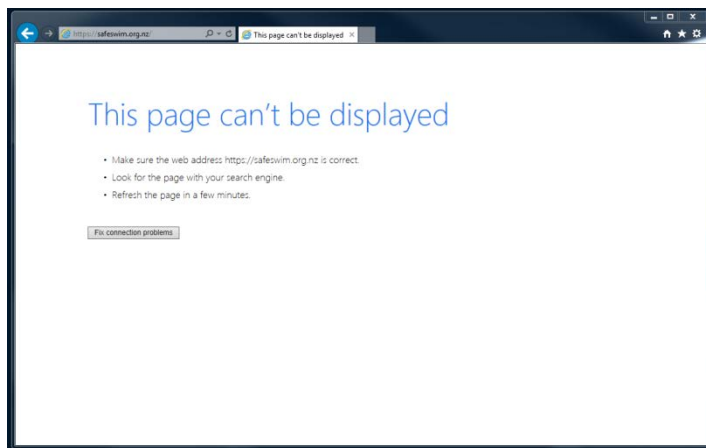


Figure 19. Safeswim loading error: Internet Explorer

## 2.6 Why are people not using Safeswim?

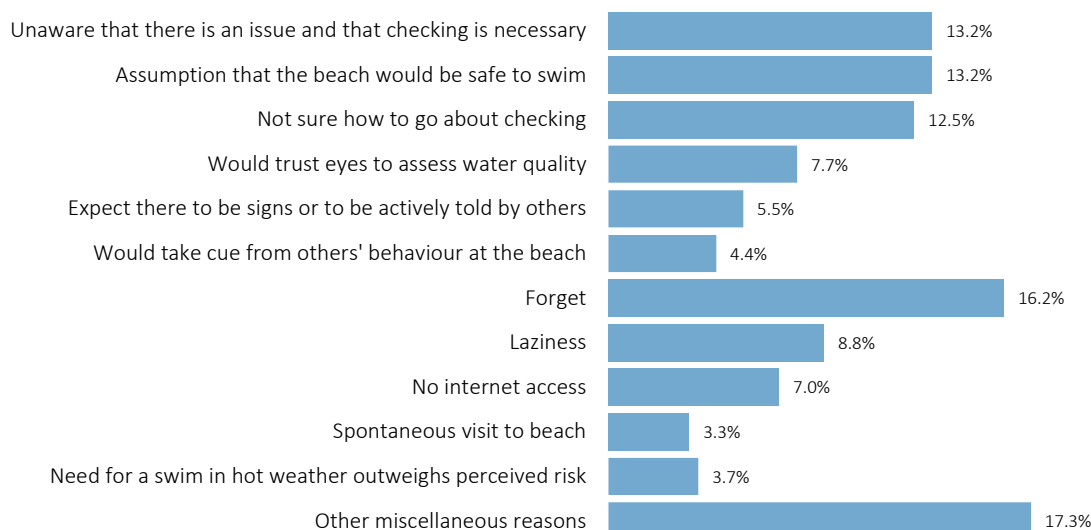
Beach visitors were asked whether there is any reason they would not proactively check a beach or lagoon's water quality before swimming.

Future communication efforts should focus on addressing these reasons.

The 272 people who wrote an answer provided a range of reasons for not checking:

- **Lack of knowledge** featured heavily – many people reported being unaware that there was an issue or that checking was even necessary. Others were unsure of where and how they would check, even if they wanted to.
- Some reported **relying on visual cues** at the beach or lagoon to determine whether it was safe to swim or not. A number of people reported 'trusting their eyes' to tell if water was polluted (with some mentioning litter as a proxy for water quality), while others said they would take cues from whether other visitors were swimming. Some people expected to be explicitly told by others if water quality was poor, either via on-beach signs or news articles.
- **Forgetting or laziness** was listed by a number of people, indicating stimulating motivation via public communications and encouraging habit formation is important.
- **Low access to technology** or internet access was noted by some, along with a lack of preparedness due to spontaneous beach visits.
- A minority of people reported weighing up the risks and deciding that the enjoyment of a swim on a hot day outweighed the risks.

### A range of reasons were offered for not checking water quality before swimming



n = 272

Figure 20. Beach visitors' reasons for not checking water quality before swimming

## 2.7 Safeswim in the media

Online panel members were much more likely to have read something about water quality at Auckland's beaches or lagoons post rollout (69 per cent) than pre rollout (52 per cent).

This +17 percentage point increase is likely reflective of an increase in the number of articles as well as the greater public concern with water quality.

### Reading about water quality in auckland

More Aucklanders reported having read something about water quality at Auckland's beaches and lagoons

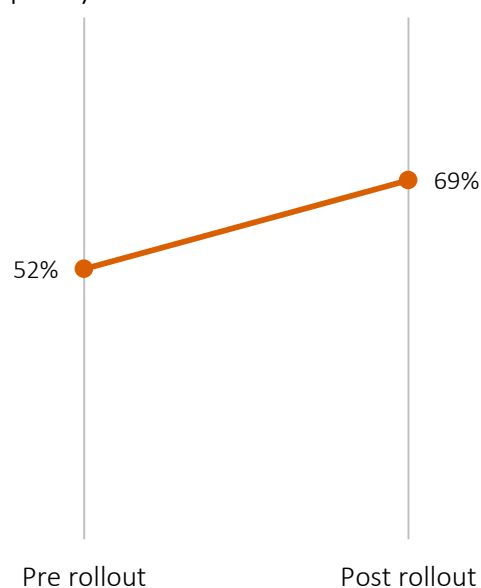


Figure 21. Percentage of online panel members' who had read about water quality in Auckland in the previous 12 months

### 2.7.1 Media Analysis

An internet scan for New Zealand media articles was conducted for the period of 1 November 2016 to 28 February 2018 using a range of key words relating to water quality<sup>3</sup>.

A total of 106 articles were identified including news, features and opinion pieces. Although every effort was made to include all relevant articles, it is likely some articles were missed. We believe the search is sufficient to provide an indication of the trends in media coverage on the topic.

<sup>3</sup> Auckland beaches and water quality, Safeswim, water quality alert, contaminated, beach signs, beach signage, sewage, unfit to swim, beaches closed, beach warnings, targeted rate, stormwater systems, polluted beaches, faeces, poo tracker, health warnings, beach closure, and bacterial levels.



Table 2 presents the sources of published articles. The largest source of articles was the New Zealand Herald, which consisted of 37 per cent of the sample. Stuff made up another quarter of the articles (Stuff coverage included republished articles from local level press including North Shore Times and Western leader), followed by Radio New Zealand at 15 per cent and Newshub at 13 per cent.

<b>Media Source</b>	<b>Count</b>	<b>% of total</b>
New Zealand Herald	39	37%
Stuff <sup>4</sup>	25	24%
Radio New Zealand	15	14%
Newshub	13	12%
1NewsNow	5	5%
Newstalk ZB	2	2%
The Spinoff	2	2%
Newsroom	1	1%
New Zealand Geographic	1	1%
Radio Live	1	1%
Weekend Herald	1	1%
Voxy	1	1%
<b>Total</b>	<b>106</b>	<b>100%</b>

Table 2. Source of water quality media articles

### 2.7.1.1 Coverage of water quality has increased

Looking at media coverage since November 2016 shows that water contamination at Auckland beaches and lagoons has received increased attention this summer. Thirty two articles were found in the year prior to the launch of the new Safeswim programme. In just under five months since the launch, at least another 74 have been published.

January and February 2018 had a particularly high number of articles, coinciding with a period of disruptive weather and a number of 'high risk' Safeswim ratings for beaches across Auckland.

	<b>Pre rollout</b>		<b>Post rollout</b>	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
Total articles	32	30%	74	70%

Table 3. Media coverage of water quality

<sup>4</sup> This includes 6 North Shore Times, 3 Western Leader, and 1 Central Leader article.

