

# Before the Deluge 2.0

Updated case for co-investment in flood management infrastructure following Cyclones Hale and Gabrielle.

30 NOVEMBER 2023 | v1.0 | FOR APPROVAL



**Te Uru  
Kahika**

Regional and  
Unitary Councils  
Aotearoa

# Statement on behalf of the Chairs of New Zealand's regional and unitary councils.

The regional sector of New Zealand's local government is governed by the mayors and chairs of regional councils and unitary councils, directed by the Regional Chief Executive Officers' group, and supported by 26 Special Interest Groups made up of subject-matter experts from around the country.

Our role is to facilitate deep partnerships between communities, local government, and central government, focusing on the things that matter to our communities.

We share your objective to provide stability, grow economic prosperity, improve the environment, and boost social cohesion. We are the link between the Government's strategic imperatives and the on-the-ground regional sector functions that deliver real-world impacts for communities.

In late 2022, we forwarded the '*Before the Deluge*' business case to Government Ministers. Ironically this landed with Government only weeks before the devastation of Cyclones Hale and Gabrielle and attention was diverted to recovering from these events.

As we saw from that flooding, and from other earlier events in Westport, Nelson, Ashburton and beyond, these severe weather events cause loss of life and livelihoods. They also create tremendous strain on Government resources and funds in response and recovery, and in repair of Crown assets.

We welcome this opportunity to present this 'refreshed' co-investment business case '*Before the Deluge 2.0*.' This shows how co-investment in flood management infrastructure will improve New Zealand-wide community resilience against extreme weather events.

We seek your leadership to include Government co-investment of \$197m in the upcoming Mini-Budget toward the construction of 80 ready-to-go flood management infrastructure projects throughout New Zealand.

Regional and Unitary councils have already approved their \$131m contribution to these projects. They are set to complete delivery by 2026/27, provided Government chooses to make an urgent co-investment decision. As described in the details that follow, this co-investment reflects that flood management infrastructure is a matter of national interest, protecting other key infrastructure such as roads, railway lines, power and communications, schools, and hospitals, along with

local and regional communities, businesses, public facilities, and marae. More than that, upgrading our flood protection to be fit for the future is the fiscally responsible approach and a sound public investment and will encourage business investment in the regions.

The insurance industry is adopting a 'now you see me, now you don't' attitude' as the risk of flooding increases because of the more intense and frequent severe weather events we are experiencing. To mitigate the risk of insurance sector withdrawal or retreat and avoid significant cost to the public and the Crown, New Zealand needs to take the right strategic path. This is a time when decisive leadership and action to bolster our flood risk mitigation infrastructure is required, without delay.

In 2020, post-Covid recovery funding of \$217m enabled a previous three-year joint Crown-regional council programme to complete 55 flood protection projects. This investment saved billions of dollars in flood damage, particularly in Kaitiāia, Tairāwhiti and Taradale/Napier. This achievement also gave rise to a substantial improvement in capacity and capability within local and central government, and the private sector.

The flood mitigation infrastructure construction sector now has fresh momentum which should not be allowed to wane. The task of restarting, if there is a gap, will face head winds. For the sake of long run benefits, now is the time to maximise current time, capability, social licence, and delivery cost-benefit opportunities.

This proposal has the support of local Mayors and Chairs on behalf of their communities throughout New Zealand, as expressed in the letters attached to this business case.

We are all aware that Cyclones Gabrielle and Hale storm events were extraordinarily expensive for New Zealand and had heart-rending impacts on New Zealanders. The next set of tropical cyclones or atmospheric rivers will have equally devastating effects in other parts of New Zealand. All parts of New Zealand urgently need better quality defences against these flood risks.

We look forward to your commitment. We would be pleased to meet with you to provide any further information you may require to support us to meet this critical need.

