

20 QUESTIONS ON WATER

Q1

Local Board Services

Carol McKenzie-Rex, *Relationship Manager*



Q1 - What is the Howick Local Board's role and the Governing Body role in environmental services and water-related matters?

Auckland Council's Governing Body and Local Boards obtain their decision-making responsibilities from three sources:

1. Statute

- all regulatory activities: Unitary Plan, consenting and bylaws are Governing Body responsibilities
- Local Board Plans, community engagement, advocacy, input into regional policies and planning are local board responsibilities.

2. Delegation

- e.g. determining local liquor bans is delegated to local boards.

3. Allocation

- the Governing Body allocates many non-regulatory activities to Local Boards: the presumption is local unless a compelling case exists for regional decision-making.



Q1 cont - Example of local board allocation – environmental services

Group of activities	Local Board non-regulatory responsibilities	Governing Body non-regulatory responsibilities
	<i>Local boards are allocated decision-making responsibility for the following non-regulatory activities of Auckland Council.</i>	<i>The Governing Body is allocated decision-making responsibility for the following non-regulatory activities of Auckland Council.</i>

Local environmental management including:

- local environmental initiatives and projects
- facilitating community-led placemaking and development initiatives
- local stormwater quality projects
- within regional frameworks
- local waste management plans and projects within regional parameters set out in the Waste Minimisation and Management Plan.

Waste services and Environmental services including:

- regional environmental, heritage and urban design strategy, policy and guidelines
- regional environmental programmes and projects
- waste management, including the Waste Minimisation and Management Plan
- landfill management
- environmental research and monitoring.

Stormwater

Stormwater management limited to:

- the Te Arai Drainage District, the Okahuhura Drainage Area and the Glorit Drainage District. This allocation of decision-making responsibility is to the Rodney Local Board.

Stormwater management including:

- the stormwater network, including catchment management plans.

Q1 cont - Watercare

- a limited liability company: Companies Act 1993
 - a local government organisation: Local Government Act 2002
 - purpose: to deliver water and waste water services for Auckland
 - Watercare must give effect to:
 - Auckland Council's Long-Term Plan
 - an annually agreed (with Governing Body) Statement of Intent
- * Water Supply and Wastewater Network Bylaw 2015: protects water supply and wastewater network assets.



Q2 & Q3

Research and Evaluation Unit

Megan Carbines, *Team Manager Air, Land and Biodiversity*



Q2 – What are the types of environmental (water) matters monitored in the local board area?

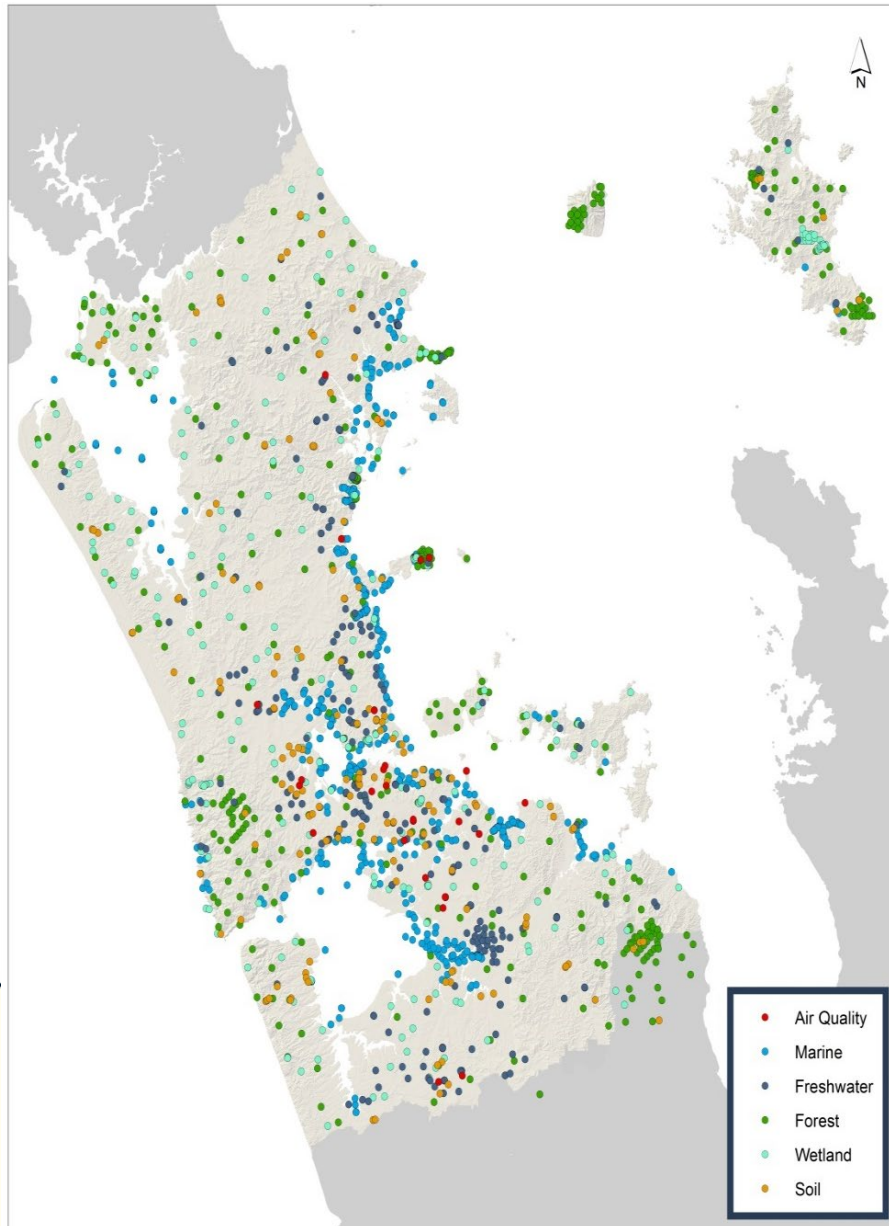
Q3 – How are these environmental (water) matters reported to the Howick Local Board?

Research and Evaluation Units (RIMU)

- multi-disciplinary research and monitoring team
 - Hydrology & Environmental Data Management
 - Water Quality
 - Air, Land & Biodiversity
 - Land use and Built environment
 - Social and Economic
- within the Auckland Plan Strategy and Research (APSR) Department within the Chief Planning Office
- our primary function is to provide robust evidence to inform policy development and evaluate council activities.



