

Memorandum

19 October 2018

To:	All elected members, Independent Māori Statutory Board members
CC:	Barry Potter, Director Infrastructure and Environmental Services, Mara Bebich, Stakeholder Manager, Anna Kellett, Senior Specialist Media
Subject:	Safeswim update
From:	Nick Vigar, Safeswim Programme Manager

Purpose

1. To provide an update on improvements to the Safeswim programme for the 2018/2019 summer swimming season.

Summary

- Ongoing development and improvement of the Safeswim programme is continuing. Some key improvements for the 2018/2019 summer season include:
 - increased number of beaches in the programme, going from 92 swimming sites that are currently monitored to over 140 sites by the end of the 2018/2019 summer season (see list in appendix A)
 - lifting of four long term public health warnings at beaches in the Manukau Harbour
 - established revised operating procedures for swimming events at some beaches, to reduce risk of disruption to events while also safeguarding public health and safety
 - improvements to the design and functionality of the Safeswim website (see graphic in appendix B)
 - improvements to the design of digital and printed beach signage based on public feedback.
- The council's Safe Networks programme is also expanding. Where beaches are identified with a high public health risk through Safeswim, the council has started to investigate the sources of pollution and develop solutions to these issues (see map in appendix C).
- A media release on the lifting of four Long Term Public Health sites will be sent out on Friday 19 October before the programme is officially launched on 1 November 2018. A wider publicity campaign will commence in December 2018.

Context/Background

2. In November 2017, Auckland Council, working in partnership with Watercare, the Auckland Regional Public Health Service and Surf Lifesaving Northern Region, launched an upgraded version of Safeswim.
3. This public-facing programme allows Aucklanders and visitors to be informed and manage their own health risk around swimming at Auckland's beaches, freshwater and lagoon sites.
4. Safeswim is the first platform in the world to combine information on water quality and water safety. It includes predictive models that generate water quality forecasts in close to real time.
5. It presently operates at 84 marine beaches and 8 freshwater sites across the Auckland region.

Ongoing development and improvement

6. Since its launch, Safeswim has been continually improving its systems to achieve better accuracy and reliability of water quality predictions, and to improve the communication of these predictions to the public.
7. As part of this process, a programme of targeted sampling has been undertaken around the region during the winter months to improve the accuracy of many models.
8. Safeswim is also now utilising rain radar data, calibrated by data from the council rainfall network. This enables it to more accurately determine the amount of rainfall at any beach; particularly in locations between rain gauge locations. This will improve the accuracy of models, especially in conditions when rainfall varies a lot with location.
9. Safeswim has also entered into a partnership with Surf Life Saving Northern Region, Surf Life Saving New Zealand and Plymouth University to improve our understanding of beach conditions (especially the conditions that lead to rips) and enable more effective public messaging regarding risks to physical safety at Auckland's beaches.

New Safeswim locations

10. During the 2017/2018 summer swimming season the council received feedback on various sites that should be added to the Safeswim programme. In March 2018 staff also sought informal feedback from local boards on which new swimming sites they would like to see included.
11. Staff took into account all feedback provided by local boards, and other key stakeholders, and have begun the process of bringing many of these sites into the programme. These sites have varying levels of existing water quality data and therefore have different data collection requirements, to create reliable models.
12. Sites will be progressively added once they meet the standard model requirements for accuracy. The programme expects to have over 140 sites in total by the end of the 2018/2019 summer season, gradually increasing to over 200 by November 2019.
13. Some additional sites will be added at existing beaches; in particular at longer beaches that may experience different water quality at different points. Takapuna Beach will be one of the first beaches with multiple Safeswim locations. The sampling data indicates that the public health risk differs along the beach, and by operating two independent models some parts of the beach will remain swimmable more frequently than previously.
14. For further details on the status of requested Safeswim sites, refer to appendix A.

Long-term public health warnings lifted

15. Long term public health warnings have been lifted and replaced with standard Safeswim models at four locations around the Manukau Harbour, as a consequence of improved water quality and/or improved understanding of the water quality at the various sites. These sites are:
 - Weymouth
 - Armour Bay
 - Taumanu East
 - Clarks Beach.
16. The water quality at Weymouth beach has improved over recent years, due to investigations and interventions by Watercare and Auckland Council. Contamination due to human wastewater has been significantly reduced, and testing indicates that most of the residual contamination is due to bird faeces, which pose a lower risk to human health. Subsequent to the improvements, enough water quality data has now been collected to create an accurate Safeswim model to manage the residual risk.