Daran Ponter  
**Chair, Greater Wellington Regional Council**

Peter Scott  
**Chair, Environment Canterbury**

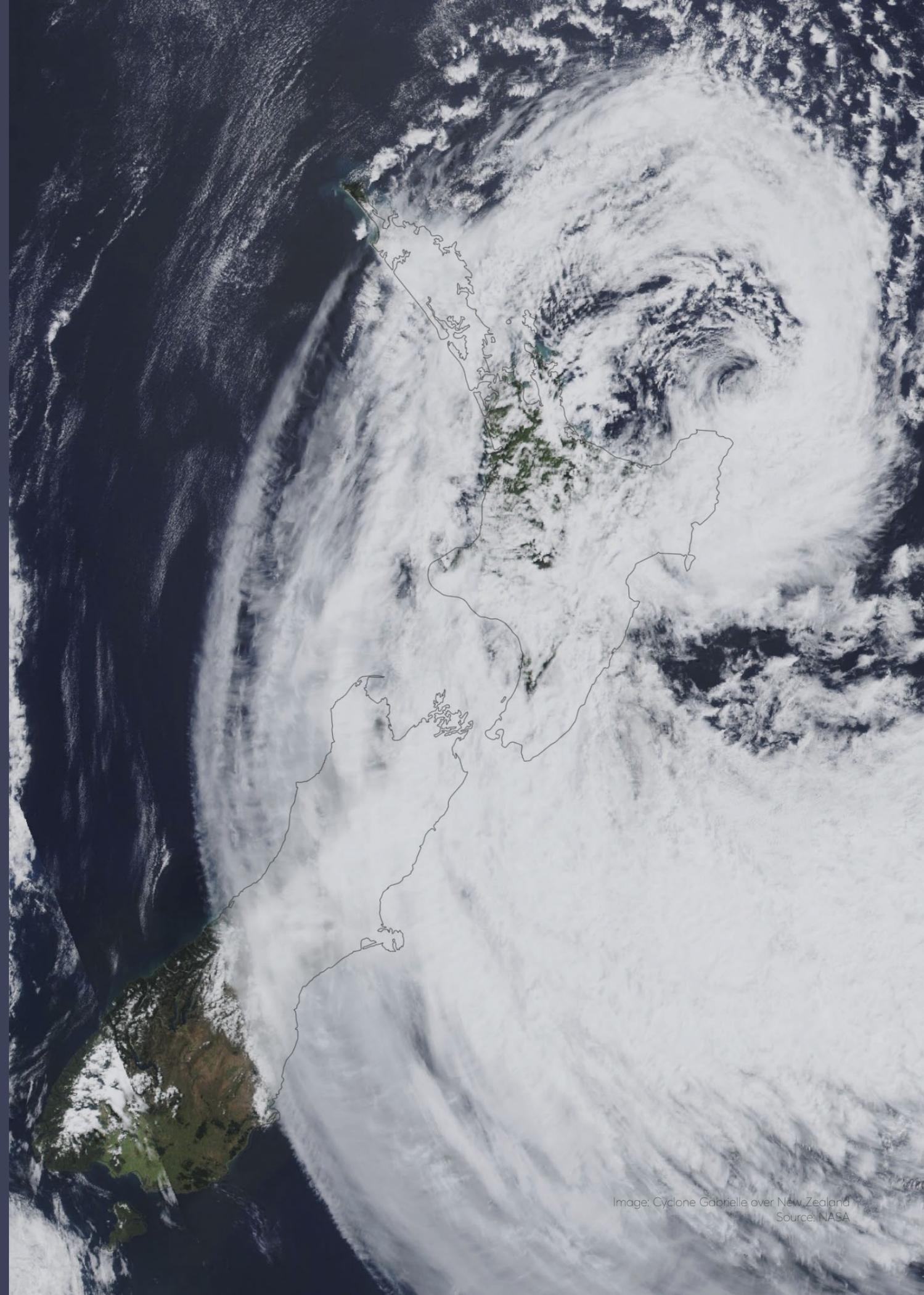


Image: Cyclone Gabrielle over New Zealand  
Source: NASA

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## Executive Summary

**Our programme is aligned with the incoming government's signalled priorities and represents a no-regrets investment that can commence immediately.**

### Our refreshed co-investment case.

We are re-submitting a refreshed version of our previous co-investment case *Before the Deluge*, previously submitted in December 2022 and available on the Resilient River Communities [website](#).

This refresh has:

- Removed projects that have been funded since *Before the Deluge* was submitted, as well as those funded through the North Island Weather Events 2023 recovery programme;
- Updated costs to account for construction price increases; and
- Created a stronger link between the projects, as well as councils' broader programmes of work, to the Protect, Accommodate, Retreat, Avoid (PARA) framework.

In this refreshed case, we put forward 80 flood protection projects spread across New Zealand to be delivered over the next three years, with all projects being completed by 2026/27. This entails a total capital expenditure of \$329.35 million.

Over the last 40-50 years New Zealand's flood protection infrastructure has fallen well behind what's needed to mitigate against our climate change risks. In response, the insurance sector is threatening to pull a disappearing act. We urgently need to take the right strategic path because our options are increasingly and rapidly shrinking, at significant cost to the public. **This is a time when bold, decisive leadership and action is required, without delay.**

Below, we outline our investment ask. This reflects the most effective and cost-efficient path forward; one that delivers the best value for money while lifting the resilience of our regions, with additional benefits of economic growth, productivity, and improved quality of life across New Zealand.

### Our specific investment ask is:

- 1 Approval**  
The approval of \$197.61 million in Crown co-investment toward the delivery of these 80 flood protection projects.
- 2 Continuation**  
The continuation of a governance arrangement that informs and protects the investment proposition and assures delivery within the agreed timeline.
- 3 Commitment**  
A commitment to working with the regional sector of local government on developing a 10-year pipeline of co-investment in flood resilience infrastructure.

**We must act with urgency to maintain the confidence of businesses and the insurance industry to invest in growing the New Zealand economy, by funding national-scale resilience.**

## The scale of the challenge we're dealing with.

Flooding has long been our number one natural hazard risk in New Zealand. However, the stakes continue to increase year-on-year. This is because four things are happening in parallel.

First, most of our **flood protection infrastructure** was built more than half a century ago and not designed for the impacts of climate change. In other areas, such as Wairoa, this type of flood protection infrastructure simply does not exist. This means most of our flood protection schemes are not fit for the current and future challenges presented by climate change.

Second, the **value of what these schemes are protecting has rapidly increased**. This includes private property such as homes, businesses, and farms, as well as Crown assets on non-rateable land. Critical infrastructure such as our roading and transport networks, waters, energy and telecommunication links – the lifelines of our economy – are at risk of damage and disruption with a major flood event; as we have already experienced several times this year alone.

Third, and relatedly, **Crown contributions toward flood protection have ceased since the 1980s**, despite agencies with Crown infrastructure and network utility responsibilities gaining considerable benefit from our flood protection infrastructure. This has put an undue burden on ratepayers who can no longer afford to cross-subsidise national-level benefits.

In short, our current state of flood risk is not a failing of the regional sector of local government, but reflects the absence of a key partner – central government – in the strategic funding of this public good. Without this co-investment, our country's critical infrastructure and major Crown assets continue to remain at-risk of destruction from the next major flood event.

Fourth, our **risk of climate change-induced flood events is increasing** in both frequency and magnitude of impact. These 'climate events' combined with the day-to-day 'climate normals' mean that we need to approach flood protection differently.