Q2 & Q3 cont – Environmental monitoring



RIMU monitors and researches the Auckland region's natural resources, including:

- freshwater - streams, lakes & groundwater
- marine - harbours, estuaries, reefs & beaches
- soil - erosion, contaminants, nutrients & quality
- land - forests, scrub, dunelands, wetlands & estuaries
- Greenhouse Gases
- air - particulates, contaminants, CO₂, NO₂, SO₂.

Q2 & Q3 cont – Environmental monitoring



Forests and wetlands: 2009+

Air Quality: 1993+

Climate & tides: 1872 (Albert Park), 1898 (Waitemata)

Dunelands: 2018+

Freshwater Ecology. MCI etc. 1999+, SEV 2009+

Contaminants in sediments: 1998+

Marine ecology: 1987+ (Manukau Harbour)

Freshwater Chemistry: 1978+ (Cascades, Wairoa, Opunuku)

Soils: 1995 – 2001, 2005+



Q2 & Q3 cont – Finding information



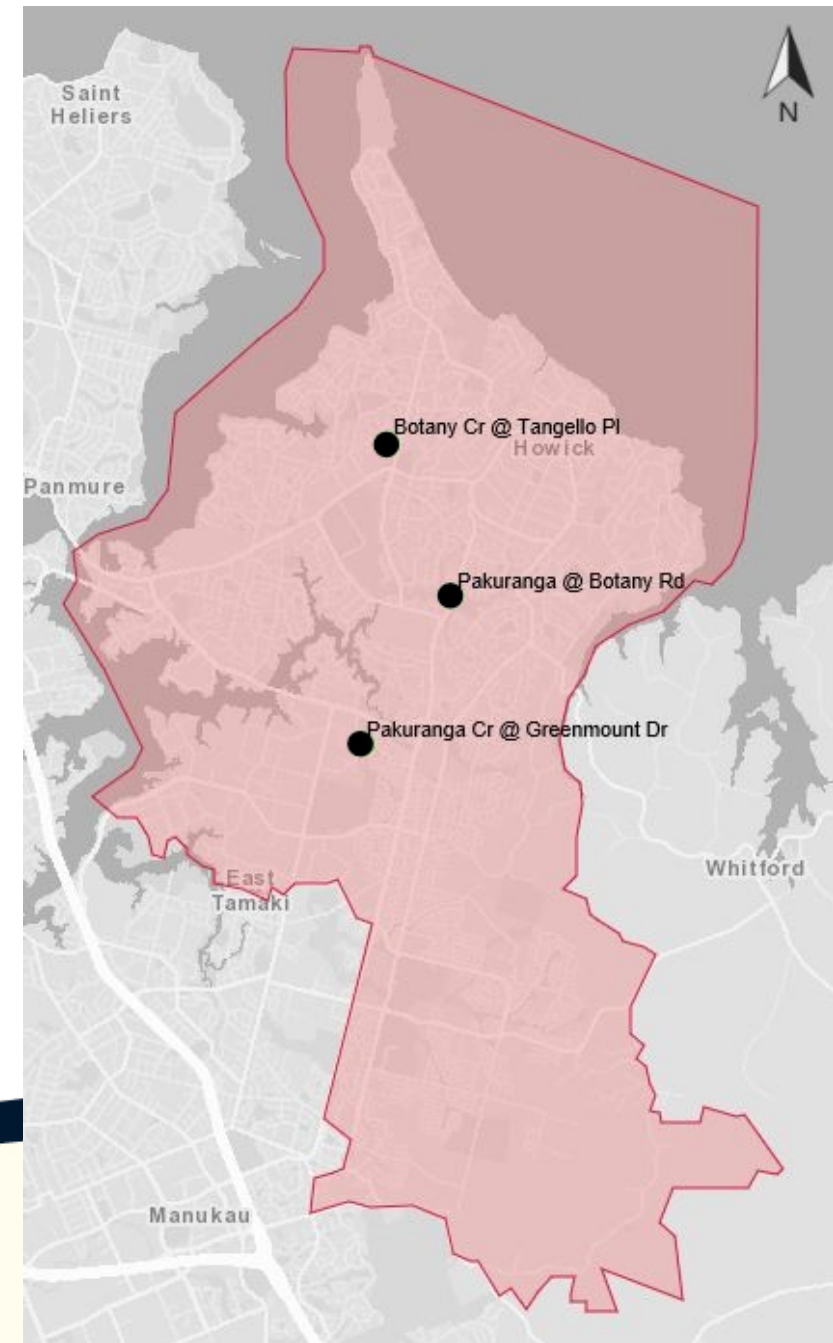
- <http://www.knowledgeauckland.org.nz/>
- <https://environmentauckland.org.nz/>
- Email: rimu@aucklandcouncil.govt.nz
- <https://www.lawa.org.nz/>



Q2 & Q3 cont – Stream Ecology

- three sites, monitoring includes:
 - Macroinvertebrate Community Index (MCI) annually
 - Stream Ecological Valuation (SEV) approximately every four years
- all sites are highly modified, with straightened and artificially lined channels. Factors which heavily influence ecological outcomes at the sites;
- the sites are considered to be in poor ecological health. MCI scores fall into attribute grade D under the NPS-FM (2020) and are below national bottom lines;
- these sites are typical of most urban streams in the region.