Number of water quality articles per week

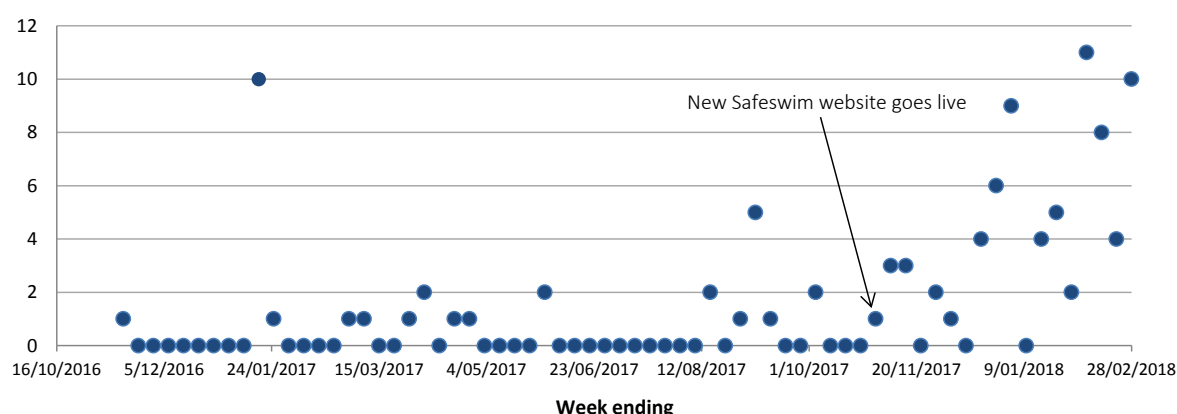


Figure 22. Number of media articles per week (Nov 2016 - February 2018)

### 2.7.1.2 Coverage of Safeswim has increased

Safeswim now features in most media discussions of the contamination of Auckland's beaches. The majority of media articles (76 per cent) discussing the water quality issues facing Auckland's beaches published since November 2017 mentioned the Safeswim website. Safeswim was only mentioned in 28 per cent of the articles that were published in the year prior to the launch of the new website.

	Pre rollout		Post rollout	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
Mentioned Safeswim	9	28%	56	76%

Table 4. media coverage of Safeswim

Fourteen per cent of the articles that mention Safeswim since November 2017 included some form of negative impression of the Safeswim website and / or beach signage, compared to no articles published prior to the Safeswim rollout. The negative coverage can be summarised as:

- The new Safeswim monitoring system will decrease the amount of actual water quality testing and / or will lead to the use of a 'machine to dictate actions,' i.e. an overreliance on modelling to determine whether beaches are safe for swimming (Editorial, 'Safeswim serving up nonsense, 18 Feb 18, NZH)
- Water quality alerts are confusing, unreliable or suspect, as captured by the following headline: 'Swimmers question council website showing city beaches unsafe' (Stuff, 8 Nov 17).
- Signage is inadequate: 'Swimmers unaware of low water quality at Auckland beach' (RNZ, 3 Jan 18)

- Water quality alerts are making a mountain of a molehill and there is a hidden agenda behind them: 'I think we are being played...' (Roughan editorial, 'Beach closures adding insult to whingery', Weekend Herald, 24 Feb 18)

In about half of these articles, the negative views are countered, at least to some extent, with an explanation of the Safeswim programme. For the strongest example of this see: 'Scientist answers sceptics about Auckland Council's SafeSwim website,' Stuff, 23 Jan 18).

Twelve per cent of the articles mentioning Safeswim since November 2017 included a minor typo such as referring to the programme as SwimSafe or SafeSwim.

A smaller number of articles inaccurately made reference to a swimming ban or misrepresented how Safeswim works. The percentage of articles misrepresenting Safeswim was relatively stable over time (6 per cent prior to the launch; 5 per cent after the launch).

Source	Title	Reference
Newstalk ZB, 22 Jan 2017	Revealed: Auckland's dirtiest beaches	'Swimming has been banned at 10 Auckland beaches this summer because of worsening pollution from human and animal wastes.'
NZH, 24 Jan 2017	Auckland's water shock: Bacteria levels 'dangerously high'	'Swimming has also been banned at 10 Auckland beaches this summer because of worsening pollution from human and animal wastes.'
NZH, 11 Feb 18	Swimming 'not advised' at Auckland beaches after wastewater overflow	'Lifeguards shut the whole beach when a fault caused a stormwater drain to overflow.'
Newshub, 12 Feb 18	Swimming off limits at 50 Auckland beaches	'Swimming is off limits at around 50 Auckland beaches.'
NZH (editorial), 22 Feb 18	Safeswim serving up nonsense	'machine to dictate actions'
Weekend Herald (Roughan, editorial) 24 Feb 18	Beach closures adding insult to whingery	'extended closed periods'

Table 5. Nature of Safeswim inaccuracies in the media

### 2.7.1.3 Coverage of water quality alerts and 'cancelled events' has increased

Prior to the Safeswim launch, half of the articles mentioned at least one beach that had a water quality alert. This increased to 80 per cent after Safeswim was launched.

Only 3 per cent of the articles published in the period prior to November 2017 mentioned a cancelled or relocated public event. This proportion jumped to 14 per cent following the launch of Safeswim.

	Pre rollout		Post rollout	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
Mentioned water quality alert	16	50%	49	80%
Mentioned cancelled / relocated events	1	3%	10	14%

Table 6. Media coverage of water quality alerts and disrupted events

#### 2.7.1.4 Coverage of the source(s) of the problem

A significant majority of articles we analysed made at least a passing reference to the source(s) of the contaminated water at Auckland's beaches. Prior to the launch of the Safeswim 91 per cent of articles discussed the source of the problem. Following the launch of the new Safeswim, the proportion has dropped to 74 per cent, although this should be interpreted in light of the overall increase in articles – the raw number of articles mentioning the source of water quality issues in Auckland was 55 in the five months from November 2017, compared to 29 in the year prior. A greater percentage of articles post Safeswim launch reported on a beach water quality alert, a cancelled event or Safeswim itself without going into further depth.

	Pre rollout		Post rollout	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
Discussed source(s) of problem	29	91%	55	74%

Table 7. Media coverage of source of water quality issues

The sources of the problem most commonly referred to were:

- Heavy rain leading to sewage and stormwater overflows: 'A pungent mix of raw sewage and stormwater from areas of the city served by a century-old sewerage system is pushed out to sea when it overflows during periods of heavy rain.' (Fonseka, Oct 6, 2017)
- The adverse impact of long dry spells followed by a heavy rain event is sometimes mentioned, as is the increased frequency of extreme weather events.
- Farm contamination and polluted road runoff is also discussed in some articles.
- Blocked or damaged wastewater pipes was a topic of discussion particularly at the end of January 2018, covering events on the North Shore: 'Auckland's worst sewage spill in 25 years in clean-up mode' (Stuff, 31 Jan 2018).
- The potential contribution of more intensive urban development as well as illegal connections to the wastewater system are also occasionally cited as contributing factors.

### 2.7.1.5 Solutions to water quality issues

In the year prior to the launch of Safeswim 72 per cent of articles discussed solutions to Auckland's water quality issues. This has dropped to 53 per cent since November 2017, although the raw number of articles is higher in the last five months than in the 12 months prior to the launch of Safeswim.

	Pre rollout		Post rollout	
	<i>Count</i>	<i>%</i>	<i>Count</i>	<i>%</i>
Discussed solution(s)	23	72%	39	53%
Situation getting worse/ more urgency needed	12	38%	16	22%

Table 8. Media coverage: solutions to water quality issues

The solutions most commonly discussed in the media were upgrades to the city's stormwater and wastewater systems. The time and cost requirements of these infrastructure upgrades attracted a great deal of attention. In recent media coverage, the proposed Long-term Plan and targeted rate to raise money for these city works was also raised. Less frequent were references to programmes to upgrade faulty septic tanks. One article in particular addressed the issue of water management at the city level more broadly and promoted the concept of 'water sensitive' urban development (New Zealand Geographic, May 2017, 'No swimming.').

A significant portion of the media coverage discusses the willingness or reluctance of rate payers to take on the required extra costs associated with addressing the water quality problem. The fact that the North Shore had already upgraded its infrastructure and that most of the infrastructure requiring improvement is based in the isthmus, but will be paid for by all residents, are the types of issues sometimes raised. In addition, it is sometimes mentioned that even the planned upgrades will not solve the problem entirely. Also receiving some bad press is Auckland Council's application for a renewal of their consent to discharge stormwater for the next thirty five years.