The burgeoning flood risk discussed in this business case is already causing significant harm to our society and for the government. We are increasingly paying the toll of inaction with loss of life. Another key emerging trend is the escalation in price of private insurance, and the growing threat of insurance withdrawal, with consequent transfer of financial risk to the government.

Simply put, there is an increasing risk of extensive harm to our lives and wellbeing, and risk of damage to our property, livelihoods, and the economy where flood protection is inadequate or absent.

Our flood management infrastructure has always been a matter of national interest. This is underpinned by the historical majority investment by central government in the existing network of schemes across New Zealand, that have time and time again proven to be sound public investments.

**It is now a priority matter of national interest to upgrade our flood protection to be fit for the future.**



Image: Aftermath of Cyclone Gabrielle in Eskdale  
Source: Christel Yardley, Stuff.co.nz

## Background to flood risk in New Zealand.

With the rapid and ongoing succession of adverse weather events over the last eleven months, it's safe to say 2023 was our *annus horribilis* – and the year is not over yet.

What began as a 'summer of cyclones' has continued throughout the year and across the country, often repeatedly hitting some of our most affected regions – Hawke's Bay and East Coast Tairāwhiti, in particular.

An overview of the impacts of these weather events over the past year is shown below. Cumulatively, this has resulted in 17 deaths; several injuries; hundreds of homes damaged beyond repair; widescale damage to farms, crops, and ecosystems; damage to critical roading infrastructure and transport and utility networks; and disruption to schools and businesses. This is increasingly going to become our 'new normal' in a climate-changed world.

**Key**

- State of Emergency declared (regional/local)
- Loss of life and injuries
- Damage to homes, buildings, private property
- Damage to roads and critical infrastructure
- Damage to utilities and networks
- Central govt. spend



Figure i. Timeline of adverse weather events over the last twelve months, and their impacts.

## The case for a 'step change'.

New Zealand urgently needs a step change in how flood protection is funded and delivered, so that we are establishing the appropriate level of 'climate change' flood resilience.

As the regional sector collective will argue throughout this document, there are strong reasons why central government co-investment in improving our flood protection is needed:

- Smaller communities and ratepayers alone can no longer **afford** the necessary level and pace of funding required to accelerate our flood resilience measures;
- A significant number of high-value **Crown assets on non-rateable land benefit** from these flood protection schemes;
- Our **critical infrastructure is also protected** by flood schemes and remains at risk of damage from the next major flooding events;
- International and local evidence shows investing in flood **risk reduction is more effective and cost-efficient** than post-disaster spending;
- The Crown ultimately bears the **cost of post-disaster response and recovery**, where (any) flood protection measures fail;
- Relatedly, this **increases Crown liability** (and debt) in terms of unforeseen expenditure;
- Without urgent central government action and intervention, the **insurance sector is likely to withdraw or fully retreat** from the market, as they have already indicated. This is largely avoidable if rapid action on a nationally co-funded programme occurs;
- It is **unfair and inequitable** that the costs of constructing and maintaining these flood schemes fall to local ratepayers, while the benefits are realised at a national level.

Climate change-induced flood risks are no longer 'unprecedented'. These are very real, foreseeable risks that require a shift in our approach to planning, funding, and delivery of improved flood resilience. The status quo is no longer a viable option in the reality of today's world.



*Every dollar invested in risk reduction will save many more dollars in future economic costs, keep people safer and reduce the stress, trauma and loss to the community from similar event in future... The question that should be asked now is whether we can afford to wait.*

-Insurance Council of New Zealand'

While national direction on adaptation is still in gestation – for example, the planned (but not yet confirmed) Select Committee Inquiry into Managed Retreat and Adaptation and the reforms to new resource management legislation – our population remains vulnerable to the next deluge.

Flood risk mitigation infrastructure therefore remains our first and most critical step in building resilience. It mitigates the flood risk for our communities, our infrastructure, our schools and hospitals, our cultural assets such as marae and urupā, and our economy. And it enhances our ability to cope with and recover from major flooding events. This alone means that flood protection will and must always have a place alongside other longer-term adaptation measures within a multi-tool 'Protect, Accommodate, Retreat, Avoid' (PARA) approach.

It is clear there is a strong national and financial interest, and a moral imperative for central government to return to the table to co-invest in improving flood risk mitigation infrastructure.

### Why now?

The Hale and Gabrielle storm events of 2023 were devastating, with billions spent toward recovery. This does not include the seventeen lives lost and harm to wellbeing that cannot truly be quantified.

The next set of tropical cyclones or atmospheric rivers will have equally devastating effects in other parts of New Zealand. Most parts of New Zealand are equally vulnerable. All parts of New Zealand urgently need better quality defences against flood risks.

Can we afford to continue down this path of inaction, when the alternative is investing a mere fraction of that toward mitigating flood risk in the first place?

## The benefits of investing in flood protection infrastructure.

As the leader of the new government, National already recognises that<sup>2</sup>:

*"High quality infrastructure drives economic growth, boosts productivity and enhances our way of life."*

Dollar-for-dollar, flood protection infrastructure delivers one of the highest cost-benefit values compared to other large-scale infrastructure projects, ranging between 1:5 and 1:8. This means for every \$1 invested in flood protection, there are between \$5-\$8 in direct losses avoided.

### The costs of inaction.

We've seen the cost of not investing play out recently in Westport, where a \$23 million investment (in today's dollars) would have avoided over \$200 million in recovery and indirect costs. This cost-benefit ratio is, in fact, closer to 1:9.

This is to say nothing of the ongoing health and psychological trauma for flood-affected communities, the disruption to our social fabric, and the anxiety of living with an uncertain future flood risk in the absence of adequate flood protection.