17. The lifting of the other three long term warnings has been enabled because further data collection has enabled models to be created that are more accurate than the previous no-swimming advisory.
18. The lifting of these warnings has been endorsed by the Auckland Regional Public Health Service and Safeswim's independent review panel of public health experts.
19. At Clark's beach, committed volunteers from the community undertook the necessary collection of water samples in a very short space of time. This allowed Safeswim to develop an accurate water quality model very rapidly, and at very low cost to ratepayers.
20. Clarks Beach is an excellent model of how a highly engaged community can work with the council to achieve better outcomes. Safeswim staff will aim to use this model in other parts of the region where possible.
21. Work continues to be carried out at several other beaches across the region to better understand and predict the risk, and to identify and remedy the causes of poor water quality.

Water-based swim event operating procedures

22. Safeswim has worked with event organisers and Surf Life Saving Northern Region to agree operating procedures that reduce risk of disruption to events while also appropriately safeguarding public health and safety.
23. To achieve this Safeswim has extended the scope of its water sampling programme. This is increasing understanding of the varying nature of contamination at beaches where swimming events are routinely held.
24. In keeping with New Zealand guidelines, Safeswim usually monitors and reports water quality in up to 0.5 metres water depth. For the beaches investigated, staff have established that whilst the risk generally persists throughout the surf zone, the water quality at the surface beyond this point (approximately 1.5 m water depth) generally remains good, and does not exceed public health guidelines. This is relevant to ocean swimming events which are often held in deeper water.
25. Building on this finding, staff have worked with event organisers to develop risk management plans that minimise risk in the surf zone, and provide appropriate public health information to competitors. This will enable swim events to take place beyond the surf zone with minimal risk, even when the beach may have a high risk (red) status.

Website optimisation

26. After reviewing the website analytics, collating feedback from users and a series of focus groups to test the design and functionality of the site, Safeswim website will also be expanded to embrace other symbols revealing water quality and safety by summer 2018, as follows:
 - Removal of 'amber' status; simplifying the modelled health risk icons to solely 'green' (compliant) and 'red' (non-compliant) water droplet. Previously, amber indicated a compliant status but public feedback was that this was confusing.
 - Addition of a new icon ('black' water droplet) is a confirmed overflow from the Watercare wastewater network. Wastewater overflows have a significantly higher public health risk than contaminated stormwater, and the black droplet is designed to make it clear when this very high risk exists. These will typically only occur in large rainfall events or when there is a fault in the wastewater network.
 - Addition of a new warning ('orange' diamond) to identify a range of other physical hazards
 - Addition of swim event pins to advise on public health risk for the swimming course itself rather than the surf zone of the beach.
 - Inclusion of weather, tide, swell and water temperature data on the Safeswim website

- Addition of new features, allowing users to personalise the services they receive from the programme (adding beaches to a 'favourites' list and providing an 'alerting function') and share information the site with their peers more easily.

27. For an example showing some of the visual changes to the website, refer to Appendix B.

Signage improvements

28. The existing three trial digital signs have been upgraded to a stable network connection, with new protective covers now adding further resilience to the elements and vandalism.
29. Plans are in place to extend the trial digital signs to additional locations, and to pilot an integrated sign/siren system for tsunami warning. Signs have been jointly developed with Auckland Emergency Management and other stakeholders to ensure an integrated, functional and flexible digital sign option. This collaboration will ensure that signs can meet multiple needs in future.
30. To reflect the website changes of removing 'Amber' water quality indicator, the Surf Life Saving Northern Region on-beach warning signs at Auckland's 14 patrolled beaches have been redesigned.
31. The installation of public health warning signs has begun at stormwater beach outlets with known poor water quality. These will be progressively implemented throughout the region, where warranted.

Safe Networks programme

32. Auckland Council's Safe Networks programme works to identify and address the causes of high public health risk at Safeswim beaches. The programme is run by Auckland Council but works collaboratively with Watercare's Inflow and Infiltration programme, which has similar goals.
33. In 2018/2019 the programme has been scaled up using additional funding from the council's new water quality targeted rate. Over time the programme will reduce Safeswim non-compliance alerts and improve amenity value of recreational beaches across urban Auckland.
34. Examples of pollution sources investigated by the programme include illegal wastewater pipes connected to the stormwater system, broken public or private infrastructure, and neglected drain maintenance at private properties.
35. Investigations are underway in some key areas, including Tāmaki North, Takapuna, Red Beach, and multiple beaches in the northern Manukau Harbour.
36. By the end of the 2018/2019 summer season, investigations will be underway at approximately 35 Safeswim beaches. Some of these investigations will be preliminary in nature, and will be used to schedule the programme for more detailed investigation. Further updates will be provided to each relevant local board, on a regular basis.
37. A map showing sites under investigation through the Safe Networks programme is provided in appendix C.