Just over a quarter of the articles (26%) made reference to either the water quality situation getting worse and/or the issue requiring more urgency on the part of decision-makers. Of the articles published prior to November 2017, this was the case 38 per cent of the time whereas once Safeswim was launched, this decreased to 22 per cent of the articles published. The reasons are likely similar to the decrease in the proportion of articles of reporting on solutions to water quality since the launch of the new Safeswim programme; that is, the rise in articles that report simply on Safeswim, water quality alerts or cancelled or relocated public beach events.

## 2.8 Beach signs

Three sign types were designed and trialled as part of the 2017 Safeswim development:

- Small, static approach signs were installed at all Safeswim locations (although at the time of our research some of these signs had been removed by unknown individuals).
- Three electronic signs have been installed: one at Mission Bay (active from 3 November), Takapuna (late February) and St Marys Bay (Early February).
- Pavement blades were placed on beaches by Surf Life Saving guards during patrol hours at 11 beaches.



Static approach sign



Adjustable pavement blade



Electronic sign

Figure 23. Water quality signs at beaches

### 2.8.1 How many people noticed signs?

All beach visitors were asked if they had seen any signs about water quality during their visit.

Only 13 per cent of beach visitors reported seeing signs on the day they were surveyed, indicating the current sign configuration is inadequate to function as a primary warning system.

## One in eight beach users noticed water quality signs during their visit

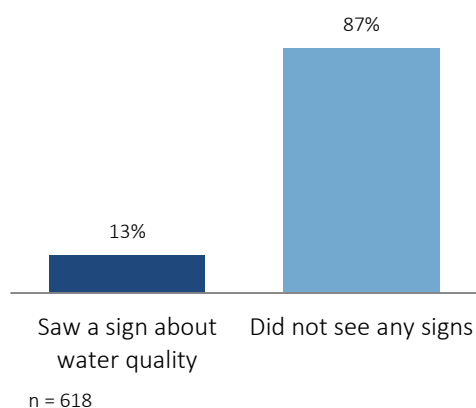


Figure 24. Whether beach visitors noticed water quality signs

The level of sign awareness varied considerably by beach (see Figure 25 for a breakdown by beach).

Bethells Lagoon – where Surf Life Saving patrols placed a pavement blade at the one main entrance to the beach, and where a permanent ‘long-term no-swim’ sign is present – had the highest awareness, with 26 per cent of surveyed visitors noticing one of these two signs. The percentage of visitors who noticed signs at other beaches was:

- Red Beach: 18 per cent
- Takapuna Beach: 12 per cent
- Mission Bay: 11 per cent
- Eastern Beach: 3 per cent.

People were most likely to report seeing a pavement blade put out by Surf Life Saving (Red Beach and Bethells Beach) or an electronic sign if present (i.e. Mission Bay and Takapuna Beach).

Very few beach users noticed static approach signs, with the exception of Bethells Lagoon, where 11 per cent of people surveyed noticed the ‘long-term no swim’ sign. At beaches other than Bethells, less than one per cent of people saw a static “Check before you swim” approach sign.

Figure 25 on the following page summarises the percentage of visitors who noticed signs at each beach. The dark blue represents the total proportion of visitors who noticed a sign, with light blue bars explaining the components.

Eastern beach is not included, as none of the three per cent of visitors who reported noticing a sign could correctly identify what it was or said.

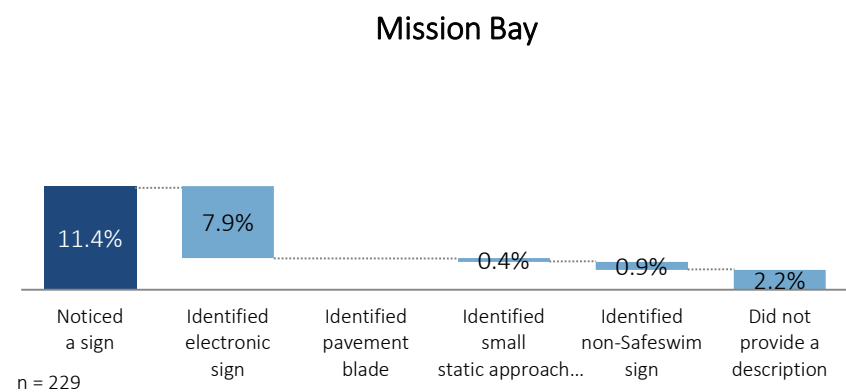
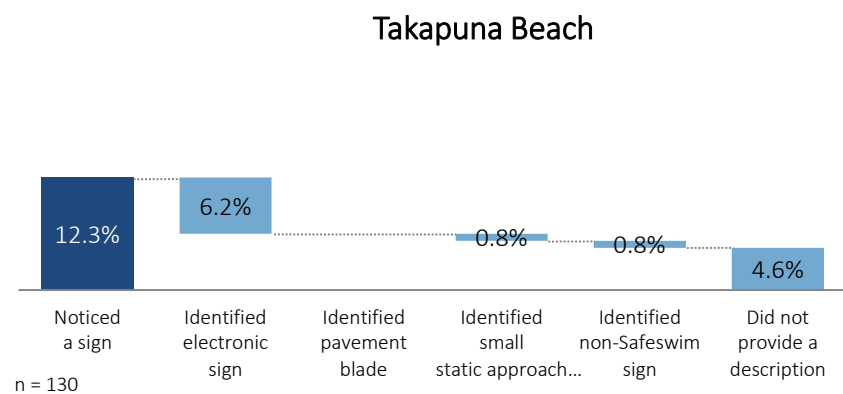
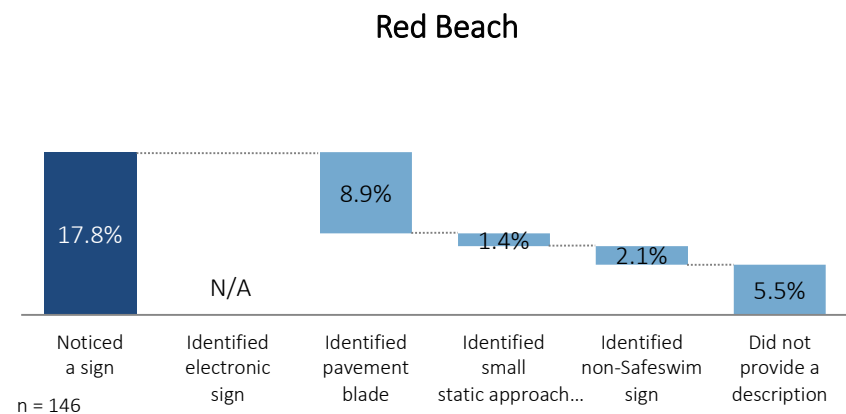
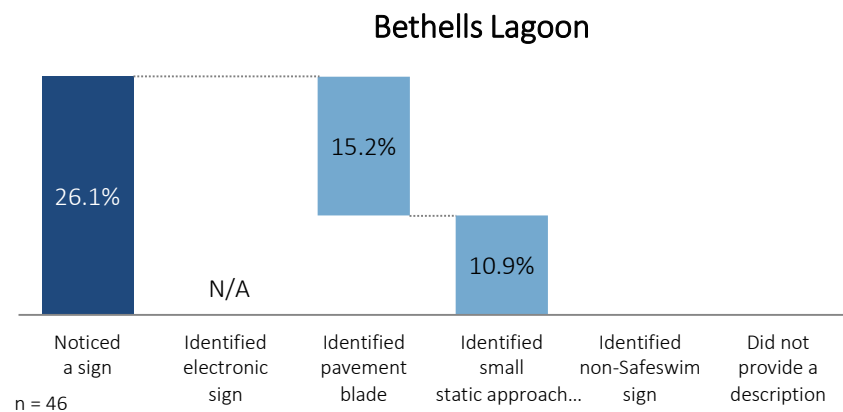


Figure 25. Beach visitor awareness of water quality signs, by beach



Online panel respondents were asked if they had ever noticed any water quality warning signs at Auckland beaches or lagoons. The percentage of people who reported noticing signs remained static, at 46 per cent and 44 per cent before and after the new Safeswim rollout, respectively.

