

Foreword from the Mayor

Aucklanders have faced an extraordinary few years.

The devastating storms of early 2023 changed lives, reshaped communities and brought the realities of climate change home. Thousands of houses were damaged, and many Aucklanders are still recovering.

Making Space for Water is an accelerated programme that fast tracks flood resilience across the region. It brings together infrastructure upgrades, community support, advanced tools like LiDAR flood mapping, and smarter planning to better manage stormwater.

As a key part of Tāmaki Makaurau / Auckland's broader recovery efforts, it's logical planning for the future.

We need to make space for water to move safely through our city, without putting people, properties, infrastructure or the environment at unacceptable risk.

Preparing for floods is essential for adapting to climate change. We are taking steps now to strengthen resilience and help Aucklanders to make informed decisions about their flood risks and future.

The programme includes seven targeted initiatives ranging from blue-green networks and culvert upgrades to rural infrastructure and improving community flood resilience. Together, they are designed to reduce flood risks, maintain and improve our stormwater systems, and support local preparedness.

This year in review highlights the early achievements of Making Space for Water and the collaborative work underway. With input from departments across council, mana whenua, local boards and local communities, the programme reflects both regional priorities and community needs.

The scale of this work is significant, and so are the funding requirements. Council cannot deliver it alone. Ongoing partnership and investment from central government will be essential to keep up momentum and achieve long lasting results.

Ngā mihi nui

Wayne Brown

Mayor of Auckland



Foreword from programme sponsor

Stormwater connects every part of Tamaki Makaurau / Auckland. Whether it's the stream behind your fence, the gutters on your roof, the catchpit outside your home, or the culverts under rural roads, they all play a role in helping water drain away safely.

When everything's working as it should, stormwater flows easily from our streets and properties. But when it is blocked or overwhelmed by heavy rain, flooding can occur.

Managing stormwater is something we all play a part in. It starts with understanding how water moves through our neighbourhoods and recognising how the features we own or care for, on public and private land, contribute to the wider network. By working together, we can help stormwater flow safely and reduce its impact on our community.

Making Space for Water is our long-term commitment to reducing flood risk and building resilience across Tāmaki Makaurau / Auckland. With \$1.984 billion in co-funding from central government, we have a rare opportunity to fast-track crucial projects that would otherwise be delayed or out of reach through ratepayer funding alone. The programme focuses on planning smarter for extreme storms, upgrading infrastructure, increasing maintenance, and using nature-based solutions like blue-green networks.

We're investing in advanced tools and technology to track rainfall, monitor key assets, and identify areas most at risk. At the same time, we're working with communities to raise awareness and provide tools like Flood Viewer to help people understand their flood risk and make informed decisions.

Rural resilience is just as important. Community halls and marae often become gathering points during floods, offering shelter, connection, and support when it is needed most. That's why we are also upgrading stormwater and wastewater systems at key rural sites, working alongside mana whenua and local leaders to respond to each community's needs. Our partnership with Auckland Transport is also helping prioritise improvements to rural roads, which are often the only routes connecting whānau to essential services.

By combining practical upgrades with better data, local insight, and strong partnerships, we are taking a coordinated and long-term approach to flood resilience, helping build a safer, more resilient Tāmaki Makaurau / Auckland for future generations.

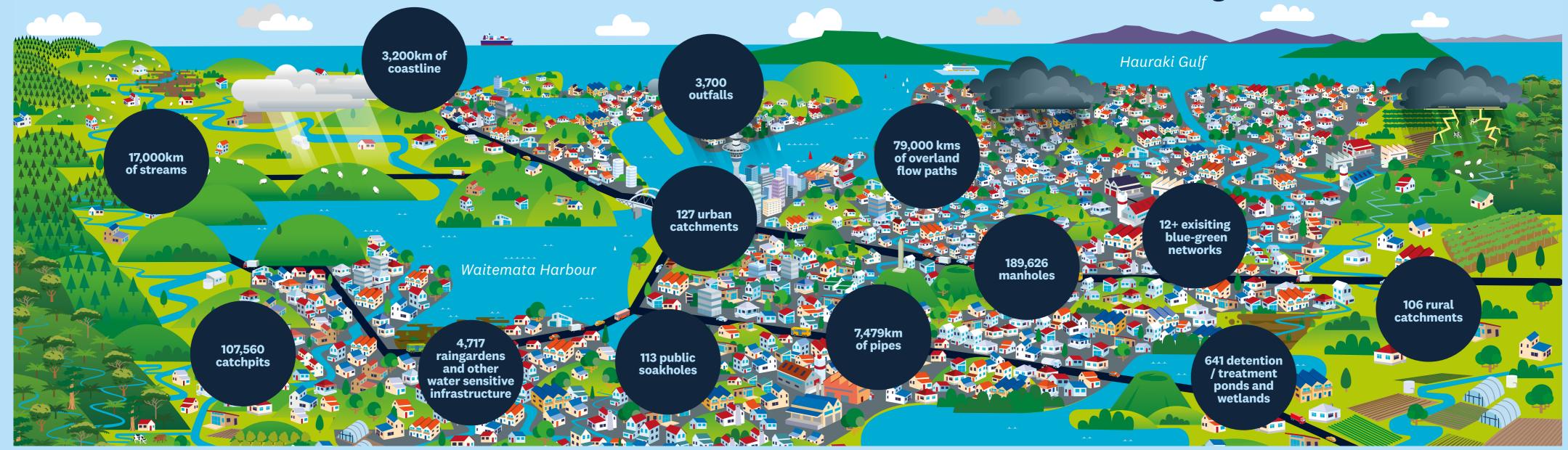
Craig Mcilroy, General Manager Healthy Waters and Flood Resilience