Next steps/Communications

38. A media release outlining the lifting of four Long Term Public Health Warning sites will be sent out on Friday 19 October 2018.
39. The new season of Safeswim will be officially launched on 1 November 2018, accompanied by some publicity in 'Our Auckland'.
40. A wider summer Safeswim marketing and publicity campaign will commence in December.

Contact

41. If you have any queries regarding the changes to the Safeswim programme please do not hesitate to contact Nick Vigar, Safeswim Programme Manager on nicholas.vigar@aucklandcouncil.govt.nz on 021 645 891.
42. If you or a member of the public wish to report a water pollution issue please direct them to contact the council call centre on (09) 3010101.
43. If you have any media queries please direct them to Anna Kellett, Senior Media Advisor on anna.kellett@aucklandcouncil.govt.nz or 021 538 940.

Appendices

- A. Table showing status of requested Safeswim sites
- B. Visual changes to website
- C. 2018/19 Safe Networks Programme Map

Attachment A: Status of sites requested for inclusion in the Safeswim programme

Table one below shows 113 sites that have been requested for inclusion in Safeswim by local boards or other stakeholders. Out of the requested site, 51 of these are new sites, which will be added incrementally to the Safeswim website, over 2018/2019 summer season. The rest of these sites currently have insufficient data for inclusion into the programme. They require more data collection before accurate models can be developed and so will be added in the future.

Table one:

Local Board Name	Requested Safeswim site	Safeswim Receiving Environment	Safeswim status
Albert-Eden	Oakley Creek Waterfall	Freshwater site	New
Devonport-Takapuna	Quinton Park	Marine	New
	Stanley Bay	Marine	New
	Thorne Bay	Marine	New
	Torpedo Bay	Marine	New
Franklin	Awhitu Regional Park Stream	Freshwater site	Insufficient – to be added in future
	Wairoa River, Camp Adair	Freshwater site	Insufficient – to be added in future
	Grahams Beach	Marine	Insufficient – to be added in future
	Hudsons Beach	Marine	Insufficient – to be added in future
	Hunua Falls	Freshwater site	Insufficient – to be added in future
	Matakawau Point	Marine	Insufficient – to be added in future
	Orere River	Freshwater site	Insufficient – to be added in future
	Tapapakanga Stream	Freshwater site	Insufficient – to be added in future
	Tataia Stream	Freshwater site	Insufficient – to be added in future
	Turanga Creek	Marine	Insufficient – to be added in future
	Waiomanu Beach	Marine	Insufficient – to be added in future
	Awhitu Regional Park Beach	Marine	New
	Big Bay	Marine	New
	Glenbrook Beach	Marine	New
	Orua Bay	Marine	New
	Wairoa River, McNichol Road	Freshwater site	New
Waitangi Falls	Freshwater site	New	
Great Barrier	Medlands Beach	Marine	New
	Port Fitzroy	Marine	New
	Tryphena	Marine	New
Henderson-Massey	Henderson Creek	Marine	Insufficient – to be added in future
	Chapman Strand	Marine	New
	Taipari Strand	Marine	New
Hibiscus and Bays	Arkles Bay	Marine	Insufficient – to be added in future
	Awaruku River	Freshwater site	Insufficient – to be added in future
	Orewa River	Marine	Insufficient – to be added in future
	Quarry Lake	Freshwater site	Insufficient – to be added in future
	Tindalls Beach	Marine	Insufficient – to be added in future
	Campbells Bay	Marine	New
	Murrays Bay	Marine	New
	Okoromai Bay	Marine	New
	Rothsay Bay	Marine	New
Te Haruhi Bay	Marine	New	