### Ever noticed water quality signs

The proportion of people who have noticed signs remains static

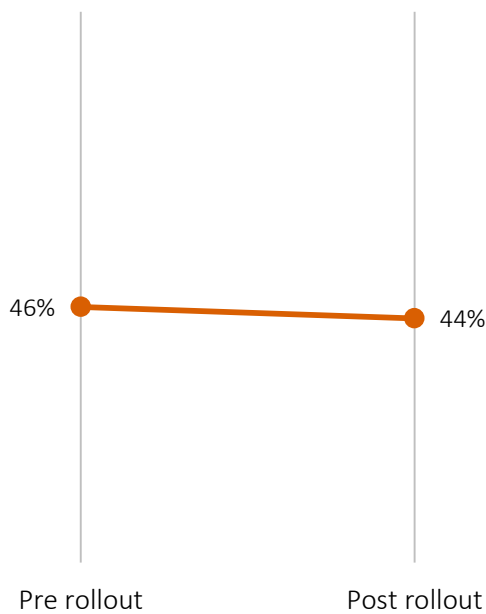


Figure 26. Whether an online panel of Aucklanders had ever noticed water quality signs at beaches

On-beach visitors were also asked whether they agreed or disagreed that the signs did a good job of informing people about. Only a minority (27.4 per cent) agreed.

### Agreement that the signs on the beach do a good job of informing people about water quality

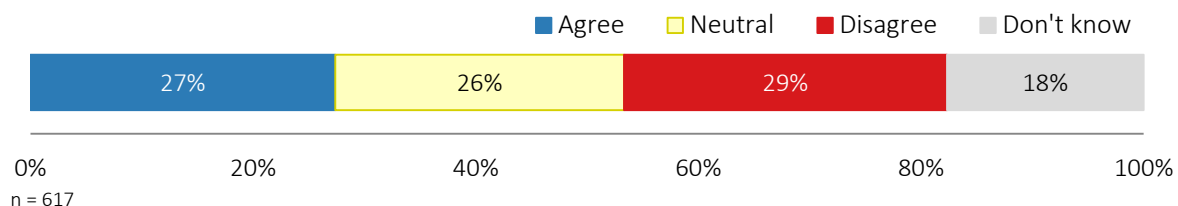


Figure 27. Beach visitor perception of value of signs for informing the public about water quality

## 2.8.2 The challenge of on-beach signs

While the results were variable across the beaches studied, the majority of respondents did not notice existing Safeswim signage. This suggests that the current signage is not optimal.

There are a number of challenges with signs that were identified during this evaluation:

- Almost no-one noticed the static “Check before you swim” signs, which suggests their size, position, message content and relationship with other on-beach signs should be reviewed. We provide suggestions around improving sign clarity and motivation in Section 4.1.2.
- We witnessed instances where Safeswim static approach signs had been removed (Titirangi Beach and Green Bay) by unknown parties.
- Although more people saw the electronic signs and pavement blades, this still represented a minority of beach users.
  - Both types of signs suffer from the fact that many beaches have multiple entry points. Increasing the proportion of beach users who see these signs requires signs at each major entry point, or development of a culture where there is a centrally located and up-to-date sign on all major beaches and visitors actively look for the sign as they enter the beach.
  - Significant support for placing pavement blades was provided this summer by Surf Life Saving Northern Region. While many visitors saw these signs when they were present, the signs were only displayed at patrolled beaches during patrol hours, meaning that beach users were not informed outside of these hours.<sup>5</sup> Placing and updating signs also places an additional burden on a busy, volunteer-based organisation.
- Some beach visitors reported noticing water quality signs but did not pay attention to the content of the signs, which suggests the need to ensure all signs are designed to attract attention.
- Sometimes beach signs provide contradictory information, such as at St Marys Bay where a new digital sign (indicating low, moderate and high risk conditions over time) was installed next to a static no-swimming, no-shellfish gathering Safeswim sign from the old programme. It is crucial to maintain a consistent message or the public will quickly learn to mistrust and ignore Safeswim warnings.

Despite the challenges listed above, people report wanting signs at beaches warning them when water quality is poor. Signs are also likely to fulfil an important function for those without internet connectivity and for non-Aucklanders who have not had the opportunity to be exposed to Safeswim communications.

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<sup>5</sup> Patrols occur at 17 beaches in the Northern Region (from Raglan in the south to the Far North in the north) between October-April for on average 4-5 hours per day.

Future Safeswim improvements should review the Safeswim signage approach – in terms of both the type of signs offered and the design of the signs to maximise attention.

## 2.9 Influence of water quality on swimming behaviour

Online panel members were asked to indicate whether water quality in general impacted their swimming behaviour. Six in ten respondents had avoided swimming due to poor water quality at some point (59 per cent, up from 53 per cent pre rollout). A sizable percentage reported that water quality impacts which beach or lagoon they visit, either 'often' or 'always' (44 per cent, up from 37 per cent pre rollout).

### Impact of water quality on swimming behaviour

An increasing number of people are avoiding swimming because of poor water quality

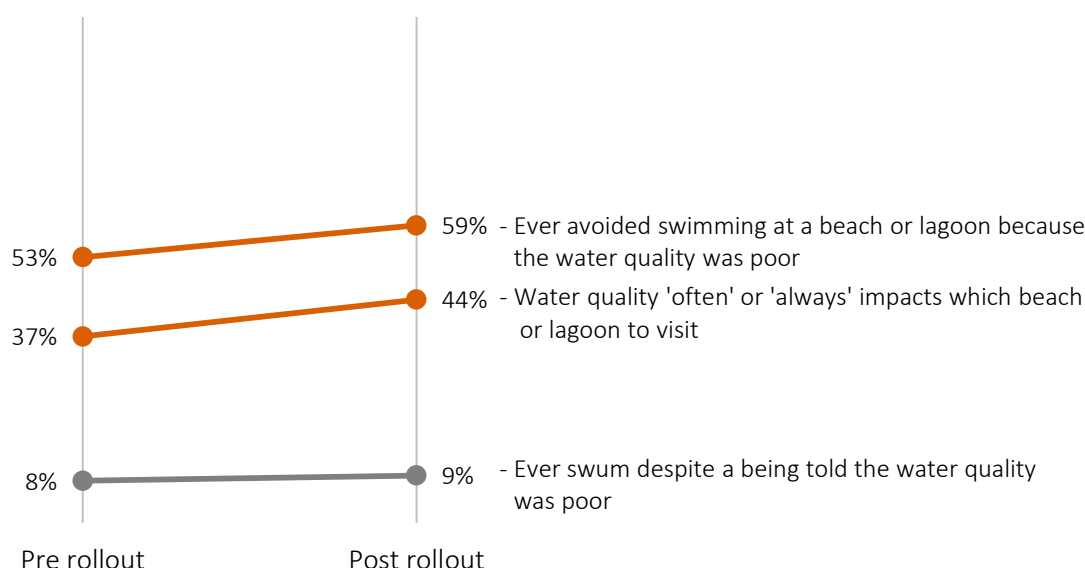


Figure 28. Impact of water quality on online panel members' swimming behaviour

Overall, 10 per cent of online panel members reported that they or their children at some point have swum despite a sign or someone telling them the water quality was poor. Of those who had swum, 21 per cent reported that they or their children had become sick afterwards. This is similar to 19 per cent at the end of the 2016/2017 summer period.

A range of reasons were provided for why they had swum despite warnings, including:

- they had travelled a long way
- the water looking fine to the naked eye,
- it was hot and they wanted to swim, and
- children's insistence that they wanted to swim.

Some respondents weren't aware of issues at the time of swimming, or made a conscious effort to only wade or swim without putting their head underwater.