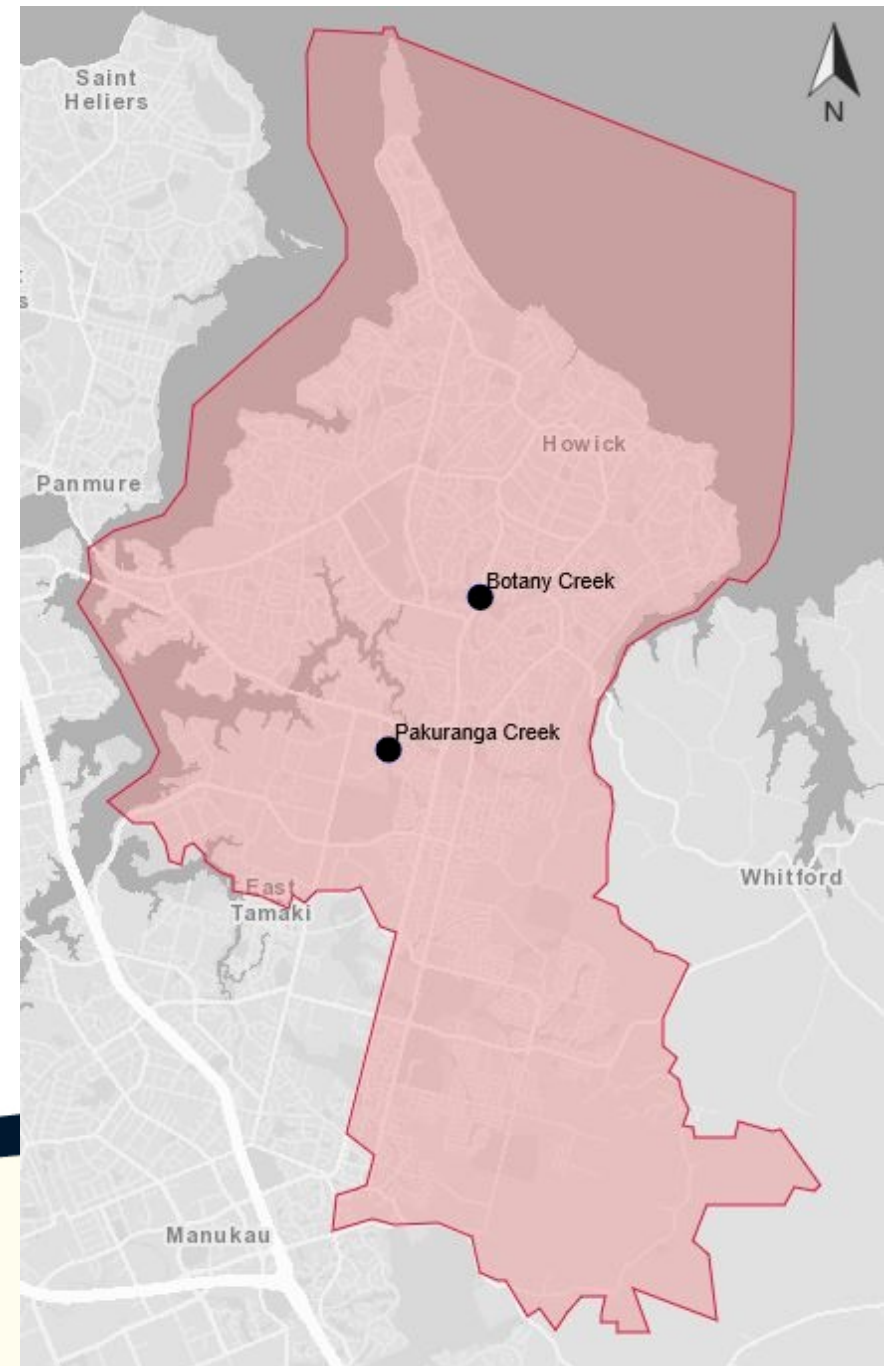
	Median MCI score	Median SEV score	Overall condition	Overall description
Botany Cr @ Tangello Pl	64	0.28	Poor	Macroinvertebrate communities dominated by pollution tolerant midge and snail taxa. Stream functions are impaired by inputs from the urban catchment, hard engineering, poor instream habitat provision and a modified riparian margins.
Pakuranga @ Botany Rd	71	0.25	Poor	
Pakuranga Cr @ Greenmount Dr	67	0.30	Poor	



Q2 & Q3 cont – Stream Water Quality

- two sites, sampled on a monthly basis and tested for 20 water quality parameters;
- results are assessed using the Water Quality Index (WQI) and NPS-FM attribute grades. The WQI is a combined score based on 7 key parameters:
 - nutrients (ammonia, nitrate, dissolved reactive phosphorus), turbidity, dissolved oxygen, temperature, and pH.
- both sites frequently exceed water quality index guidelines particularly for nutrients, temperature, and dissolved oxygen. The WQI indicates that overall water quality is poor;
- both sites were below minimum acceptable states for E. coli, a common occurrence in urban streams across the region.

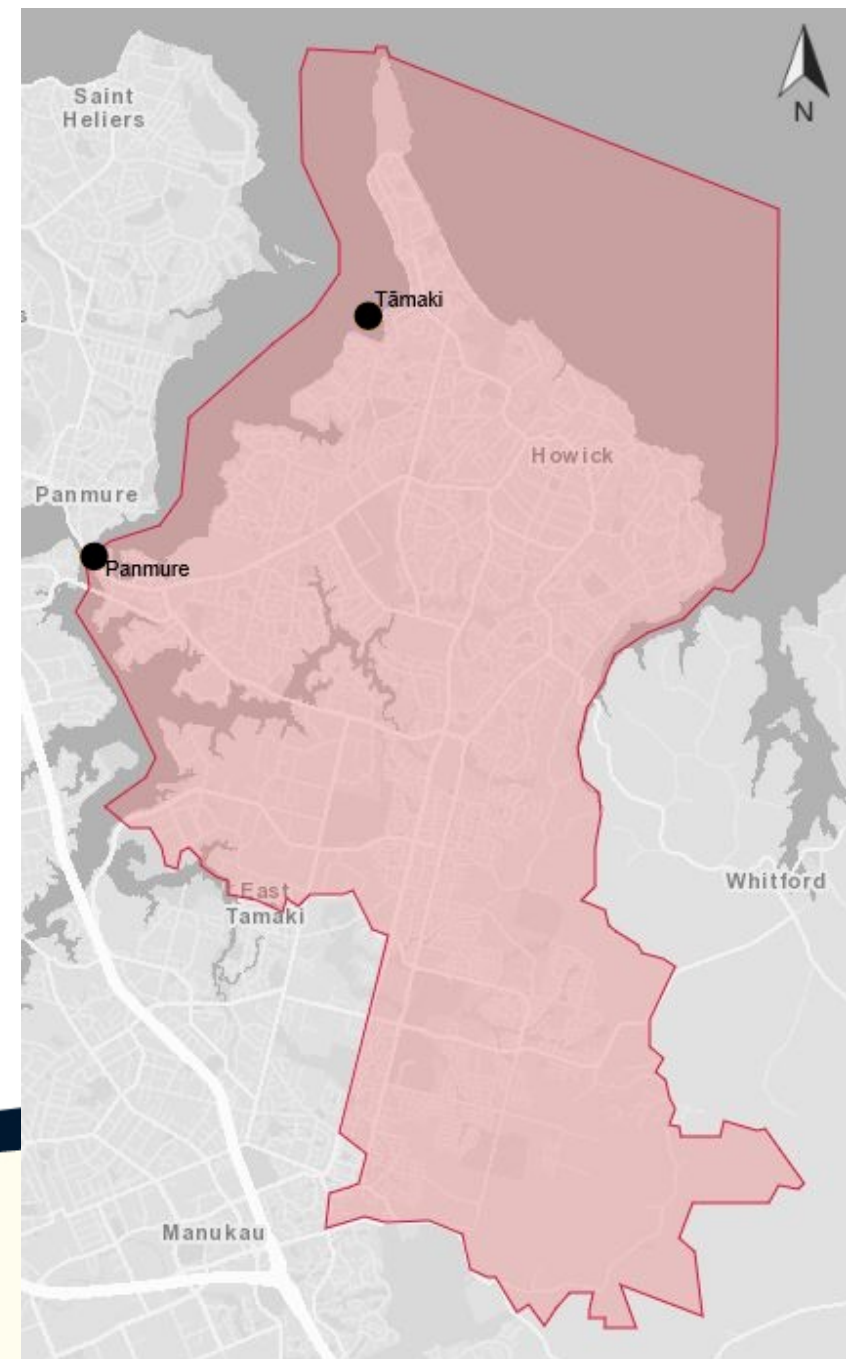
	WQI score (2016-2018)	WQI class						
			Nitrate nitrogen	Ammoniacal nitrogen	E. coli	Copper	Zinc	Dissolved reactive phosphorus (DRP)
Botany Creek	40.9	Poor	A	C	E	C	D	C
Pakuranga Creek	33.3	Poor	A	C	E	C	D	D