"Every day our teams are clearing drains, inspecting pipes, monitoring streams, checking overland flow paths, and connecting with residents," **Craig McIlroy**

Stormwater assets we look after

Auckland Region 1,605,000m² surface area



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Introduction

In 2023, Tāmaki Makaurau / Auckland experienced devasting storms - damaging homes, disrupting lives and changing communities. We are now facing a future where flooding is no longer a rare event, but part of life in a changing climate. As storms grow more intense and frequent, the risk is rising and so is the urgency to act together.

Every day, Auckland Council's Healthy Waters team manages stormwater to reduce risks to people and property, improve water quality, and keep the city running. Making Space for Water is building on this foundation. It is a multi-year programme designed to accelerate flood risk reduction and strengthen our region's resilience.

Making Space for Water is guided by four key objectives.



Risks in known flood areas are reduced, using a toolbox of flood management techniques



Upgrade and maintain the ouilt and natural stormwater network to improve flood resilience



Aucklanders understand flood risk and know how to manage stormwater before, during, and after a flood

event



systems underpin **Auckland's storm** preparations

Be prepared

for flood



The programme focuses on seven key initiatives:

Making Space for Water Initiatives

Blue-Green Network Projects

Developing new blue-green corridors in critical flood risk areas that increase stream capacity and divert more water away from property and infrastructure. This work includes widening streams to improve water flow, enhancing flood storage in parks and stream banks, and upgrading bridges and culverts to handle more water. Buying high-risk properties may be required to enable these projects.

Stream and Waterway Resilience

Collecting catchment-scale data on the condition and sensitivity of natural streams to inform planning, projects, and other Making Space for Water initiatives.

Increased Maintenance

Increasing maintenance of the stormwater system to reduce flooding. This includes clearing blockages, upgrading drainage systems and increasing street sweeping to ensure water can flow away during heavy rain events.

Flood Intelligence

Developing tools and systems to better predict when and where flooding might occur, enabling improved public warning systems and making data more accessible to the public.

Overland Flow Path Management

Improving stormwater overland flow paths across the region to better manage heavy rain. This includes educating and guiding residents on maintaining flow paths on their properties and fixing issues on public land where water does not flow properly.

Community Flood Resilience

Running public education campaigns to build community flood resilience, working with local organisations on projects to reduce flood risk, and providing targeted advice to those living in high flood-risk areas.

Rural Settlements Infrastructure

Improving stormwater, wastewater, and drinking water infrastructure at key rural sites like marae and community halls and working with Auckland Transport to upgrade road drainage in flood-prone rural areas to help prevent isolation during storms.

Prioritising Auckland's hardest hit areas, Making Space for Water relies on collaboration with government, mana whenua, industry, communities and the private sector to succeed. This work is part of a larger recovery plan for Auckland, which includes central government funding toward voluntary property buyouts and transport network recovery, making it one of the largest stormwater resilience investments in our city's history.

Equally important are the programme's three cross-theme functions that underpin every aspect of Making Space for Water:

Māori Outcomes:

The programme supports co-designed initiatives that help iwi reconnect with their whenua (land) and awa (waterways), strengthening cultural connections, environmental stewardship and longterm resilience. This includes genuine partnership with Mana Whenua to embed mātauranga Māori in design and decision-making, enabling kaitiakitanga-led approaches to environmental management, and creating opportunities for Māori enterprise and workforce participation. These steps ensure our projects not only deliver tangible environmental benefits but also honour cultural narratives, uphold Treaty commitments, and enhance the social and economic wellbeing of iwi and hapū.

Sustainable Outcomes:

While flood resilience is central to Making Space for Water, we are committed to embedding sustainability in every stage of delivery. This includes working closely with construction teams to reduce emissions and waste, prioritising the use of local and diverse supply chains, and incorporating nature-based solutions. These practical steps ensure our projects manage flood risks and contribute towards emission reduction targets, healthier ecosystems, and improved economic opportunities for communities.

Communication and Engagement:

Another important part of Making Space for Water is keeping Aucklanders informed and involved in the programme through clear, empathetic communication so everyone understands their flood risk, the work underway, and how we can reduce that risk together. By listening to communities and drawing on their local knowledge, we shape our work in ways that reflect both their aspirations and the outcomes we're responsible for delivering. This approach helps build trust, ensures transparency, and empowers people to be active partners in creating safer, more resilient neighbourhoods.