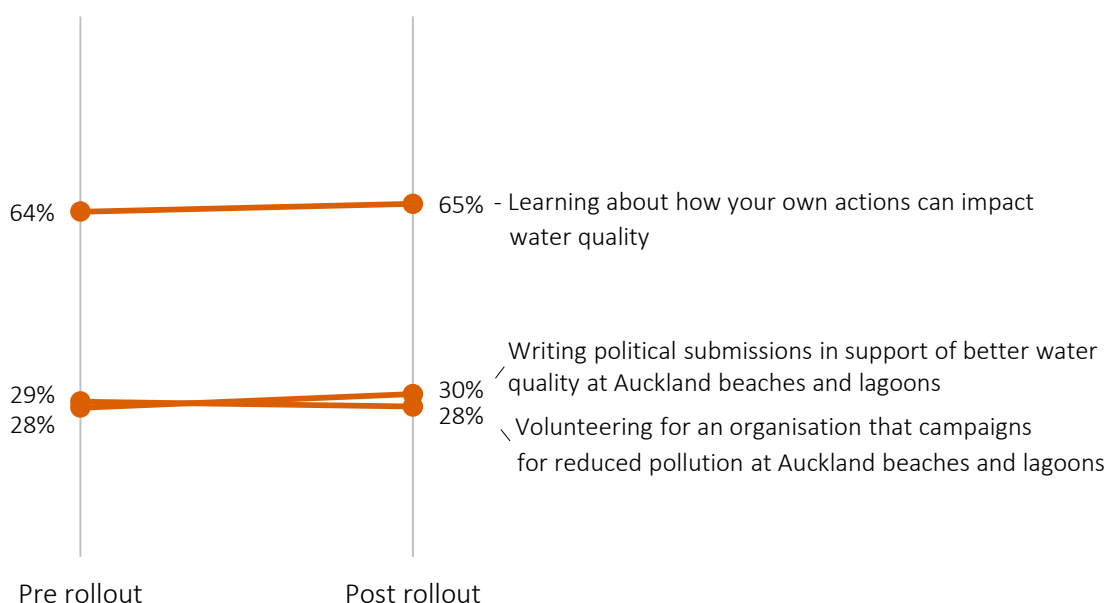
## 2.10 Public interest in learning more and taking action

Almost two-thirds of survey respondents were interested in learning more about how their own actions can impact water quality.

Relatively fewer respondents (less than one-third) were interested in providing their contact details to volunteer for an organisation that campaigns for reduced pollution at Auckland beaches and lagoons, or to write political submissions in support of better water quality at Auckland beaches and lagoons.

Interest in learning more, volunteering and writing political submissions was stable pre and post Safeswim rollout.

### Interest in learning more writing political submissions and volunteering to improve water quality stable over time



Everyone was asked how much money, if any, they would be willing to donate to an organisation that campaigns for reduced pollution at Auckland beaches and lagoons.

Although 43 per cent of respondents declined to donate any money post rollout, often citing the rates that they already pay for this service, the remainder offered some form of donation. The median value donated was \$5 and the mean value donated was \$19.50. The amounts suggested for donation above were almost exactly the same as suggested in the pre rollout survey.

Note that as respondents weren't required to follow through with their donations, the values provided likely overstate the real amount individuals would donate.

### 3.0 Summary of Findings

The evaluation findings demonstrate that the rollout of the new Safeswim programme has had a number of positive impacts. Its release has been associated with a sharp increase in media attention on water quality in general and Safeswim in particular, and has resulted in increased awareness and usage of Safeswim amongst beach users.

As at the end of the 2017/2018 swimming season, around half of all beach users in Auckland were aware of Safeswim. A small but significant percentage of beach users (nine per cent) appeared to be using the website regularly, and there is strong public interest in learning more and talking about Safeswim and water quality issues.

A culture of checking water quality and warning others about risks is weak but emerging, with Safeswim being shared amongst social networks and beach users beginning to tell one another about Safeswim warnings.

The evaluation findings also reveal a number of challenges that need to be overcome:

- While many people know about Safeswim, most are not in the habit of using the system
- Around half of all Auckland beach users don't know about Safeswim
- The current on-beach sign configuration is inconsistent and inadequate
- There are significant misunderstandings about Safeswim and water quality amongst the public. Notably:
  - Many beach users still assume that water quality ratings are sample-based and assume they are quickly out-of-date, leading to mistrust in ratings.
  - A number of media articles continue to perpetuate inaccuracies about how the programme works, such as council closing beaches or banning events.
  - Only approximately half of those surveyed indicated an understanding that beaches are sometimes contaminated with faeces and that an ageing sewage and wastewater systems is contributing to this situation.
  - About a quarter of those surveyed could not identify the kinds of illnesses they were at risk of contracting from swimming in water polluted with faeces.
- There remain a range of reasons why people are not proactively checking water quality before swimming, including:
  - Lack of awareness of a need to check (i.e. many are still unaware there are water quality issues at the beaches they visit)
  - Many people do not know about Safeswim or where to look for water quality information
  - Many beach users expect that water quality issues will be evident visually at the beach (e.g. they will be able to see poor water quality with their eyes, or warning signs will be present), or someone (e.g. Surf Lifesavers or the media) will actively tell them when pollution is present

- Forgetting to check or laziness / lack of motivation
- Low internet connectivity
- A perception that the risks are overstated and that the benefits of swimming outweigh the risks

We suggest a number of improvements to Safeswim below.

## 4.0 Improvements to Safeswim

We offer a number of suggestions for improving the usage and take-up of Safeswim amongst Auckland beach users.

While it is important to continue to develop the technical capacity and accuracy of the Safeswim model, our findings indicate that Auckland Council and Safeswim partners should focus significant attention on:

1. Further raising awareness of water quality issues, awareness of Safeswim, and motivating usage of Safeswim
2. Reviewing the approach to on-beach signage, including sign types, message content and ways of providing reliable, cost-effective real-time information
3. Continuing to improve the Safeswim website functionality

We suggest all three areas of focus be informed by best-practice in behaviour change approaches, and suggest a proactive behaviour change campaign be developed to run during the 2018/2019 swimming season.

### 4.1 A framework for effective behaviour change

There are a number of established behaviour change frameworks that provide evidence-based guidelines that could be used to ensure future Safeswim awareness raising is effective. Below we draw on the behaviour change principles in the EAST framework.<sup>6</sup>

The EAST framework provides guidelines on what to consider when developing a behaviour change approach to maximise its effectiveness. The framework is broken into four recommendations: Make it easy, Make it attractive, Make it social, and Make it timely. Each principle is applied below.

#### 4.1.1 Make it easy

**Reduce the ‘hassle factor’ of using Safeswim.** People are less likely to use a service or perform a behaviour that takes effort. As discussed in section 2.5.2, the unreliability of the Safeswim website was raised as a barrier to checking water quality before going to the beach. Making Safeswim both easier to use and easier to understand should underpin all future developments and modifications.

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<sup>6</sup> The Behavioural Insights Team. (2014). EAST: four simple ways to apply behavioural insights. Retrieved from [http://www.behaviouralinsights.co.uk/wp-content/uploads/2015/07/BIT-Publication-EAST\\_FA\\_WEB.pdf](http://www.behaviouralinsights.co.uk/wp-content/uploads/2015/07/BIT-Publication-EAST_FA_WEB.pdf).



One way to reduce the hassle factor of using Safeswim is by enabling users to set up SMS or email alerts that are automatically sent when Safeswim risk ratings are predicted to be high. Being 'pushed' warnings means people can simply open a notification on their phone or computer, rather than take the effort to visit and navigate the website.

Having Safeswim ambassadors visit beaches and sign people up to receive notifications for their favourite beaches would reduce this effort further, and act as a low-effort entry point to using Safeswim. The ambassadors could also help beach users bookmark the Safeswim website or to place a shortcut icon on their smartphone home screen, to ease future navigation.

**Simplify messages.** People are more likely to ignore information they don't immediately understand. All future development and Safeswim modifications should strive to simplify messages.

The Behavioural Insights Team recommends that simplification efforts focus on:

- Making sure that the key message is presented early, ideally in the first sentence or subject line
- Keeping language simple
- Being specific about recommended actions
- Removing all information that is not absolutely necessary for performing the action
- Breaking complex tasks down into simpler, easier steps.