### The benefits of investment in flood protection.

On the other hand, we continue to see evidence that the \$217 million post-Covid economic recovery co-investment by central government in 55 'shovel-ready' projects in 2020 has been worth its weight in gold, generating direct (**avoided economic losses and loss of life**) and wider **social, cultural, and environmental benefits**. The Taradale stopbank in Hawke's Bay, and the Awanui River flood scheme are just two examples of these projects that delivered the necessary flood protection during the 2021/22 floods, and are showcased later in our document.

Our proposed co-investment not only **builds the flood resilience of our communities**; it **enhances the resilience of other critical infrastructure**. What's more, construction of these projects allow us to **grow the economy** in those regions that would most benefit from this cashflow boost. It also **maintains insurance sector coverage**, which in turn gives businesses the **confidence and certainty to grow** and invest, **improving regional productivity and exports**. These benefits are realised regardless of whether a flood event occurs.

Yet another example illustrating the importance of quality flood protection infrastructure is the Waipaoa stopbanks in Tairāwhiti. These "unsung heroes"<sup>3</sup> of the region helped **protect a large area (around 10,000 ha) of high-yield, prime horticulture land** in the Poverty Bay Flats during Cyclone Gabrielle. In contrast, we've seen other regions across the country affected by widespread damage to crops, resulting in disrupted supply chains, price surges, and food insecurity challenges for many households.

Chief Executive of LeaderBrand – one of the largest produce growers nationally – has said, of this flood resilience in Poverty Bay<sup>4</sup>:

*"By day four (of Cyclone Gabrielle) we were able to start harvesting things like fresh lettuce and sweetcorn on blocks that weren't flooded, and by Sunday we were harvesting some of the sauvignon blanc in our vineyards."*

Investment in flood protection has proven time and time again to have **significant resilience dividends** for government, for our economy, and for our people, now and into the future.

# List of 80 proposed projects.

An overview of our 80 priority flood protection projects is shown below, with full detail provided in the Appendices. These projects total \$329.35M.

<p><b>North Island</b></p> <p><b>44 projects</b></p> <p><b>\$165.55m investment</b></p>	<p><b>South Island</b></p> <p><b>36 projects</b></p> <p><b>\$163.80m investment</b></p>
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All projects have a duration of three years until completion, except where otherwise indicated:  
 \* = 1 year  
 \*\* = 2 years

The immediate project needs in Tairāwhiti, Hawke's Bay, and Horizons have been addressed with the help of funding allocated as part of Cyclone Gabrielle recovery programmes.

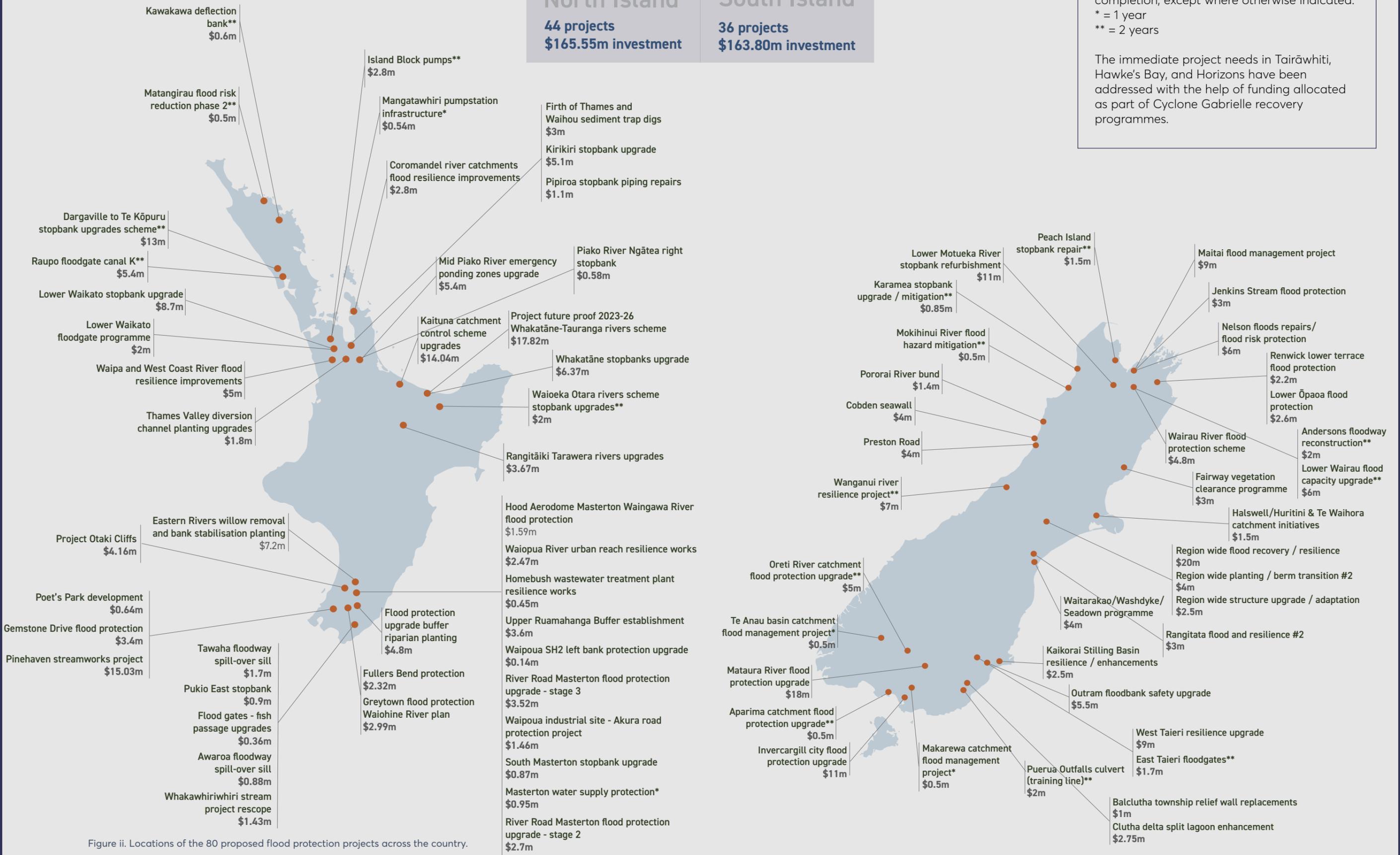


Figure ii. Locations of the 80 proposed flood protection projects across the country.