As this Year in Review shows, Making Space for Water is about more than engineering and infrastructure. It's a collective effort built on collaboration and innovation to make our neighbourhoods safer and shape a resilient future for Tāmaki Makaurau / Auckland.



Blue-Green Network Projects

Blue-green network projects make space for water by restoring streams, upgrading infrastructure like bridges and culverts, and expanding parks and open spaces. These green spaces are designed to flood safely during storms, helping to reduce the impact of flooding on homes and infrastructure, and can be enjoyed by people in dry weather.

These new projects add to existing blue-green networks across Auckland including, but not limited to Awakeri Wetlands, Hobsonville Point, Long Bay, Te Auaunga / Oakley Creek (stage one), Taiaotea Creek, Waiatarua Wetlands, Taniwha Reserve, Puhinui Stream, Greenslade Reserve, Sunnynook Park, Te Ara Awataha and Project Twin Streams.

In April we celebrated a major milestone with the official groundbreaking of the first Making space for water blue-green network projects. With a combined cost of \$53 million, critical flood resilience projects at Harania and Te Ararata Creeks in Mangere, will reduce flood levels for around 300 homes including more than 50 previously assessed as facing intolerable risk to life.

The Manawa ā Whenua | Clover Drive Flood Resilience Project is now in the design phase. It aims to reduce flood risk by increasing the flood carrying capacity of the Momutu/Swanson Stream and upgrading the Don Buck Road bridge. The

project will also safely divert floodwater water away from homes and roads in the Rānui, Henderson and Massey area by creating a new blue-green network that extends along Clover Drive, through to the Paremuka Stream. Daylighting the stream and adding green space will reduce flood risk in the area and provide valuable public space to the

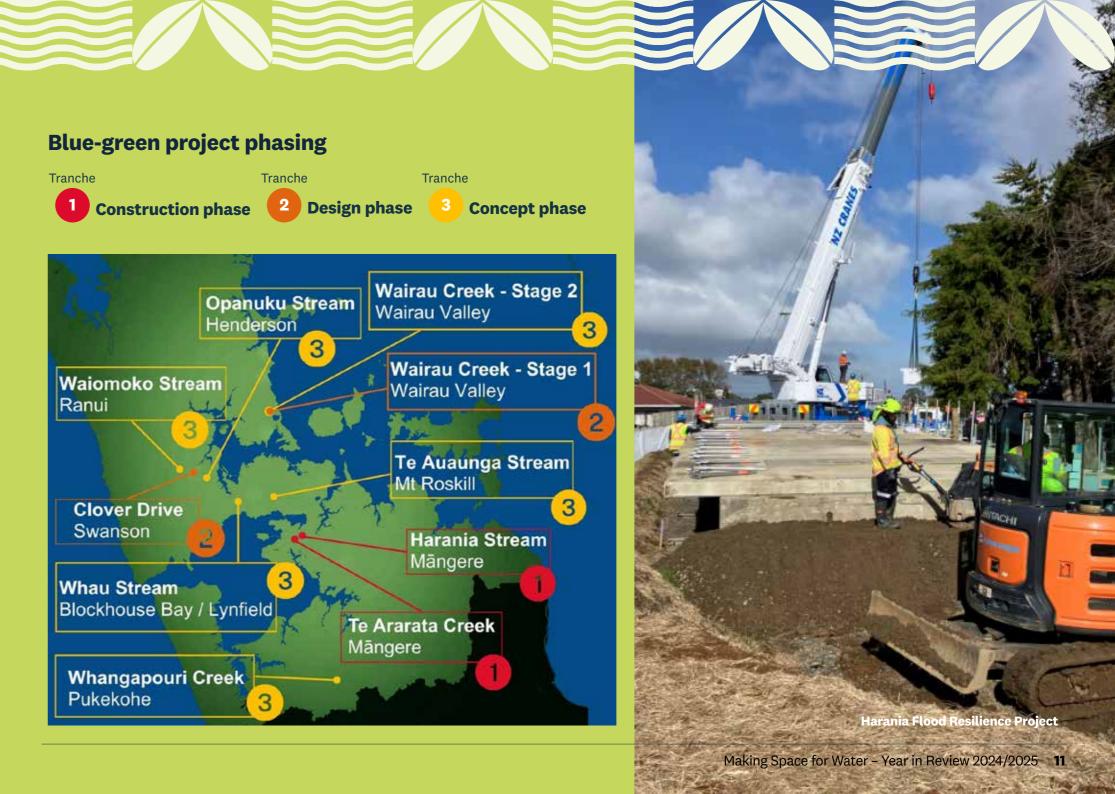
The three-stage Ngā Wairau Flood Resilience

Project aims to strengthen community resilience by combining natural stormwater storage with connected waterways and recreational spaces. Stage 1, currently in the design phase, will restore a wetland at AF Thomas Park for flood retention, supported by dry detention areas. Stages 2 and 3 will further increase stormwater detention capacity by creating additional storage capacity, naturalising sections of Wairau Creek around recently acquired Category 3 properties and optimising some existing detention ponds. These multi-use areas will not only help manage flooding, but also provide spaces for the community to enjoy, showcasing how urban areas can adapt to a changing climate.