This evaluation shows that beach users would benefit from further simplification of messages about:

- The cause of water quality issues at each beach or lagoon
- How Safeswim ratings are produced and whether they are timely and up-to-date
- The likelihood of illness under different Safeswim risk levels
- The consequences of swimming in polluted water
- The recommended behavioural responses to Safeswim risk levels (notably the amber rating).

#### **4.1.2 Make it attractive**

**Attract attention.** Ensure signage and messages are designed to attract attention and motivate action. Research shows people are more likely to respond to information that is novel, simple and accessible.

There are a number of ways to attract attention:

- Make the consequences of swimming in polluted water clearer (e.g. highlight the risk of illness)
- Use emotive language (e.g. focus messages on protecting one's family)
- Use colour (the current green, amber and red risk characterisation is a good example of colour use to convey meaning)
- Focusing on loss avoidance (e.g. "avoid illness") is often a more powerful way to motivate behaviour than focusing on gains (e.g. "stay healthy").

Current signs – such as the “Check before you swim” approach signs – do not meet the criteria for attracting attention. They are small, unobtrusive and their message is neither clear nor motivating. High levels of effort and curiosity would be required in order for these signs to result in tangible behaviour change.

**Personalise messages.** One of the strongest ways to attract and sustain attention is to personalise a message or service. Safeswim could be made more attractive by enabling people to personalise the Safeswim website in a way that is most useful to them.

We suggest providing the ability for users to receive free SMS messages or personalised emails about ‘their’ beaches. Further considerations should also be given to enabling the Safeswim website to be personalised (e.g. being able to set a ‘default’ view on Safeswim that returns to a ‘home’ beach or previously viewed beaches). All communications should be addressed personally to people by name to encourage people to read them.

#### **4.1.3 Make it social**

People are influenced strongly by information from others and what other people are doing. We have already seen the power of social sharing: word of mouth and Facebook were the primary ways people heard about Safeswim. We have also seen that many beach users were keen to talk about Safeswim with our on-beach researchers, and that many beach users take cues from what others are doing on the beach.

We recommend that improvements to Safeswim focus on making Safeswim social and use social communication methods to engage people with Safeswim.

**Engage with people in-person where possible.** People are more likely to be influenced by in-person discussion than passively received media. Our experience of on-beach surveying is that the majority of beach visitors were interested in engaging in a discussion about water quality and Safeswim, and that these discussions allowed them to understand the issues much more clearly than reading signs or media articles.

We suggest engaging with beach users via beach ambassadors, providing an opportunity to engage meaningfully with the public and to influence beach visitors’ behaviour.

**Use the power of networks.** A range of studies have shown that messages are more powerful when they come from friends, flatmates, and family members.

We suggest facilitating the transfer of awareness about Safeswim by identifying key influencers or groups and engaging with them about Safeswim and water quality. These influencers should be encouraged to share Safeswim amongst their networks.

**Show that other people use Safeswim.** People are strongly influenced by what other people are doing (descriptive norms). One way to change behaviour is to highlight that others are doing the behaviours.

We recommend that future Safeswim communications should highlight and reinforce social norms for checking water quality (e.g. “73% of Aucklanders think it is important to check water quality at Safeswim.org.nz before swimming”).

Note, highlighting a negative social norm (such as only a small number of people currently check water quality) can have counter-productive effects, so any messaging should highlight statistics that support checking water quality.

**Encourage a culture of beach users warning other beach users.** We received some indications that beach users were beginning to warn other visitors when there was a Safeswim alert for the beach. Developing a culture of looking out for other beach visitors is a powerful way of creating a social norm to check water quality before swimming – not only does it provide another way for those who don’t know about Safeswim to be informed, but people are much more likely to change their behaviour in response to an interpersonal interaction than a static sign.

There is some evidence that linking positive behaviours with people’s identity (e.g. ‘being a good Aucklander’) can further encourage the behaviour.<sup>7</sup>

**Express thanks.** Social psychology research has found that people have a high need for reciprocity and tend to feel obligated to return a favour, especially when it is personalised and unexpected.<sup>8</sup> Feelings of reciprocity commonly arise in response to gifts or assistance from others, but can also be elicited in response to expressions of gratitude. Studies, for instance, show that thanking people for being good voters prior to elections increases subsequent turnout.

We recommend that communications, particularly those encouraging people to warn other beach users, focus on expressing gratitude. For example, ‘Thank you for letting others know about the temporary ‘high risk’ water quality alert’.

**Ensure the messengers are relatable to the target population.** Messages from friends and people we know are very influential. In addition, individuals are more likely to be influenced by others if they perceive them to be similar to themselves.<sup>9</sup>

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<sup>7</sup> Bryan, C. J., G.M. Walton, T. Rogers and C.S. Dweck. (2011) Motivating voter turnout by invoking the self. *Proceedings of the National Academy of Sciences (PNAS)*, 108(31):12653-12656.

<sup>8</sup> Cialdini, R.B. 1993. *Influence: Science and practice* (3rd ed.). Glenview, IL: Scott Foresman.

<sup>9</sup> Dolan, P., M. Hallsworth, D. Halpern, D. King and I. Vlaev. (2010). *MindSpace: Influencing behaviour through public policy*. UK Cabinet Office.

We recommend that messages about Safeswim be designed and tailored to different audiences and that, where possible, the messengers be matched to the recipients so they are relatable.

**Encourage people to make a commitment.** We are more likely to follow through on doing something if we have made a public commitment to do it.<sup>10</sup>

We recommend using public engagement to encourage people to make a commitment to use or tell others about Safeswim.

**Help people to make a plan.** Commitments can be strengthened by working with people to make a plan for how they will successfully complete a desired behaviour. For Safeswim engagement this might take the form of encouraging people to imagine when and where they will check Safeswim and what they will do if their favourite beach is showing an alert.

#### **4.1.4 Make it timely**

**Prompt people when they are most likely to be receptive.** Future Safeswim planning should focus on times when messages are most likely to have an impact. Such times might include the first few hot weekends of summer, weekends in general, times of intermittent poor / good weather when water conditions are more likely to be poor but desirability for swimming is high.

**Enable the Safeswim website to provide timely alerts.** Another important timing aspect is making sure people have Safeswim information before or during the decision of which beach to visit, rather than after they have made a decision and exerted effort to get to a beach.

A number of online panel survey respondents who reported swimming despite warnings about poor water quality did so because they had travelled to get to the beach to swim and the effort they had already exerted made them less open to changing their plan.

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<sup>10</sup> Dolan, P., M. Hallsworth, D. Halpern, D. King and I. Vlaev. (2010). *Mindspace: Influencing behaviour through public policy*. UK Cabinet Office.

## 4.2 Bringing it all together

We propose a number of ways to improve Safeswim. Notably, we suggest building upon the significant progress made over the 2017/2018 summer, by developing a proactive behaviour change campaign to increase awareness and motivate usage of Safeswim.

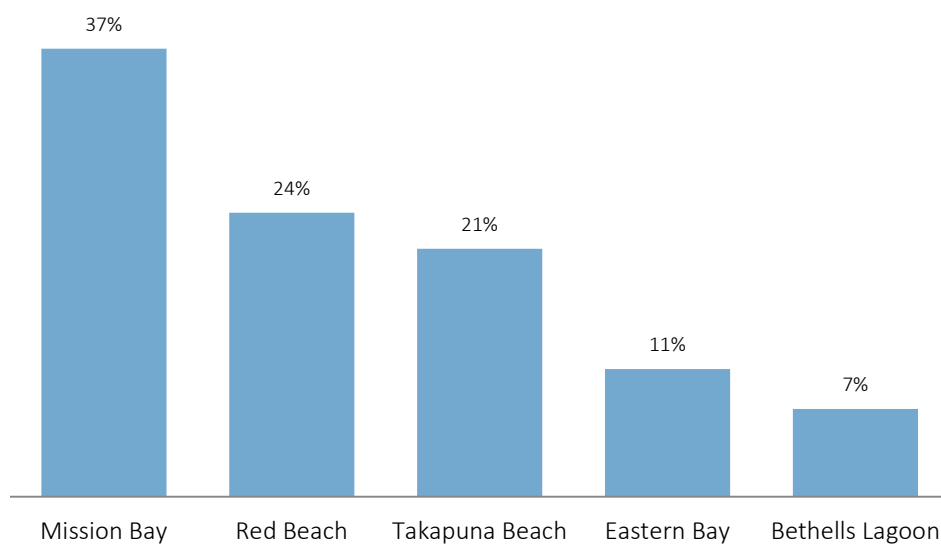
Drawing upon findings from the evaluation, and the principles of behavioural insights above, we suggest the Safeswim project team consider the following recommendations:

- Continue to develop the ease of use and functionality of the Safeswim website
- Convene a project team to develop a coherent, proactive Safeswim behaviour change campaign. We suggest the campaign utilise a range of techniques and communication channels, including beach ambassadors that engage with beach users across Auckland. The nature of engagement should be actively focussed on addressing the knowledge and motivation gaps identified in this evaluation and should be informed by the behaviour change principles noted in the sections above (make it easy, make it attractive, make it social, and make it timely).
- Conduct a thorough review of the Safeswim signage approach and ensure this review is in alignment with the behaviour change campaign above.