Q2 & Q3 cont – Marine Water Quality

- two sites, surface water is sampled on a monthly basis and tested for 16 water quality parameters:
 - Physical properties (i.e. temperature, pH)
 - Chemical properties (i.e. nutrients).
- results are assessed using the Water Quality Index (WQI) which is a combined score based on six key parameters:
 - nutrients (ammonia, nitrate, dissolved reactive phosphorus), turbidity, dissolved oxygen, and chlorophyll α .
- Tāmaki – occasionally experiences elevated nutrient levels
- Panmure – experiences elevated nutrient levels and occasionally high chlorophyll α (algae). In recent years, the WQI class has changed from poor to marginal.

	WQI score (2016-18)	WQI class	Overall description
Tāmaki	67.4	Fair	Water quality is usually protected, but is occasionally impaired. Conditions sometimes depart from water quality guidelines.
Panmure	53.9	Marginal	Water quality is frequently impaired. Conditions often depart from water quality guidelines.



Q2 & Q3 cont – Sediment Contaminants

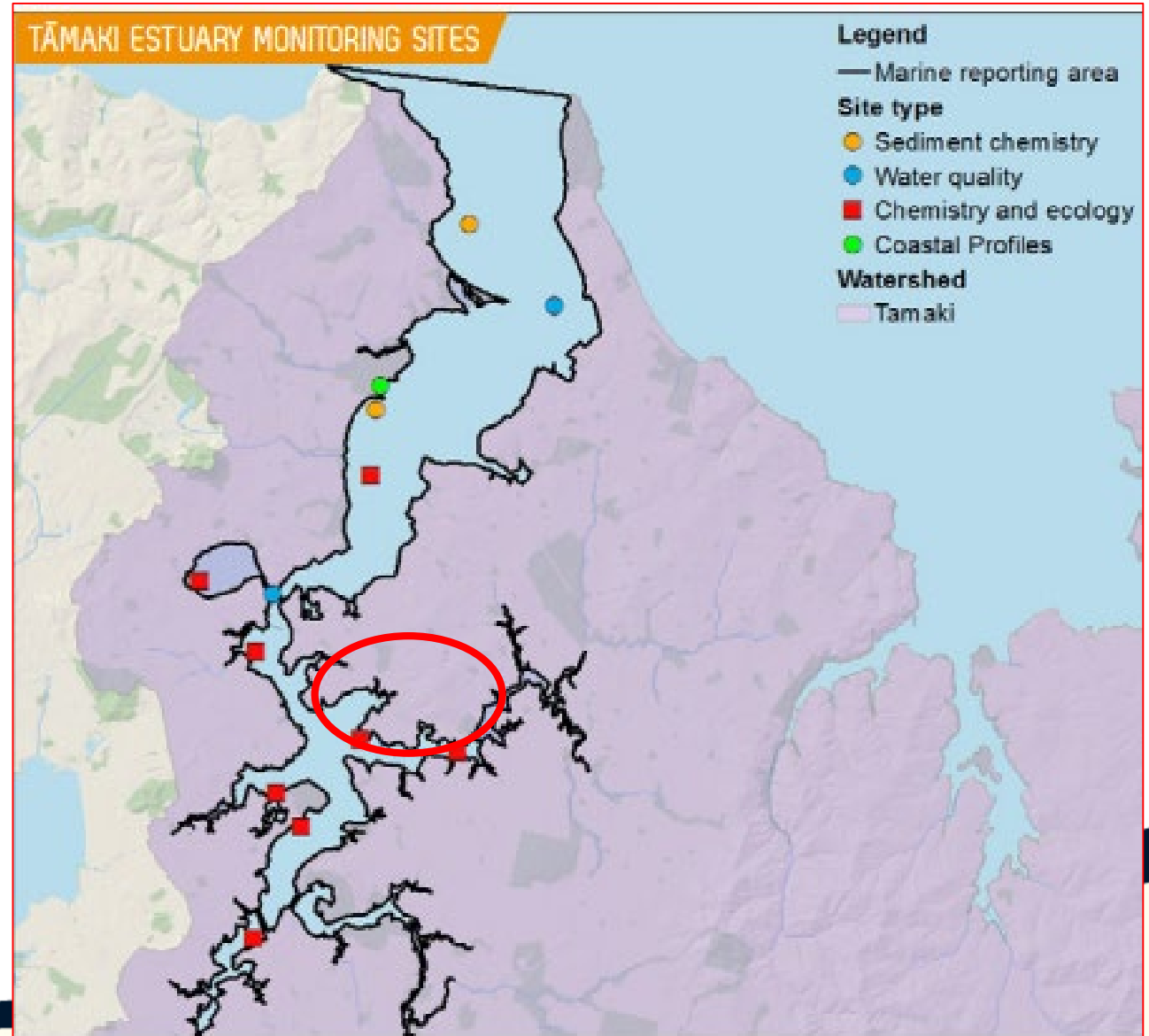
- 12 sites within the Tamaki Estuary – two within the Howick Local Board
- Pakuranga Lower and Pakuranga Upper sampled biannually since 1998.
- contaminant concentrations are assessed using conservative limits set in the Environmental Response Criteria (ERC)
- **Green** conditions reflect a low level of impact , **Amber** a moderate impact and **Red** are sites where concentrations are likely to have caused significant degradation
- similar results at both sites - elevated Zinc levels associated with urban and industrialised areas
- contaminant concentrations provide an indication of the potential effects of contaminants on benthic ecology.