EXECUTIVE SUMMARY

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## The investment required.

The breakdown of co-investment required to improve our flood resilience is shown below.

This represents the costs of the three-year plan (i.e., 80 projects in this co-investment case) and the longer-term (ten year) programme of work needed to ensure our flood management infrastructure is fit-for-purpose within a decade.

While the scope of this investment case only includes the 80 projects, we situate this within our longer-term pipeline of work to signal the direction we're headed in, in terms of seeking to build a partnership with central government and other relevant industry sectors (e.g., insurance) to improve our 'climate change' flood resilience.

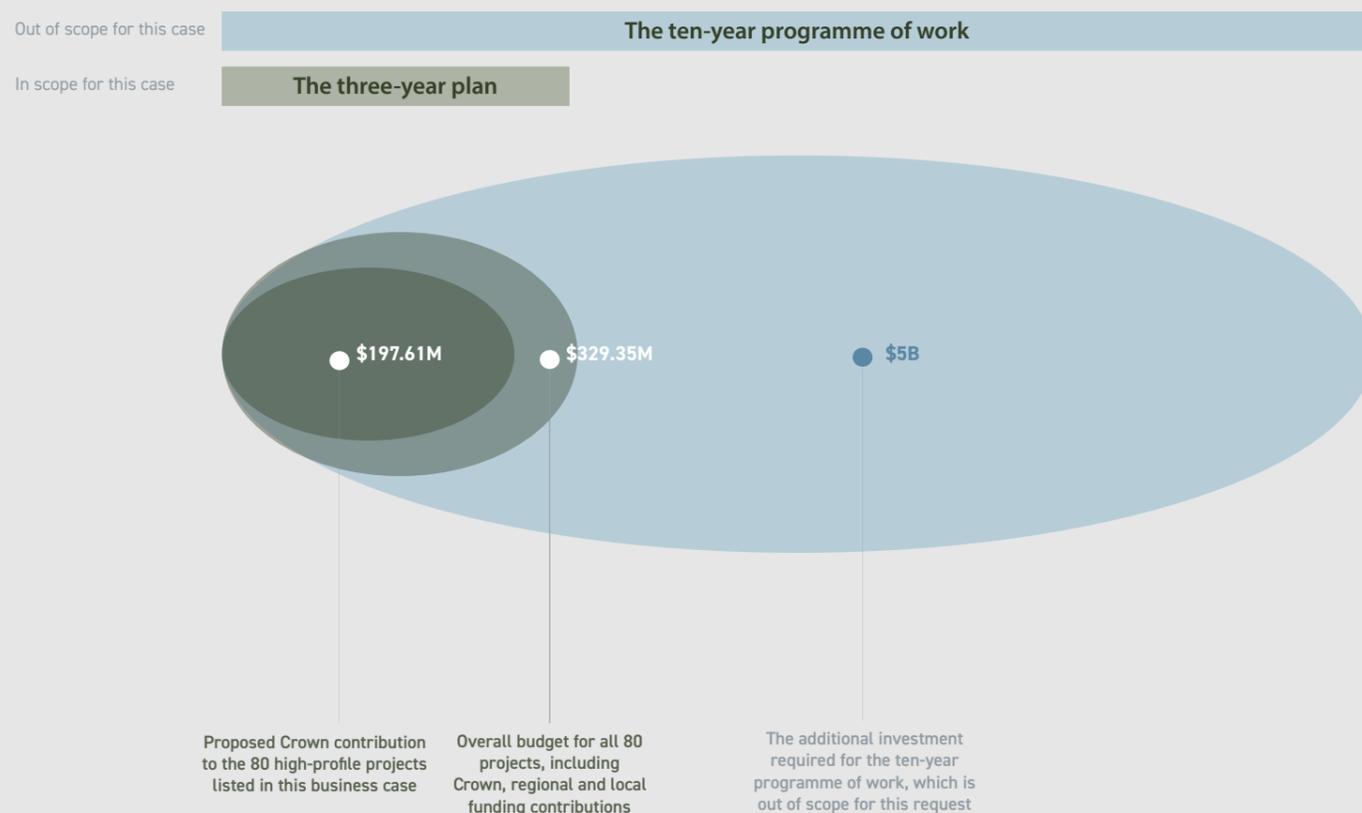


Figure iii. An overview of the coinvestment required across central government and the regional sector in the near (3 years) and long term (10 years).

## Consolidated spend across regional councils and central government.

A high-level delivery timeline and regional council spend (along with central government co-investment) is shown below.