## Appendix A On-beach visitor survey sample

Surveying was conducted at five beaches, with a concentration at Mission Bay due to its popularity and regional significance.

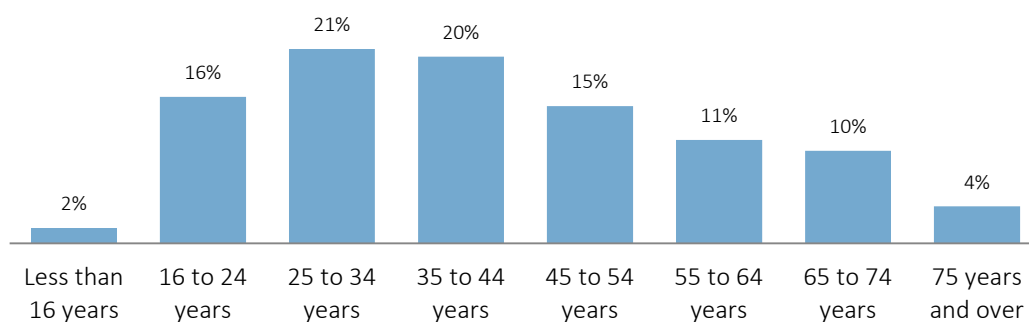
Number of responses per survey site



n = 627

A range of ages were on the beaches and agreed to participate in the survey.

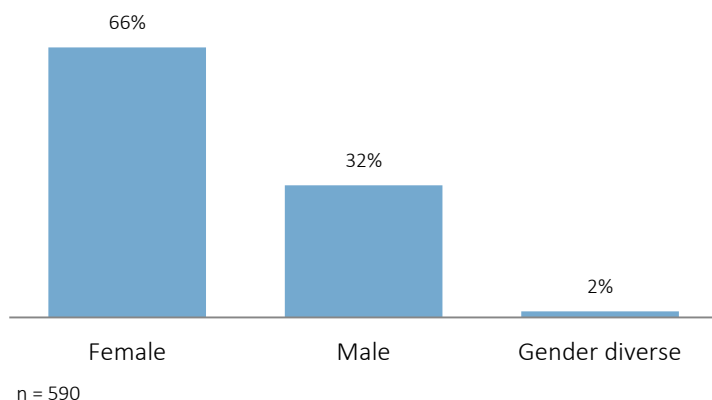
Age distribution of on-beach survey respondents



n = 592

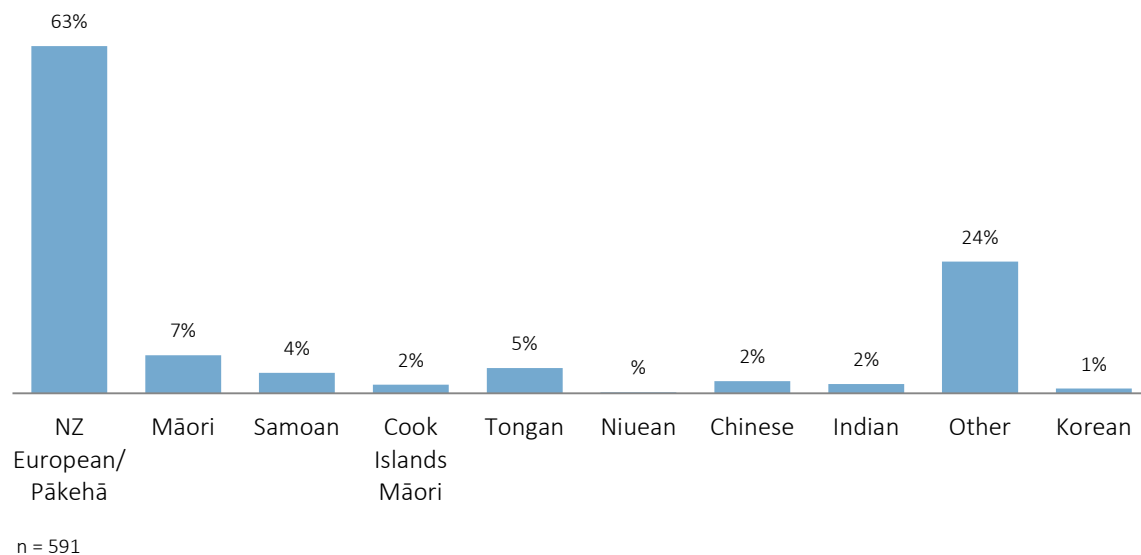
More women participated than men.

### Gender distribution of on-beach survey respondents



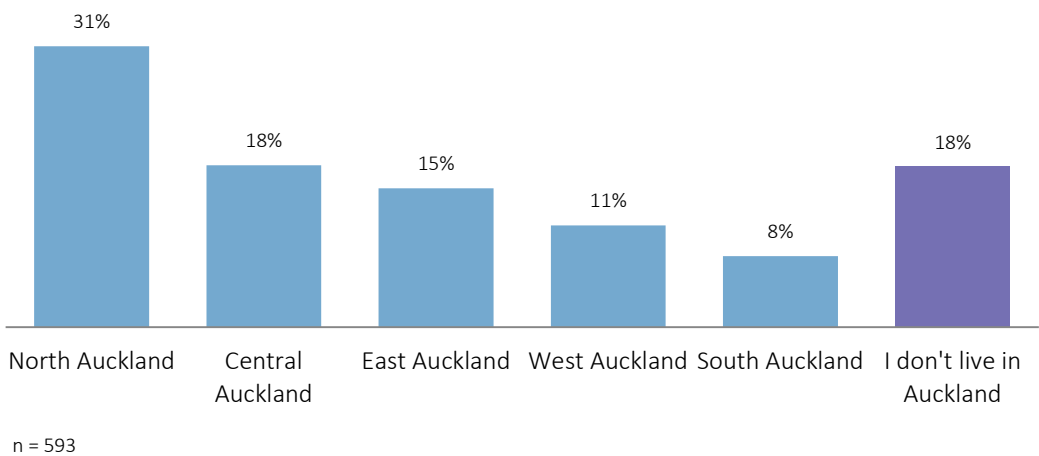
Survey participants were primarily New Zealand European and 'other' ethnicities, with other ethnic groups participating at lower rates. This demographic pattern is likely due to surveying sites (primarily Mission Bay, Red Beach and Takapuna Beach).

### Ethnicity distribution of on-beach survey respondents



Participants came from across Auckland, with a concentration in North Auckland due to surveying at Red Beach and Takapuna Beach. Eighteen per cent of respondents did not live in Auckland.