	ERC				Site Details	Comments
	Copper	Lead	Zinc	PAH		
Pakuranga Upper	Green	Green	Red	Green	Muddy SZ site. Mangrove encroachment. Urban catchment.	18 year monitoring period. No major changes over time. Cu & Pb possibly decreasing. Mud content variable.
Pakuranga Lower	Green	Green	Red	Green	Muddy SZ site. Urban catchment.	

Q2 & Q3 cont – Marine Ecology

- Pakuranga Upper and Pakuranga Lower also monitored for marine ecology
- Species living in or on intertidal flats are counted. Results are classified according to a five-point health index, which ranges from 'extremely good' to 'unhealthy with low resilience'
- Sites are mainly located in the upper reaches of the estuary where ecological health is ranked as 'unhealthy' or 'poor'.
- Sites nearer the mouth are likely to have better ecological health due to more flushing



Q4 – Q13

Healthy Waters

Nick Vigar, *Safeswim Programme Manager*



Q4 – What are some facts and figures on Howick waterways? (most particularly Cockle Bay, Howick and Mellons Bay beaches?)

- 13 km stream assessed

	0%	≤20%	20-40%	40-60%	≥60%
Erosion Scarring (% of total stream length) (length of stream (m))	30% 3,934	41% 5,364	21% 2,722	8% 1,080	- -

Erosion	Excellent	Good	Fair	Poor
Overall Stability Index (% of total stream length)	none Scores ≤13	0.13 Scores 14-23	0.93 Scores 24 -32	0.45 Scores ≥33
	Percentage of the No. of reaches with >60% erosion scarring		Total No. Erosion hotspots	
	0		16	



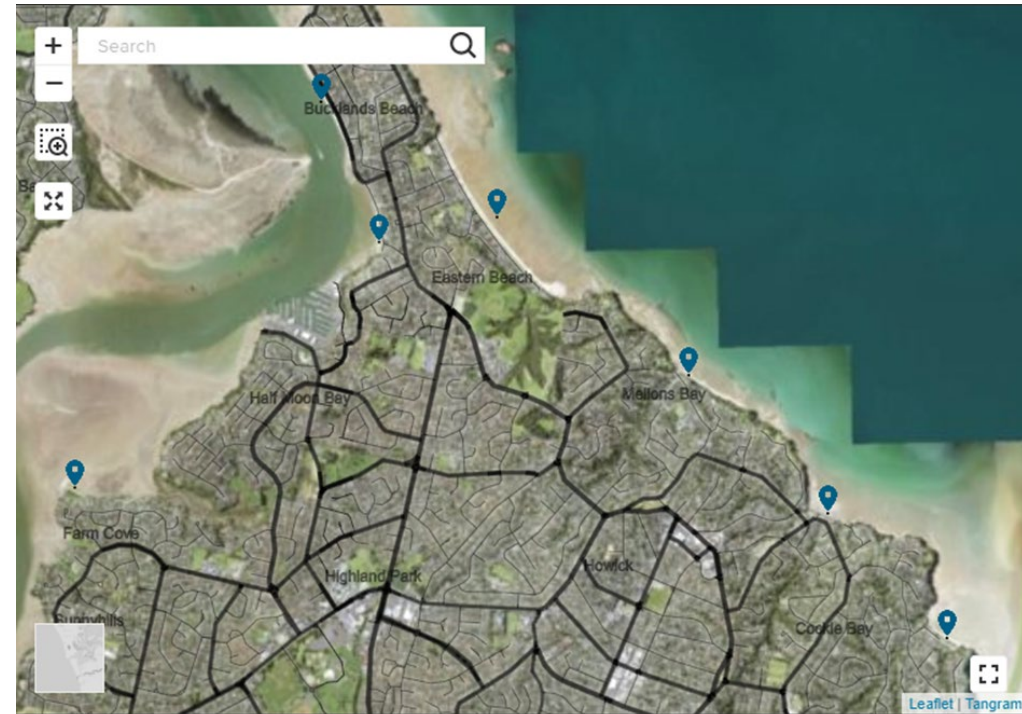
Q5 – What are some of our Howick waterways monitoring findings and where can we find more information?

- Watercourse Assessment Report: Cockle Bay Catchment
(Available from Healthy Waters on request)