In addition to these projects, concept design is underway for blue-green network projects in Whangapouri Creek in Pukekohe and Te Auaunga (stage 2) in Mt Roskill. We are also exploring potential blue-green solutions at other locations including Whau Stream in Blockhouse Bay/Lynfield and Opanuku Stream in Henderson.

At the heart of this mahi is genuine community collaboration. Community advisory groups, made up of local residents and key organisations, are helping ensure local insights and broader goals are built into each project. Their advocacy helps us share key messages more widely and deepen local relationships. We're also working closely with mana whenua to embed mātauranga Māori and cultural values throughout this work. This ensures that each project honours te taiao and upholds Te Mana o te Wai.

The landmark cofunding partnership between council and crown demonstrates the tangible benefits of collaboration, with the blue-green projects showcasing government-backed progress to protect Auckland's future.



Increased maintenance

Reducing flood risk through smarter stormwater maintenance

Over the past year, we've increased maintenance of the stormwater network to better cope with heavy rainfall, while in the highest flood risk areas maintenance is even more frequent. From Kumeū to Howick, and Pukekohe to Whangaparāoa we've cleared critical blockages from 136 kms of streams removing debris and other obstructions to help stormwater flow more effectively.

In March, we introduced a new purpose-built mobile inspection app that allows our field teams to monitor the condition of stormwater assets in real time. This tool is helping us respond to faults more quickly, plan repairs more effectively and improve how we report across the network. At the same time, maintenance crews are using hotspot camera data from the Flood Intelligence initiative to locate and clear blockages faster, further supporting a more proactive and informed approach to managing our stormwater system.

We've also worked closely with Auckland Transport to increase our maintenance. Together, we've put new service-level agreements in place to increase street sweeping on roads known for heavy leaf fall, in addition to routine sweeping schedules. Removing leaves, sediment and debris from the road surface helps keep stormwater drains clear and functioning well. This extra attention will make a real difference improving water flow during heavy rain, reducing surface flooding and helping to protect local roads and properties.

By combining local know-how, digital tools, and a coordinated approach, we're not just maintaining Auckland's stormwater infrastructure we're helping create a more resilient city, ready to weather the challenges ahead.

Enhancing public safety through manhole safety grill installations

Public safety is a key focus of this initiative. Manhole covers can become dislodged during flooding posing a serious safety risk. To help prevent injuries, safety grills are being installed in areas with high public use or known safety concerns. These improvements are one way we're making our communities safer during severe weather.

By June 2025, we identified safety grills that needed installing across the region, and 40 per cent of these were in place by the end of July. Sites were chosen based on risk, community feedback and incident history. The grills prevent falls and unauthorised access while letting stormwater flow freely. They address immediate safety issues and build long term resilience in parks, reserves, footpaths and other public areas.



Increased Maintenance: By the numbers Streams inspected: 136 kilometres Inlets/Outlets checked: 2,502 Manholes inspected: 17,217 Stormwater pipe CCTV inspected: 42 kilometres Culverts inspected: 161



Overland Flow Path Management

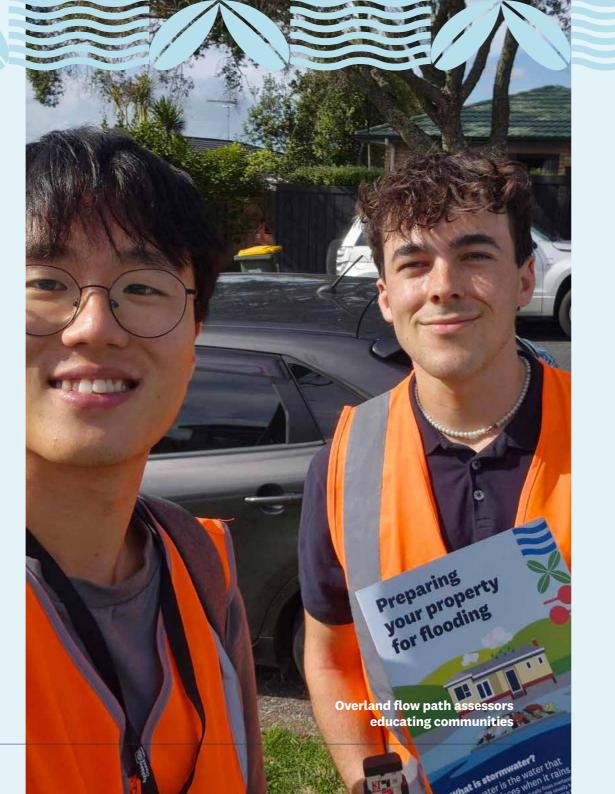
Overland flow paths are the routes water naturally takes during heavy rain, especially when stormwater pipes are full, blocked or simply not there. In these situations, overland flow paths act as a backup for the public network, but when blocked by structures like fences, sheds or landscaping, water can quickly build up, putting homes, roads and public spaces at risk.