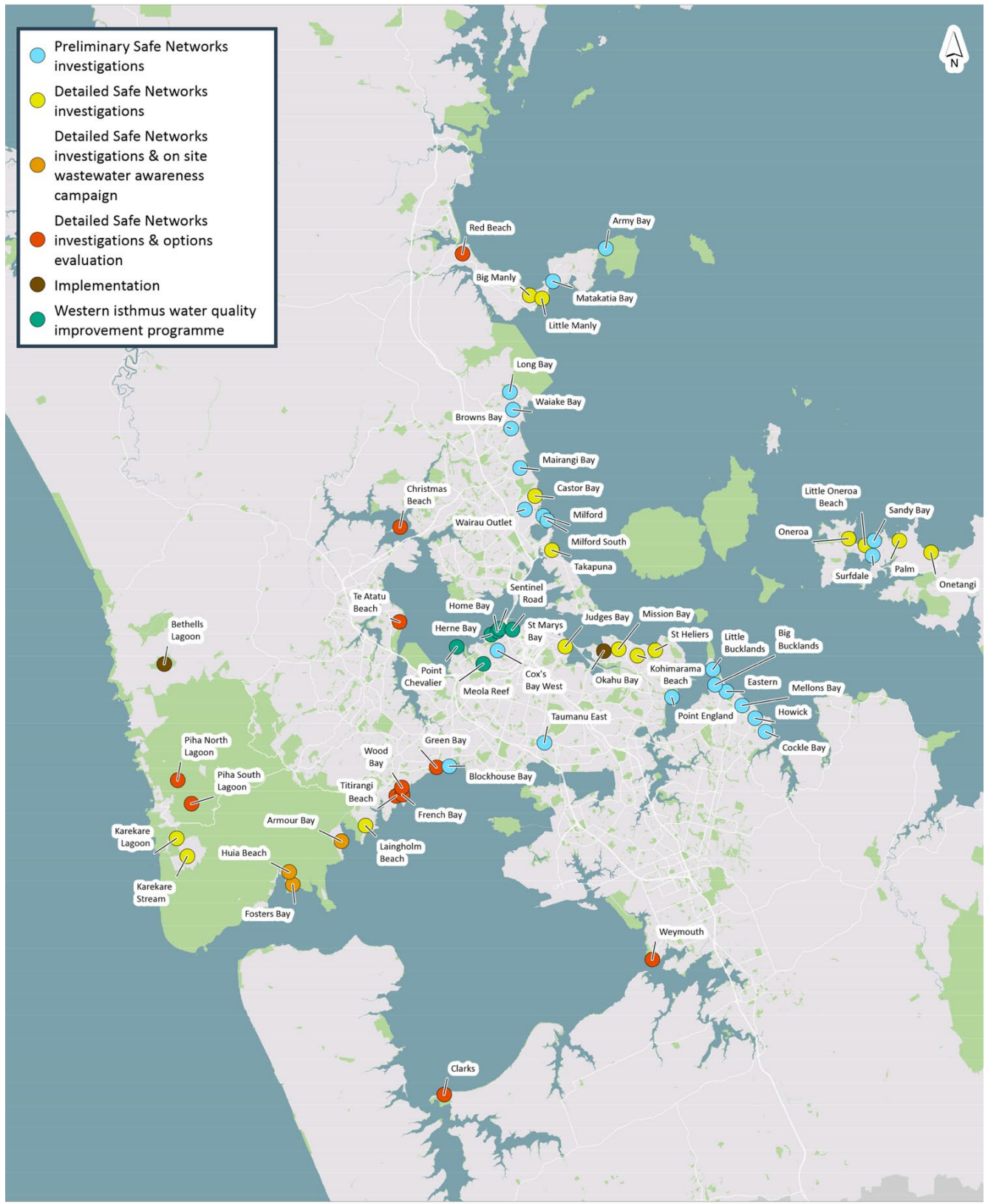
Local Board Name	Requested Safeswim site	Safeswim Receiving Environment	Safeswim status
Howick	Mangemangeroa Reserve	Marine	Insufficient – to be added in future
	Shelley Bay	Marine	Insufficient – to be added in future
	Farm Cove	Marine	New
	Sunkist Bay	Marine	New
Kaipātiki	Hinemoa Park (Birkenhead Wharf)	Marine	New
	Island Bay	Marine	New
	Kendall Bay	Marine	New
	Little Shoal Bay	Marine	New
	Manuka Reserve	Marine	New
	Soldiers Bay	Marine	New
Manurewa	Kauri Point Reserve	Marine	Insufficient – to be added in future
	Weymouth Beach (end of Roys Rd)	Marine	Insufficient – to be added in future
	St Anne's Foreshore Reserve	Marine	Insufficient – to be added in future
Maungakiekie-Tāmaki	Ian Shaw Park	Marine	New
	Magazine Bay	Marine	New
	Onehunga Bay Reserve	Freshwater site	New
	Panmure Basin	Marine	New
	Panmure Wharf Reserve	Marine	New
Ōrākei	Orakei Creek	Marine	Insufficient – to be added in future
	Karaka Bay	Marine	New
	Ladies Bay	Marine	New
	Orakei Basin	Marine	New
	Purewa Creek	Marine	New
	Wilson's Beach	Marine	New
Otara-Papatoetoe	Otara Creek	Freshwater site	New
	Otara Lake	Marine	New
Puketāpapa	Lynfield Cove	Marine	Insufficient – to be added in future
	Wattle Bay Beach	Marine	Insufficient – to be added in future
Rodney	Algies Bay	Marine	Insufficient – to be added in future
	Buckletons Beach	Marine	Insufficient – to be added in future
	Christian Bay	Marine	Insufficient – to be added in future
	Hoteo River	Marine	Insufficient – to be added in future
	Jones Bay Lagoon	Freshwater site	Insufficient – to be added in future
	Kaipara River	Marine	Insufficient – to be added in future
	Lake Tomorata	Freshwater site	Insufficient – to be added in future
	Leigh Harbour	Marine	Insufficient – to be added in future
	Million Bay (Baddleys Beach)	Marine	Insufficient – to be added in future
	Muriwai (Maori Bay)	Marine	Insufficient – to be added in future
	Okiritoto Stream	Freshwater site	Insufficient – to be added in future
	Omeru Reserve	Freshwater site	Insufficient – to be added in future
	Pakiri River	Freshwater site	Insufficient – to be added in future
	Point Wells	Marine	Insufficient – to be added in future
	Riverhead	Freshwater site	Insufficient – to be added in future
	Sandspit Harbour	Marine	Insufficient – to be added in future
Shelley Beach	Marine	Insufficient – to be added in future	
Slipper Lake	Freshwater site	Insufficient – to be added in future	