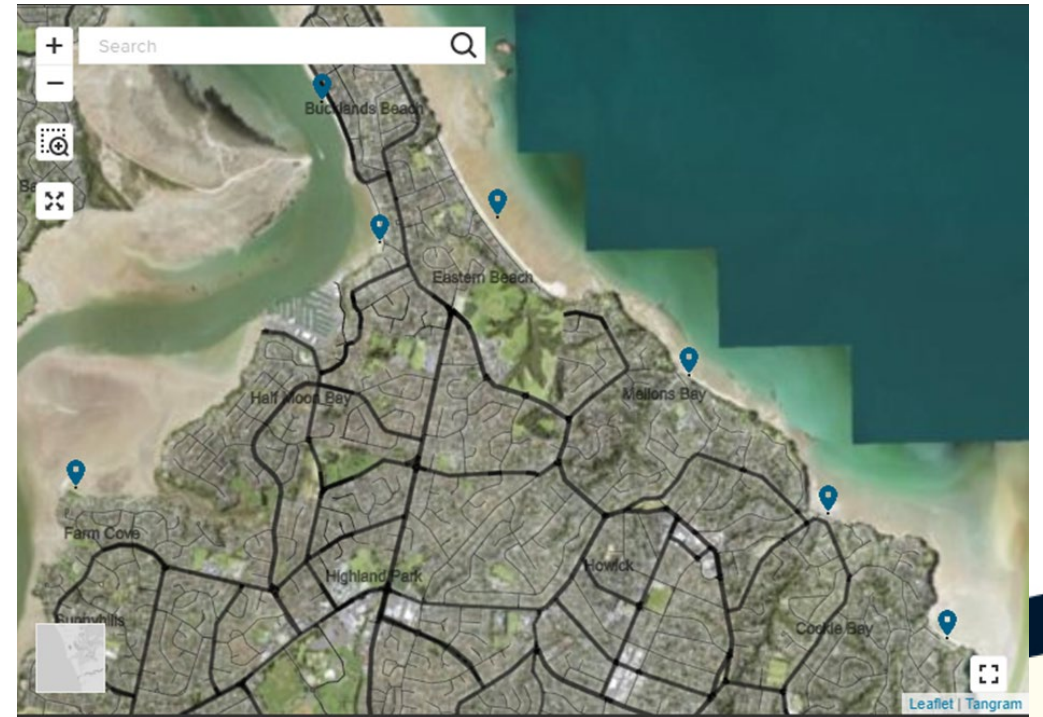
Q6 – How is beach water quality monitored at Cockle Bay, Howick and Mellons Bay beaches and results over last 12 months?

- Howick Local Board beaches rank between 23rd and 75th out of 100 beaches in the region
- have generally good water quality in dry weather, but experience exceedances of swimming guidelines to varying degrees in wet weather
- some beaches have occasional dry weather exceedances.



Q6 – How is beach water quality monitored at Cockle Bay, Howick and Mellons Bay beaches and results over last 12 months?

	% compliance summer 2019/20 (Modelled)	2019/20 Ranking (/100)
Farm Cove	99.2%	23
Little Bucklands	93.2%	75
Big Bucklands	96.9%	56
Eastern Beach	98.7%	35
Mellons Bay	98.3%	38
Howick Beach	96.2%	62
Cockle Bay	99.1%	27



Q7 – Will the Whitford Village development impact on the water quality in Howick Ward waterways or beaches?

According to the consent application and variation submitted by the developer and approved by Council, the effects of the Whitford Village development and associated wastewater treatment plant should be managed. However, this decision is being Judicially reviewed, as members of the community were not satisfied with the process council followed in granting the variation to the resource consent for the wastewater discharge. There are a number of risks such as the ongoing maintenance and operation of the plant that need to be well managed to avoid adverse environmental effects on the waterways and beaches.



Q8 – What monitoring of stream water quality is undertaken in the Howick Ward – in particular, the Cackle Bay area – and the results?

- The information has been covered in Q2 & Q3 from Megan Carbines presentation
- Safe Networks stream investigations as required



Q9 – What programmes are planned for riparian planting?

- the Healthy Waters Department are proposing to submit a subprogramme of work called “stream stabilisation” in the 2021 Long-Term Plan (LTP) as part of the Auckland Climate Change Action Plan package
- if this programme of work is approved under the LTP we would plan to begin delivering new projects for stream bank and stream bed stabilisation in the Howick catchments with riparian planting and water sensitive engineering from 2024
- One Billion Trees funding has been granted from central government and stream restoration will be led by the Ōtara Waterways and Lake Trust with support from Healthy Waters and the local board.



Q10 – What are some facts and figures on Howick stormwater pipes and infrastructure?

- total area of the Howick Local Board = 70 km²
- length of pipe: 883 km of which 78 km (nine per cent) are critical (criticality 4-high and 5-very high)
- of the 883 km of pipe, 207 km of pipe are 450 mm in diameter or greater
- number of manholes: 21,050
- number of catchpits: 12,370
- number of ponds or wetlands: 48
- number of treatment devices: 547.



Q11 – Are there proposed upgrades of Howick stormwater infrastructure?

This was covered when responding to Q9 ‘What programmes are planned for riparian planting’ - The Healthy Waters Department are proposing to submit a subprogramme of work called “Storm ready infrastructure” in the 2021 LTP as part of the Auckland Climate Change Action Plan package. If this programme of work is approved under the LTP we would plan to begin delivering new projects such as culvert upgrades in the Howick catchments from 2024.



Q12 – What monitoring of stormwater infrastructure is undertaken, particularly in the Cockle Bay area?

Critical assets are regularly inspected for structural integrity under our CCTV asset inspection programme and a number of culvert inlets in Howick are on the 'hot spot' monitoring list, where they are visually inspected prior to a storm if we get a heavy rain warning from the Met Service.



Q13 – How many incidences of flooding have been recorded by Council over the last three years and what was the associated damage?

In the period between 1 July 2017 and 30 June 2020 in the Howick Local Board area there were a total of **52 habitable floor flooding events** reported to Healthy Waters. Of these 21 events were for flooding to the main living areas and 31 were for flooding to basements/attached garages. The breakdown in each financial year is as follows:

- 2017-2018 – 18 total: seven habitable floor and 11 attached garage/basement
- 2018-2019 – 25 total: 12 habitable floor and 13 attached garage/basement
- 2019-2020 – 9 total: two habitable floor and seven attached garage/basement.



Q14 – Q16

Watercare

Anin Nama, *Manager Improvement Programme*

Brent Evans, *Manager Local Board and Stakeholder Liaison*



Q14 – What is the state of sewage infrastructure in Howick, particularly in the Cockle Bay area?

- the condition of pipes is good and comparable to other areas of Auckland that are of similar age
- field survey investigations (CCTV Camera inspection) are underway with cleaning and repairs to improve network performance
- wet weather manhole inspections – sealed low-lying manholes in flood prone areas and regular pipe flushing from 43 Advene Road to 12 Shelly Beach Parade
- water level monitors installed in problem areas – improves response time to overflows
- transmission mains continue to be inspected and repaired as required.
- network modelling updated – computer models look at network performance under different conditions e.g. weather and population changes.



Q15 – Have any investigations for illegal connections to the sewage system been undertaken in Howick, particularly the Cockle Bay area in the last twelve months?