While Auckland Council manages the public system, property owners also play an important role in how stormwater moves across their land. Many Aucklanders don't realise they have a mapped overland flow path on their property until a storm reveals it. That's why we are working to raise awareness, share practical advice and restore these natural flow routes.

We've made strong progress building the tools, systems and knowledge needed to protect overland flow paths. A new field app has helped our teams assess 2,050 properties in high priority catchments. During visits, we often provide tailored advice so residents understand potential issues and can take simple steps to reduce risk.

Common problems we encounter include blocked flow paths, broken gutters or downpipes, and clogged catchpits all of which can lead to surface flooding. For example, during heavy rain a single downpipe can release about four litres of water every second - that's a full 10 litre bucket every three seconds. Multiply that across a neighbourhood, and it is easy to see how small issues can quickly become major risks.

A key part of this initiative is the way we work. Healthy Waters and Flood Resilience teams have partnered with compliance officers to help property owners address issues voluntarily, in-line with council requirements and with a strong focus on education over enforcement.



Clearing overland flow paths for flood resilience











Seeing the risk

Storms can quickly turn overland flow paths into fast-moving streams.

2,050+ property assessments completed in priority catchments across Auckland.

On the ground

Our teams identified blocked overland flow paths and offered practical fixes in Birkenhead, Browns Bay, Greenhithe, Greenlane, Howick, Mangere, New Lynn, Papatoetoe, Stanmore Bay.

Smarter tools

A new mobile app ensures consistent data capture and faster reporting for contractors and council staff.

Reaching residents

We connected with about 1.000 residents face-to-face.

Small changes, big impact

Simple actions like modifying fences or clearing gutters are helping neighbourhoods stay safer when heavy rain hits.

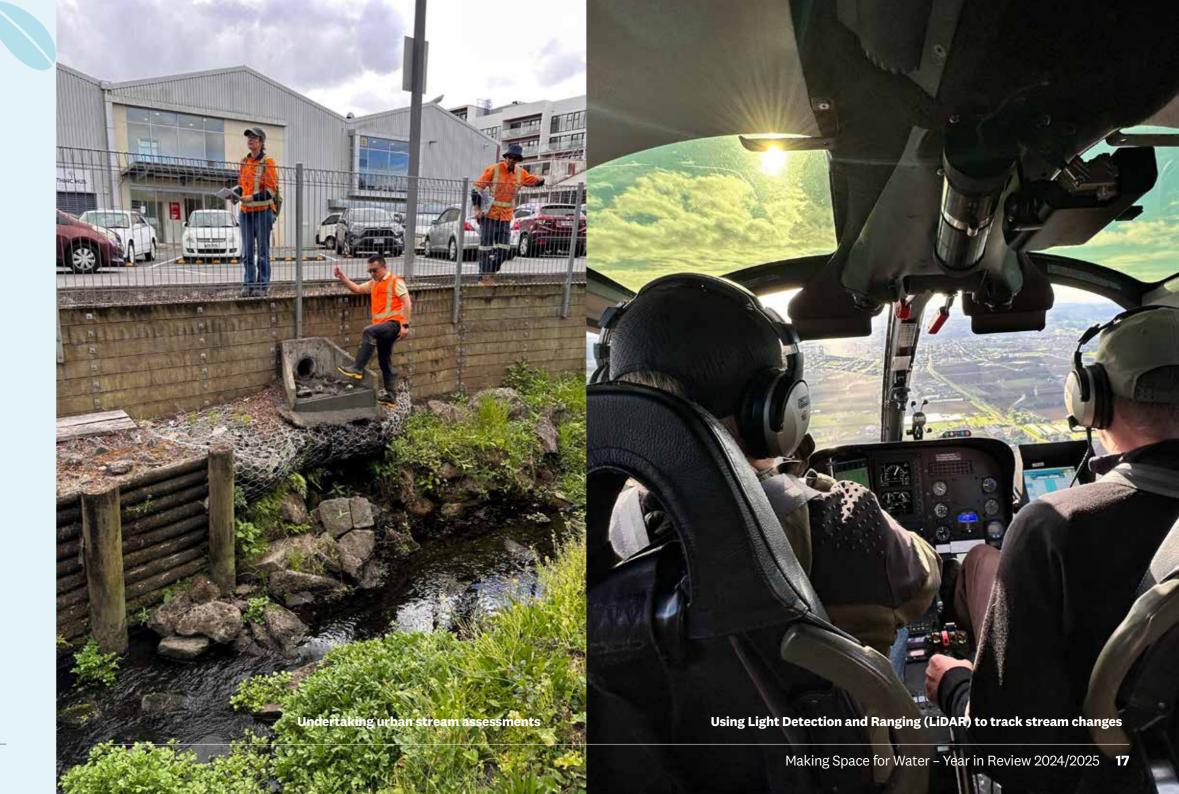
Streams and waterway resilience

Our streams are a lifeline for Auckland's stormwater system. They carry rainfall away from our neighbourhoods and return it to the natural environment. But over time, many urban streams have been piped, narrowed or altered, reducing their ability to cope with heavy rain. This increases the risk of flooding and the damage it can cause.