Where on-beach survey respondents live



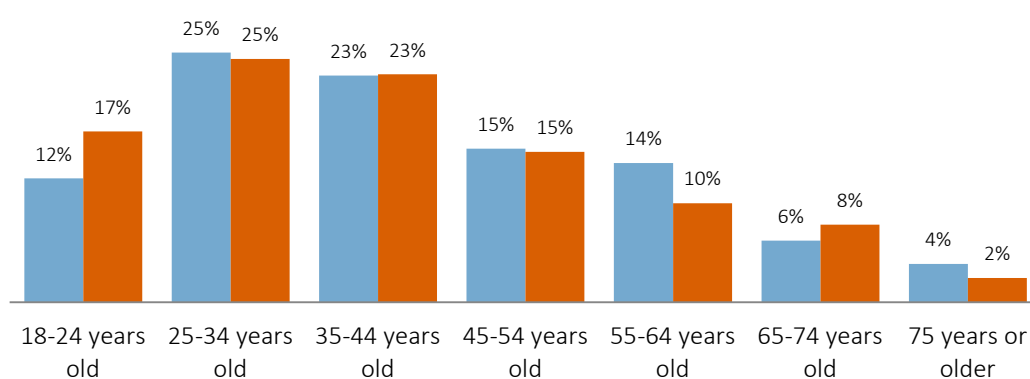


## Appendix B Online panel survey samples

Comparison of pre rollout and post rollout surveys shows the survey sample characteristics are very similar.

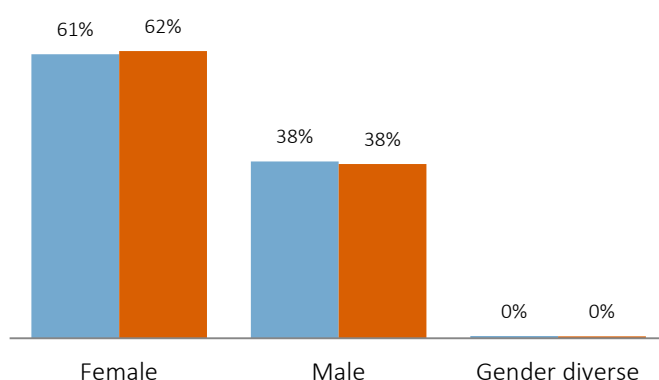
A range of ages were on the beaches and agreed to participate in the survey.

Age distribution of **pre rollout** and **post rollout** online survey respondents



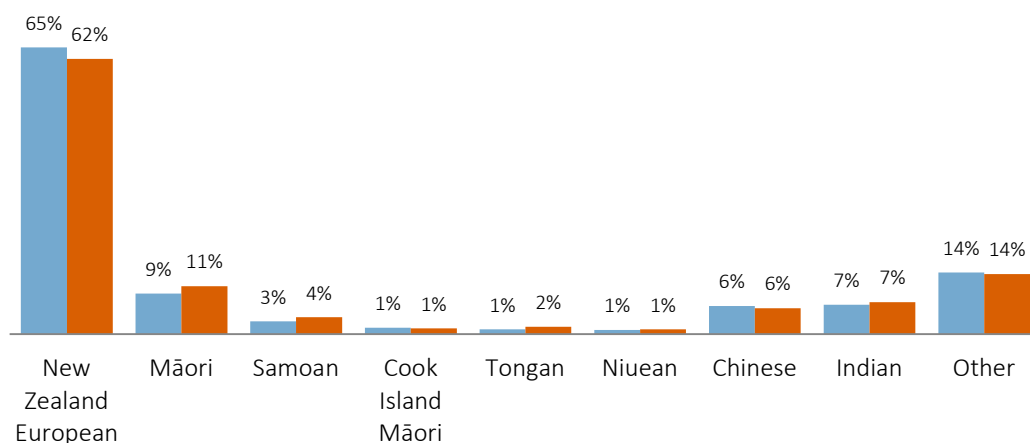
As with the on-beach surveying, more women participated than men.

Gender distribution of **pre rollout** and **post rollout** online survey respondents



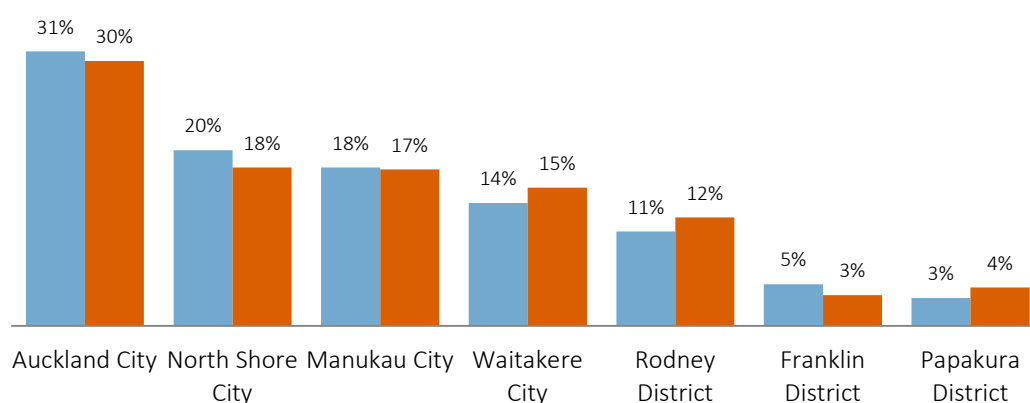
Survey participants were primarily New Zealand European, 'other' ethnicities, Māori, Indian and Chinese.

### Ethnicity distribution of **pre rollout** and **post rollout** online survey respondents



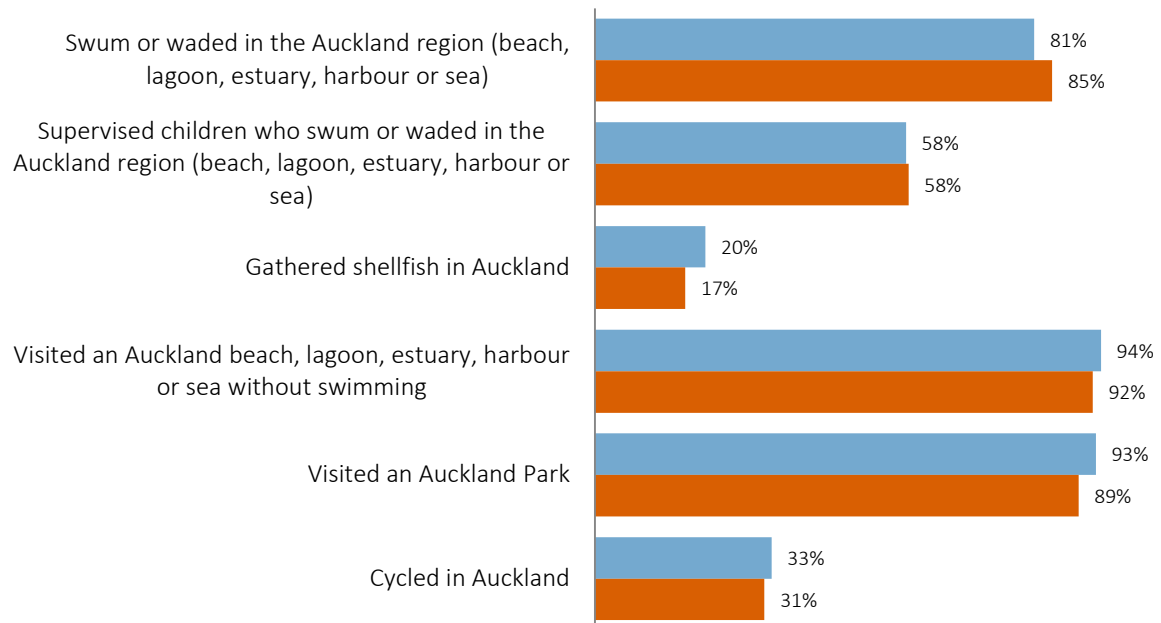
Participants came from across Auckland, with a concentration in the Auckland City legacy council area.

### Location distribution of **pre rollout** and **post rollout** online survey respondents



All respondents had engaged with at least one of the following activities in the previous 12 months (as a condition of inclusion in the survey): have swum, supervised children who have swum, or gathered shellfish in Auckland. Most had swum, approximately half of respondents had supervised children, and a minority had gathered shellfish in Auckland.

## Engagement with water amongst **pre rollout** and **post rollout** online survey respondents











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[aucklandcouncil.govt.nz](http://aucklandcouncil.govt.nz) and [knowledgeauckland.org.nz](http://knowledgeauckland.org.nz)