- we will monitor the effects/improvements following transmission and local network pipe cleaning.
- If little improvement is found, then we will carry out property inspections in targeted areas as part of our Inflow and Infiltration programme (CCTV, dye testing and non-toxic smoke testing)



Case Study: Investigation of overflow incident at 41R Meadowland Drive , Howick (Howick Tennis & Softball Club)

Summary of investigation findings:

- private drainage issues:
 - ineffective gully traps found on private wastewater pipes from the club's buildings
 - toilet building had no gully trap at all
 - Effective external gully traps help keep overflows outside of buildings.
- public wastewater network issues:
 - inspections found partially blocked wastewater pipe - lose pieces of concrete, debris and fats which would have reduced capacity of the pipes during heavy rainfall
 - the connecting wastewater network has been cleaned
 - source of concrete has not been identified.

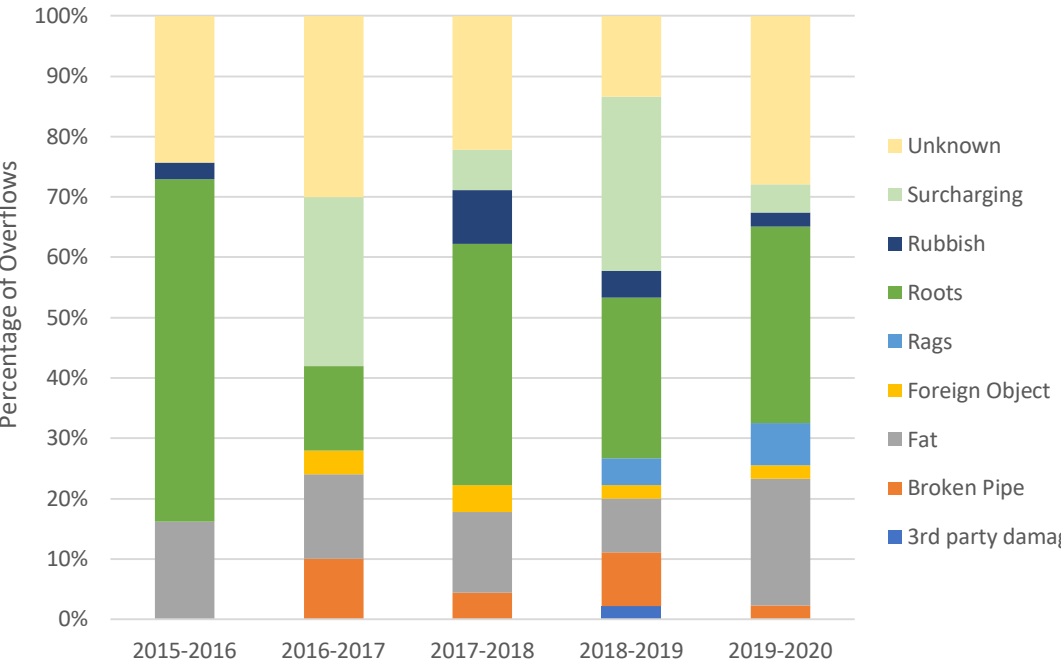


Q16 – How many complaints with regards to blocked sewers have there been in the last twelve months and the outcome of these complaints?

All overflows were responded to, contained and cleaned up in accordance with the Wastewater Overflow Regional Response Manual (Auckland Council and Watercare, 2013).



	3rd party damage	Broken Pipe	Fat	Foreign Object	Rags	Roots	Rubbish	Surcharging	Unknown	Total
2015-2016			6			21	1		9	37
2016-2017		5	7	2		7		14	15	50
2017-2018		2	6	2		18	4	3	10	45
2018-2019	1	4	4	1	2	12	2	13	6	45
2019-2020		1	9	1	3	14	1	2	12	43
Grand Total	1	12	32	6	5	72	8	32	52	220



Small items can cause big problems for your toilet.



These items don't break down in water or within the wastewater network like toilet paper does. Instead, they form large clumps that block pipes and cause overflows.



Only human waste and toilet paper should be flushed down the toilet; everything else goes in the bin.

Help to reduce local overflows

Every time you flush the toilet, pull the plug from a sink or have a shower, the wastewater drains into your private plumbing and out to our network.

While the wastewater that enters our network is mostly water, it also contains human waste, food scraps, fats, debris, chemicals and pharmaceuticals. Some of this can build up in private and public pipes, causing overflows which can be harmful to our health, harbours and waterways. This is why it is important for all of us to think about what we pour or flush down our private drains.

Did you know?

78% of overflows during fine weather are caused by people pouring fat down the sink, flushing rubbish down the toilet, and planting trees next to pipes in your area.



Toilet

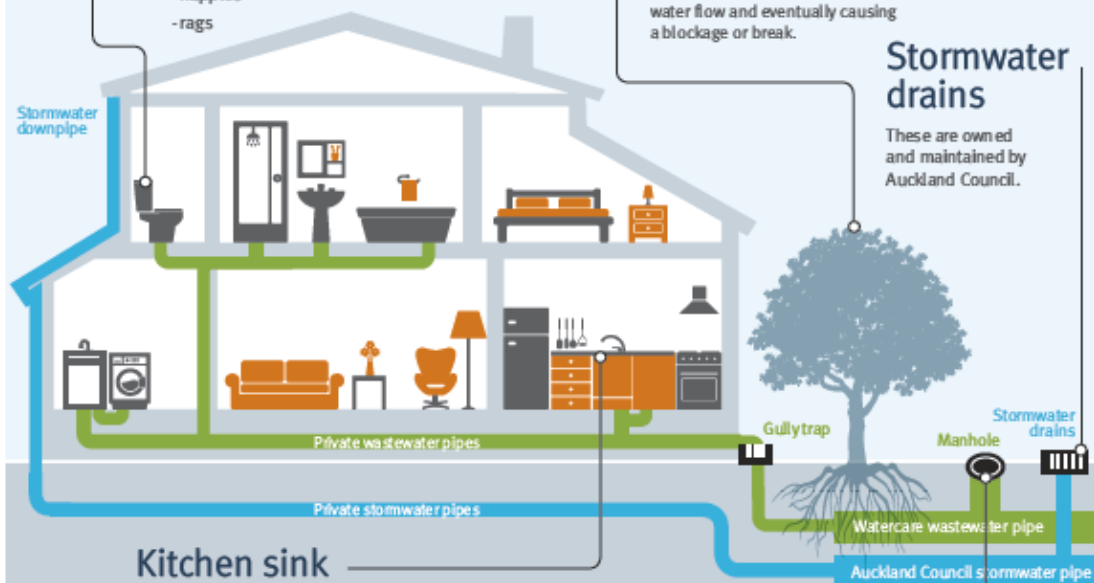
Flush away toilet paper and human waste

- Don't flush:
- wetwipes
 - sanitary products
 - nappies
 - rags

Tree planting

Plan your planting

Before planting a tree it's a good idea to check that it's not going to grow over your pipes or ours. As trees mature so do their roots and, over time, they can reach pipes and damage them, obstructing the water flow and eventually causing a blockage or break.