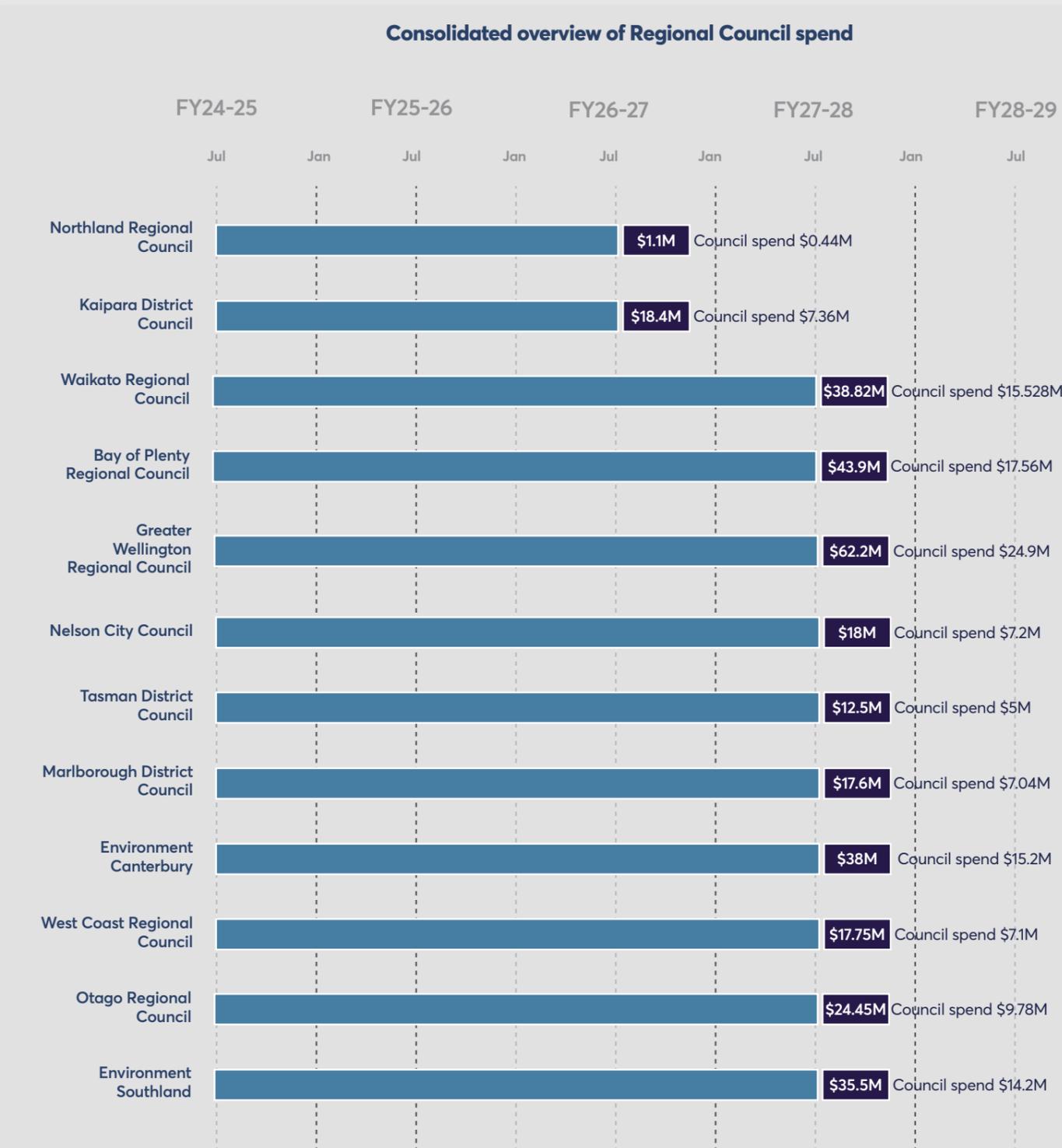


Figure iv. Consolidated Gantt chart showing staging of delivery across regional councils.

## The path to delivery.

### The sector's ability to deliver

The progress reporting on the 55 post-Covid economic recovery-funded 'shovel ready' projects has demonstrated the regional sector's capability and capacity to deliver on flood protection projects on time and to budget.

Successful delivery is based on the robust project delivery methodologies that have been implemented and refined across the sector over the last few decades. This has been further strengthened by governance and leadership frameworks that provide oversight, accountability, and coordination across the sector.

Beyond project completion itself, we have also seen the realisation of wider economic, social, and environmental benefits, shown in the case studies throughout this business case. These include local job creation; economic value generated to local business and economies; iwi engagement; and improved health of our waterways, wetlands, and freshwater ecosystems.

On this basis, we continue to remain confident in regional and unitary councils' ability to deliver on the proposed projects and benefits.

### A roadmap to flood resilience

The delivery of our three-year programme of work (80 'shovel-ready' flood protection projects) is situated (shown in green, below) within a longer-term timeline of regional sector initiatives.

The examples showcased overleaf are just two of the 80 flood protection projects being proposed. The full list of projects details and staging is provided as Appendices.

Importantly, the projects proposed have already been evaluated for their 'readiness', deliverability, and ability to obtain the necessary consents. These are 'shovel-ready' projects, advanced enough in their development to commence as soon as the necessary funding has been secured.

**Climate Resilience Flood Protection Programme**  
\$217M package approved by Cabinet in July 2020 and established funding agreements with each council by end of 2020, with Advisory Board functioning by early 2021

**Westport business case**  
Business case for co-investment in flood protection measures in response to 2021/ 2022 floods