The Stream and Waterway Resilience initiative is about taking a catchmentwide approach, looking at the entire network of streams and waterways in different areas. This allows us to assess how streams are working, where they're under pressure, and inform decisions about their future role in managing stormwater, reducing flooding and supporting healthier ecosystems.

This year we:

- Completed in-depth stream assessments in the Whau, Pakuranga and Cockle Bay catchments, combining stream walks with scientific analysis of shape, flow and function
- Worked alongside mana whenua, local boards, community groups and landowners so that stream management reflects both technical needs and what matters most to local people
- Began new catchment studies in Swanson, Opanuku, Oakley, Whenuapai and Tāmaki North, with early planning in Pukekohe
- Expanded the use of LiDAR aerial scanning to produce high resolution maps of streams and surrounding land conditions, giving us sharper insights for future planning
- Used early findings to identify risks and opportunities, informing other projects such as Blue-Green networks that aim to improve flood resilience and create healthier urban environments



Flood Intelligence

Flooding can happen quickly. Preparing for it takes planning, reliable data and smart tools.

The Flood Intelligence initiative is about strengthening Auckland's existing systems using smarter technology and data to build on what we already know. It tracks rainfall, monitors floodprone areas and uses predictive models to help us stay ahead of severe weather.

Phase one began in mid-2023 and will run through to the end of 2025. It focuses on improving data reliability, expanding our network of monitoring sites, and bringing together information from multiple sources. This helps council teams respond faster and more effectively during storms.

While it doesn't send public flood alerts (AEM and Civil Defence do that) this initiative does give them clearer, faster and more useful information to support quick, informed decision-making that help keep people safe.

2024-2025 Highlights

- Providing more comprehensive data for Auckland Emergency Management (AEM). Flood data from rain gauges, cameras, and stormwater monitoring systems is now shared and displayed in real time on dedicated screens in the Auckland
 - Emergency Management control room. This gives emergency responders a clearer and more up-to-date view of conditions across the region during storms.
- Support for a second radar. We're working with Metservice to investigate and propose a new rain radar site in south Auckland. This additional site would improve regional coverage, network resilience and increase forecasting accuracy for communities across the entire region.
- Hotspot cameras installed at key flood locations. We've installed 50 new solarpowered cameras across the stormwater network to keep an eye on trouble spots during heavy rain. Using smart AI image recognition, they can spot blockages like debris or vegetation before they cause flooding, helping our maintenance teams

respond faster. The cameras are also integrated with Auckland Transport and Emergency Management systems to keep communities safer. Another 50 cameras will be added, bringing the total to 100 cameras by 2026.

Ongoing pilot of flood prediction tools

Using existing rain radar and overland flow path data, we are piloting a new tool to predict more localised flooding impacts during storm events. The pilot aims to provide council teams with additional flood insights, enabling faster, more targeted responses and better allocation of resources and support.

Community flood monitoring pilot

A trial of community flood monitoring sites has begun in the Kumeū and Wesley catchments. The initiative aims to give local catchment groups and emergency volunteers access to real-time rainfall river level and camera data at key sites.



Community Flood Resilience

With Auckland facing more frequent heavy rainfall and decades of urban development behind us, thousands of properties are now at risk of flooding. Of Auckland's 1.7 million residents, council estimates 300,000 people live in flood-hazard areas, including around 50,000 in homes expected to flood above floor level during a major storm.

The Community Flood Resilience initiative will build a collective response to flood risk. Our message is simple: everyone can play a part in reducing the impacts of flooding and making our communities safer.

Building on the strength of communities, we have partnered with trusted local groups, many of whom we've worked with before through environmental and water quality projects. We're working closely with these groups to grow their skills and knowledge around flood resilience, so they can help share practical tools, local insights, and flood risk advice with their communities.

We're also helping Aucklanders understand their flood risk through a mix of seasonal and ongoing media campaigns. Timed with weather changes, other seasonal messaging encourages people to check the Flood Viewer and get storm-ready, while our year-round efforts focus on getting people to check flood risk as a routine part of buying or renting a home. Together with the guides and videos produced in multiple languages, we are raising awareness and supporting long-term behaviour change.

Sharing practical information and answering questions face-to-face is another way we're reaching Aucklanders. Our team has been involved in emergency preparedness workshops with local businesses, connected with older residents at the Digital Seniors Expo, and reached rural audiences through events like the Mystery Creek Fieldays. We've also set up flood resilience displays in all 51 Auckland libraries, and engaged with Auckland's three major tertiary institutes, contributing to sustainability education and supporting flood-focused research projects.