Stormwater drains

These are owned and maintained by Auckland Council.

Kitchen sink

Let cooking juices cool, then scrape the fat into the bin

- Don't pour hot cooking juices down the plug hole. Once cool, the fats in the cooking juices harden and may block your pipes or ours.

Manholes

Give us a call

If you come across an overflow from a manhole, please phone us on (09) 442 2222. We're available 24 hours a day, seven days a week.

Keeping stormwater out of your wastewater pipes

Downpipes

A downpipe collects rainfall (stormwater) from the roof and should connect to the stormwater network only.

A compliant downpipe:



- is separate from a gully trap
- connects to the stormwater pipes on your property



A non-compliant downpipe:



- is connected to a gully trap, so stormwater will enter wastewater pipes



Gully trap

Wastewater from your kitchen, bathroom and laundry exits your home through a gully trap. All houses have at least one gully trap against an outside wall, usually next to the kitchen, bathroom or laundry.

It is important to ensure your gully trap is covered by a grate and is raised off the ground. If your gully trap is the same level as the ground, rain can flow into it during wet weather and enter the wastewater network.

Gully traps are also designed to prevent foul air escaping from your wastewater pipes. They protect your family's health by ensuring that, in the event of a blockage, wastewater will overflow from the gully trap and not back inside your home.

A compliant gully trap:



- is raised off the ground
- is covered by a grate



A non-compliant gully trap:



- is level with the ground



Private pipes

Old, leaky or damaged pipes allow water in the ground to seep into wastewater pipes on your property, so they must be fixed.



Manholes

Wastewater can overflow into private property through manholes. If you come across an overflowing manhole, please phone us on (09) 447 2222. We are available 24 hours a day, seven days a week.



Q17

Research and Evaluation Unit

Megan Carbines, *Team Manager Air, Land and Biodiversity*



Q17 – Can you describe the monitoring of marine life or other biodiversity indicators relevant to the Howick area?

- ecology monitoring in Mangemangeroa, Turanga and Waikopua estuaries to the east (Whitford embayment, Franklin Local Board)
- rocky shore monitoring has taken place at three permanent transects located in Mellons Bay in 2011, 2013 and 2019. This monitoring assesses the number and types of plants and animals that live on intertidal reef habitat
- 2008 survey and mapping of habitats in Tamaki Strait
- 2005 general descriptive accounts and illustrations of the intertidal communities of Tamaki Estuary
- beach profile surveying of Eastern Beach is about to be initiated and this will be done on an annual basis with 10 profiles spread across the northern and southern sections of the beach
- regular surveys commissioned by Fisheries New Zealand (and its predecessors) collect data on the population status of cockle and pipi populations across the northern North Island to allow comparisons of population trends. The most recent data from the northern survey series was published in 2018 and includes data from the 2017–18 fishing year. Cockle Bay is one of the sites surveyed.

<https://www.mpi.govt.nz/dmsdocument/29819/direct>



Q18

Plans and Places provided a written response



Q18 – How are the environmental monitoring provisions in the Auckland Unitary Plan undertaken?

- under Section 35(2)(b) of the Resource Management Act 1991, the council is required to monitor the effectiveness and efficiency of the policies, rules or other methods in a policy statement or plan, and to publish the results every five years
- a monitoring programme for the Auckland Unitary Plan (AUP) is currently underway (the AUP having been made operative in part in November 2016)
- monitoring is intended to show what the AUP is achieving, how it is being implemented, and how efficient and effective the AUP provisions are
- monitoring also identifies issues that may need to be addressed, and provides recommendations on how this can be done
- the reporting date for the monitoring findings is not confirmed at this time.



Q18 cont – How are the environmental monitoring provisions in the Auckland Unitary Plan undertaken?

- natural resources is a significant and complex topic area
- workstreams within the council that focus on coastal and freshwater management issues are supporting the co-ordination of data gathering for the AUP monitoring programme
- we will be using the State of Environment monitoring data that council regularly collects (see <https://www.knowledgeauckland.org.nz/report-cards/>) but will also review other data such as how many consents have been granted for different activities, how water quality has been taken into account in planning for development in new areas and how many community groups have been supported in stream restoration works.



Q18 cont – How are the environmental monitoring provisions in the Auckland Unitary Plan undertaken?

- The pressure on water resources is also a key focus of national direction, with the updated National Policy Statement for Freshwater Management 2020 coming into force on September 2020 (having implications for the Auckland Unitary Plan).



Q19 & Q20

Unitary Plan

John Kennedy, *Team Leader – Resource Consents*



Q19 – What factors related to stormwater are considered when assessing major developments in terms of the Unitary Plan?

- impervious coverage
- infrastructure capacity – upstream & downstream
- controls to avoid, remedy or mitigate stormwater.



Q20 – What and when is the council planning to do to respond to related legal issues and environmental damage, and areas not complying with the Auckland Unitary Plan?

- compliance monitoring follows up on resource consents
- compliance Investigations deal with enforcement
- first option is education
- prosecution needs sufficient evidence for court.



Report problems through the council website or phone number

Call us on [09 301 0101](tel:093010101) to report something that is causing an immediate risk to the safety of a person, people or property

<https://www.aucklandcouncil.govt.nz/report-problem/Pages/default.aspx>

Report a maintenance problem online: You are encouraged to report maintenance problems online

For problems at: parks, community facilities or venues, beaches or maunga, roadside or public spaces

The problem could be a broken park bench, a blocked toilet or an overflowing litter bin. Tell us the details, upload a picture. This is the fastest way for it to get sorted

Problem wasn't sorted?

Let Howick Local Board know

Howicklocalboard@aucklandcouncil.govt.nz

09 572 0148

Further questions? Let Howick Local Board know

Howicklocalboard@aucklandcouncil.govt.nz

09 572 0148