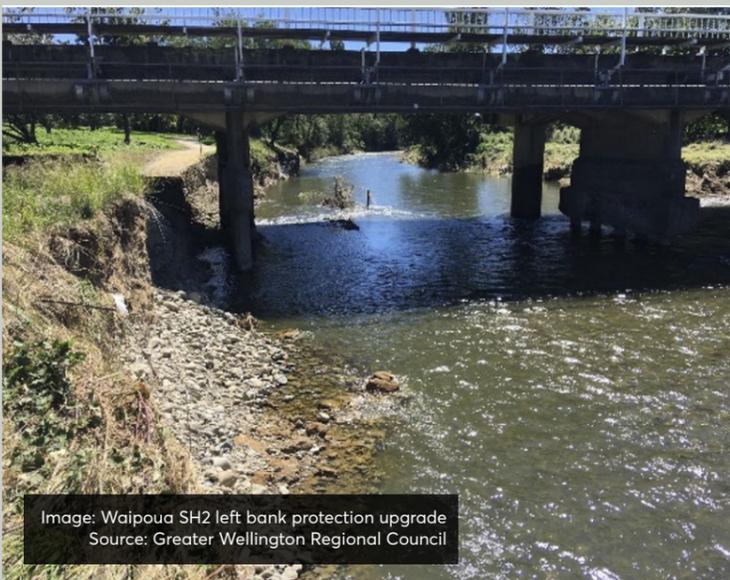


Image: Waipoua SH2 left bank protection upgrade  
Source: Greater Wellington Regional Council

### Waipoua SH2 left bank protection upgrade, Greater Wellington Regional Council

This project will construct a new rock revetment on the left bank of the Waipoua River to protect the SH2 bridge abutment, and the walking / cycle trail, from flood damage.

### Kaikorai stilling basin resilience and environmental enhancements Otago Regional Council

This project will replace the stilling basin on the Kaikorai Stream that was significantly damaged in the 2017 flood. This will improve flood resilience as well as better enable fish passage past the basin structure.

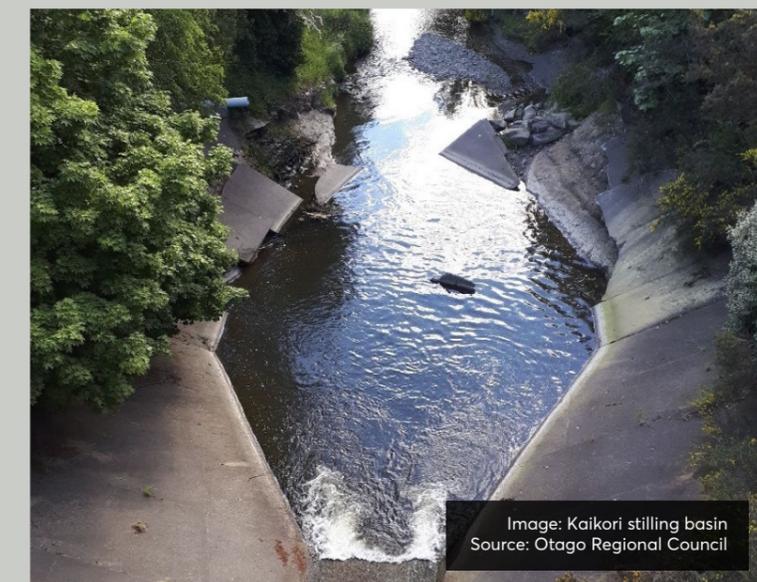


Image: Kaikori stilling basin  
Source: Otago Regional Council

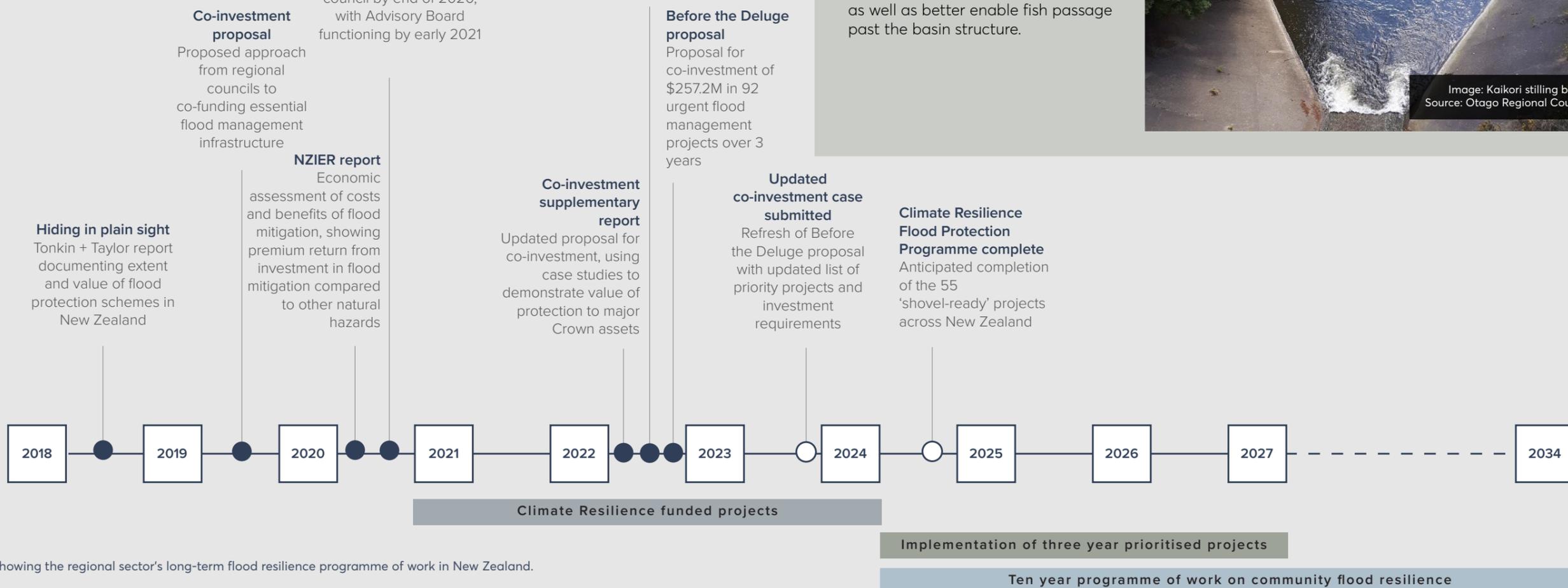


Figure v. Timeline showing the regional sector's long-term flood resilience programme of work in New Zealand.