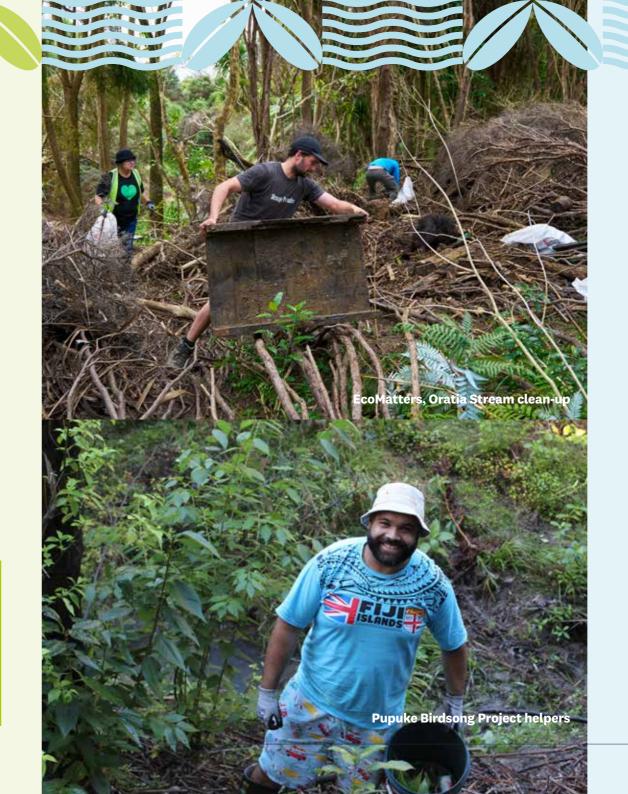
Helping rural communities

Through the new Making Space for Rural Water Fund, we're supporting landowners to make smart, sustainable changes that reduce flood impacts on productive land. In its first year, the programme supported four projects focused on stock exclusion fencing and planting to protect floodplains and wetlands, covering approximately 85,000m². These projects received \$265,547 in funding across three rural catchments: Mauku, Whangamarie and Whangapouri.

Snapshot: Pupuke Birdsong Project

Pupuke Birdsong Project is sparking conversations about flood resilience in Milford with volunteers going door-to-door to understand local needs, while also sharing tips on flood preparedness and how to use the Flood Viewer tool.

With native planting work and stream care, this group is helping to improve water flow and involve the community in hands-on care for their awa.



Community group results

Jan 2024 - July 2025



2,731 community members

took part in stream cleanups, flood resilience events and awa restoration



1,290 metres of stream

cleaned to improve water flow.



3,568 native plants

were planted in flood-risk areas to help slow and soak up rainwater.



220m³ of debris

cleared from streams and overland flow paths.

Putting Flood Viewer on the map

Flood Viewer is a free tool that shows if a property could flood in a major storm, how it might be affected, and how people can prepare and stay safe.

With close to 1.3 million visits (and counting) since it launched in August 2023, Flood Viewer is helping people get a clear picture of their flood risk and what to do about it.

Available on mobile, desktop and tablet, we've made flood information even easier to access, with video explainers on flood mapping and modelling, sign language and multi-language videos, and a new media library with frequently asked questions.

Flood Viewer was recognised as runner-up in the NZ Spatial Excellence Awards 2024 - Community Impact category.

Flood Viewer Survey Key Findings

2,005 Aucklanders completed a survey about their flood knowledge and use of Flood **Viewer from August - September 2024**



Increased risk awareness: 1 in 4 Flood Viewer users made property changes after using the tool.



Shifts in perceived risk: 35% were surprised that their property is in a flood hazard area, and often underestimated their flood risk.