Local Board Name	Requested Safeswim site	Safeswim Receiving Environment	Safeswim status
Rodney	Snells Beach	Marine	Insufficient – to be added in future
	Takatu Road	Marine	Insufficient – to be added in future
	Warkworth Quarry	Freshwater site	Insufficient – to be added in future
	Mahurangi River	Marine	New
	Makarau Bridge	Freshwater site	New
	Mansion House Bay	Marine	New
	Martins Bay	Marine	New
	Matakana Stream	Freshwater site	New
	Mathesons Bay	Marine	New
Waiheke	Blackpool Beach	Marine	Insufficient – to be added in future
	Surfdale	Marine	New
Waitākere Ranges	Anawhata Stream	Freshwater site	Insufficient – to be added in future
	Fairy Falls	Freshwater site	Insufficient – to be added in future
	Glen Esk Stream	Freshwater site	Insufficient – to be added in future
	Karamatura Stream	Freshwater site	Insufficient – to be added in future
	Karekare Waterfall	Freshwater site	Insufficient – to be added in future
	Kitekite	Freshwater site	Insufficient – to be added in future
	Kitekite Waterfall	Freshwater site	Insufficient – to be added in future
	Pararaha Stream	Freshwater site	Insufficient – to be added in future
	Piha Stream	Freshwater site	Insufficient – to be added in future
	Wainamu Falls	Freshwater site	Insufficient – to be added in future
	Waitakere Stream (Cascades)	Freshwater site	Insufficient – to be added in future
	Waitakere/Te Henga Road Quarry	Freshwater site	Insufficient – to be added in future
	Whatipu Stream	Freshwater site	Insufficient – to be added in future
	Waitematā	Karanga Plaza	Marine
Sentinel Road		Marine	New
St Leonards		Marine	New
Whau	Whau River	Marine	Insufficient – to be added in future
N/A	Tamaki Strait	Marine	Insufficient – to be added in future

Attachment B: Visual changes to website

See separate PDF attachment.

Attachment C: 2018/19 Safe Networks Programme Map



- Preliminary Safe Networks investigations
- Detailed Safe Networks investigations
- Detailed Safe Networks investigations & on site wastewater awareness campaign
- Detailed Safe Networks investigations & options evaluation
- Implementation
- Western isthmus water quality improvement programme



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SAFE NETWORKS PROGRAMME OF WORK 2018-19

0 2,100 4,200 6,300
Meters

Scale @ A2
= 1:170,000

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