## Strategic alignment with incoming government priorities.

There is strong strategic alignment between investment in flood protection projects and the incoming government's signalled priorities (as outlined in the **Government's 100 Day Plan** and in the **coalition agreements agreed with NZ First and ACT**) of expediting regional flood recovery and economic prosperity, as well as building future-ready infrastructure that delivers a greater level of 'climate change' resilience.

This investment is also well-aligned with the incoming government's **Infrastructure for the Future plan**<sup>5</sup>, which will see partnership with local government to create long-term (30 year) pipelines of infrastructure investment through regional deals. Environmental resilience investments feature specifically as part of these regional deals, and our list of 80 priority flood protection projects accelerates the path for regional councils to begin working with central government in identifying priority infrastructure projects.

Our investment case is also fully supported by all local authorities, as evidenced by the Mayoral Letters of Support in Appendix 3.

**This is a 'no regrets' investment, and conditions are ideal to progress this initiative; preferably as part of the 'Mini Budget', or alternatively, as part of Budget 2024.**

Below, we outline alignment with existing strategic objectives such as the **National Adaptation Plan** and the **Ministry for the Environment's community-led retreat and adaptation inquiry discussion document**; both of which recognise the importance of 'protect' solutions within a multi-tool PARA (Protect, Avoid, Retreat, Accommodate) framework.

Regional councils are already implementing PARA approaches as part of their flood risk management planning and related statutory obligations, as we will show through this document. It is the 'protect' measures for which we are seeking co-investment, within this business case.

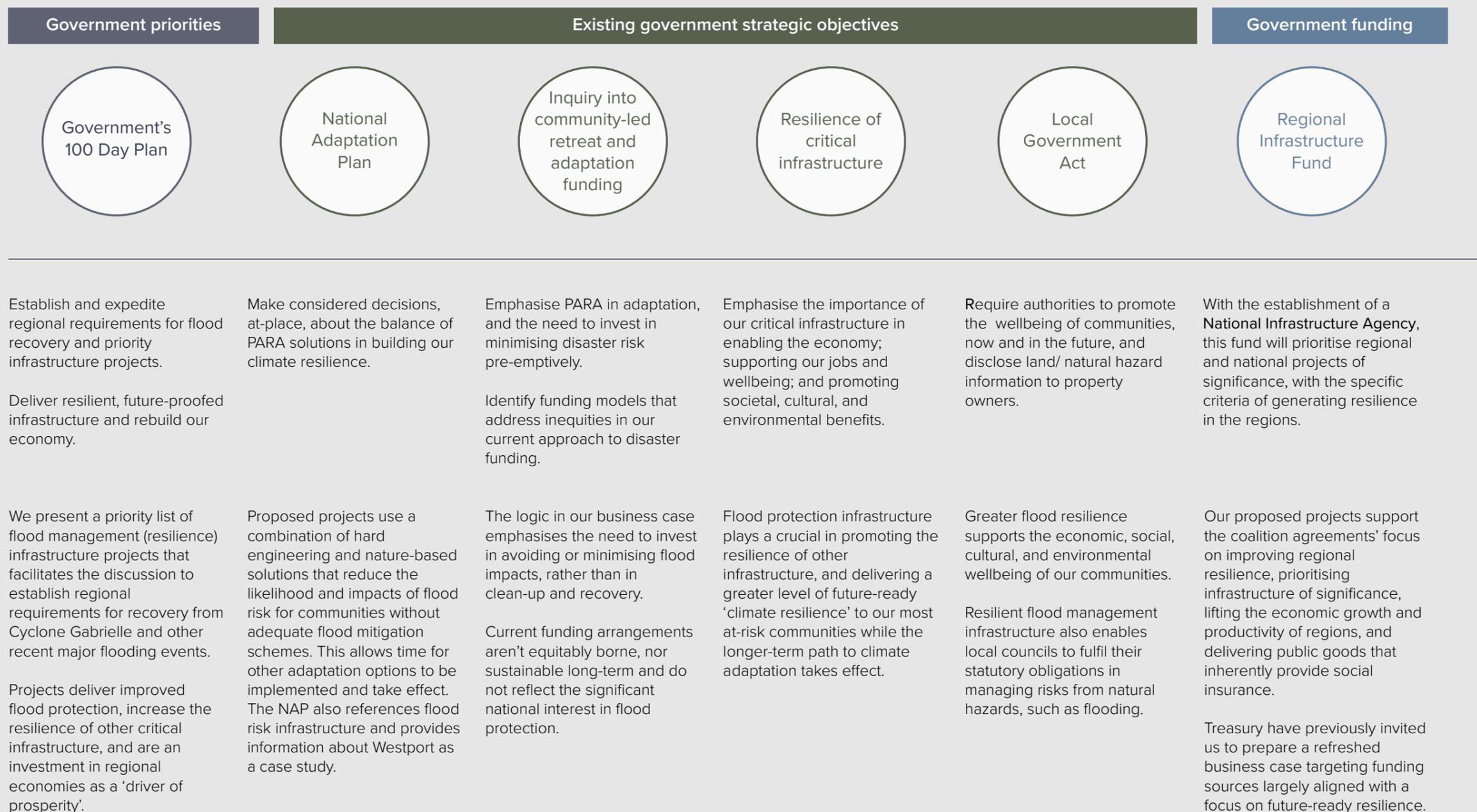


Figure vi. Alignment of our co-investment case in flood resilience with broader strategic priorities and objectives.



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