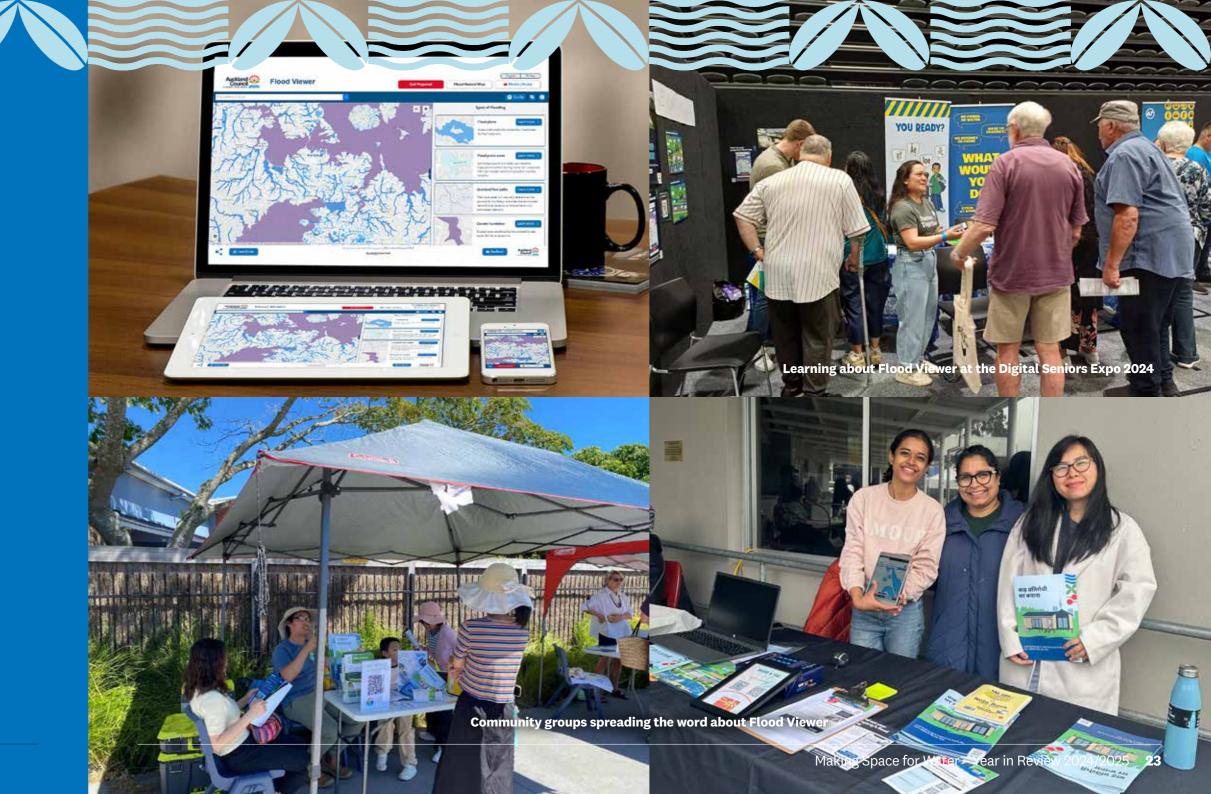
Confidence through information: 67% felt confident managing flood risks at home linked to better access to information.



Behavioural shifts: Common actions included clearing gutters, downpipes, drains and catchpits. Longer-term efforts focused on landscaping and working with neighbours



Barriers identified: Cost, rental status, and low perceived risk were key obstacles. Survey feedback is helping improve future engagement, tools and resources.



Rural settlements infrastructure

Auckland's rural halls and marae are more than buildings they are places where communities gather, share knowledge, and look after each other. But when it comes to flooding, these places face challenges that are different to those in urban areas. Many rural sites do not have piped stormwater systems and rely on private water and wastewater systems. Some marae and community halls sit close to streams or in low-lying areas, making them more vulnerable during heavy rain.

Rural roads are often lifelines for entire communities. When a culvert or drain fails, flooding can cut off critical routes. In some areas, a single road may be the only way in and out, leaving communities isolated and unable to reach essential services during extreme weather. Where alternative routes exist, they are often much longer, adding significant travel time, cost and disruption.

This initiative focuses on upgrading vital water infrastructure and supporting resilience planning in flood-prone rural areas. In 2024/25, we completed important improvements to stormwater, wastewater, and drinking water systems at Omaha, Te Kia Ora, and Te Aroha Pā marae. These upgrades mean safer daily use and better preparedness for emergencies.

We also funded detailed flood risk and water asset assessments for rural community halls and shared technical expertise with Auckland Transport to map flood risk for rural roads serving marae and halls.

This mahi shows the value of working alongside mana whenua, local boards, and communities to plan, renew and upgrade water and roading infrastructure. Together, we are building practical, lasting resilience so rural communities can continue to thrive, whatever the weather brings.

2024 / 2025 highlights include:

Te Kia Ora Marae: Bore drilling and headworks completed to secure a reliable water source.

Te Aroha Pa Marae: Bore drilling complete to secure a reliable water source, and a new stormwater line completed to reduce flooding near key buildings.

Omaha Marae: Installed tanks and water treatment system.

Condition assessments completed for Haranui, Umupuia and Taahuna Paa marae to inform upgrades planned for 2025/26.

Flood risk and water asset capacity database created for rural community halls to guide future investment. Leigh Hall, Ostend Memorial Hall and Whitford Community Hall have upgrades planned for 2025/26.

Rural road data shared with Auckland Transport to support drainage improvements at priority sites.

Ongoing operation and maintenance funding provided for newly installed marae infrastructure and contracts to be managed through Healthy Waters and Flood Resilience.



Closing word

Looking ahead - building resilience together

We are committed to making Tāmaki Makaurau / Auckland safer, stronger and better prepared for future rain events. Flood risk cannot be reduced by Council alone, it requires all of us working together. While we cannot stop the rain, by partnering with communities and supporting local action we can build resilience and be ready for its impacts.





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