State of our Gulf

The Hauraki Gulf • Tīkapa Moana • Te Moananui-ā-Toi • 2026

Hauraki Gulf Forum
Tīkapa Moana
Te Moananui-ā-Toi

Hauraki Gulf Marine Park
Ko te Pātaka kai o Tīkapa Moana
Te Moananui-ā-Toi

He hua nui
He hua roa
Ki te ao
Ōmaio te tua e
Haramai ki te tae pari
Haramai ki te tae timu
Nāu e Hine Moana e
Nāu e, Tangaroa e

From the energies of the extensive and intensive ocean,
we will learn to maintain balance.

Healing and restoration must be reciprocal, acknowledging the ebb and flow and provisions of the tides within the sacred realm of Hinemoana and Tangaroa.

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This report has been prepared by Pattle Delamore Partners Limited (PDP) for the Hauraki Gulf Forum, drawing on monitoring programmes and datasets from Councils and partner agencies, publicly available data, and evidence from the wider scientific community. PDP has relied on this information being accurate and current as provided, and has not independently verified it. Findings have been interpreted alongside other evidence, including lived experience, local knowledge, and mātauranga Māori. Collectively, these sources give a strong overall picture of the Gulf, though coverage gaps remain across some areas and time periods, and some indicators are still developing. PDP, its directors, employees, or agents accept no responsibility for the accuracy of information provided by third parties, or for use of this report beyond the purposes described within it.

E ngā waitukikiri o Te Moananui-ā-Toi, e rere mai

Kawea mai te wai ora o te mātāpuna heke iho i ōu maunga. Kawaea mai te wai aroha o ngā kui mā, koro mā i te pō

Hoea mai i uta, hoea mai i tai, hoea mai i te raki, hoea i te tonga, i te rāwhiti, i te hauāuru o te Tīkapa Moana

Hoea, hoea, hoea rā

Torotoro mai ngā whakaaroaro tūturu kia whakakotahi mai tātou

Kei a koutou te mana, kei a koutou te kōrero tuku iho, kei a koutou te rongoā

Hakoa ngā piki o ngā ngaru nunui, hakoa te uaua nunui, kia mau tonu, kia whakakotahi ai koutou hei tiaki te pātaka kai Me noho whakaiti mātou, e ahungia ana ō koutou waka

Ki a wāu koutou hoe, ki a wāu mātou hoe, ka wawani ake tō tātou waka.

This report has been prepared with humility and respect for the mana me te rangatiratanga of mana whenua throughout Tīkapa Moana and Te Moananui-ā-Toi.

In preparing this report, we have sought to uphold that mana and to reflect those perspectives with care, recognising that the kōrero tuku iho – localised mātauranga, tohu, kupu, reo, and relationships that exist across these waters are diverse, place-based, and held by those with ancestral responsibilities to them.

Across Tīkapa Moana and Te Moananui-ā-Toi, there are many kōrero tuku iho, place names, tohu, taonga species, and mātauranga that are specific to particular rohe, hapū, and iwi. There may be different names, narratives, interpretations, and understandings associated with the same places, species, events, and relationships. These taonga tuku iho and the authority to share and interpret these taonga rest with those from whom they originate.

Our intention has not been to define, consolidate, or speak on behalf of mana whenua, but rather to create space within this report to acknowledge the significance of these relationships and the well-being of the Gulf. We recognise that the sharing of these kōrero, mātauranga, and perspectives rests with mana whenua themselves.

He Mihimihi

Acknowledgements

This report draws on the knowledge, and sustained effort of many people and organisations across Te Tīkapa Moana and its catchments.

We acknowledge the hapū and iwi of the Gulf who hold longstanding relationships with this moana and whose mātauranga, kaitiakitanga, and ongoing work to restore and protect the Gulf are central to how it is understood in this report. Their knowledge does not sit alongside the science here, it is part of it.

The many names held by this place reflect its significance to different peoples across time. To honour that richness, this report uses the full name 'Hauraki Gulf Marine Park / Ko te Pataka kai o Tikapa Moana Te Moananui-ā-Toi' or 'The Hauraki Gulf / Tīkapa Moana / Te Moananui-ā-Toi' where needed, and 'the Gulf' as the short-form term elsewhere.

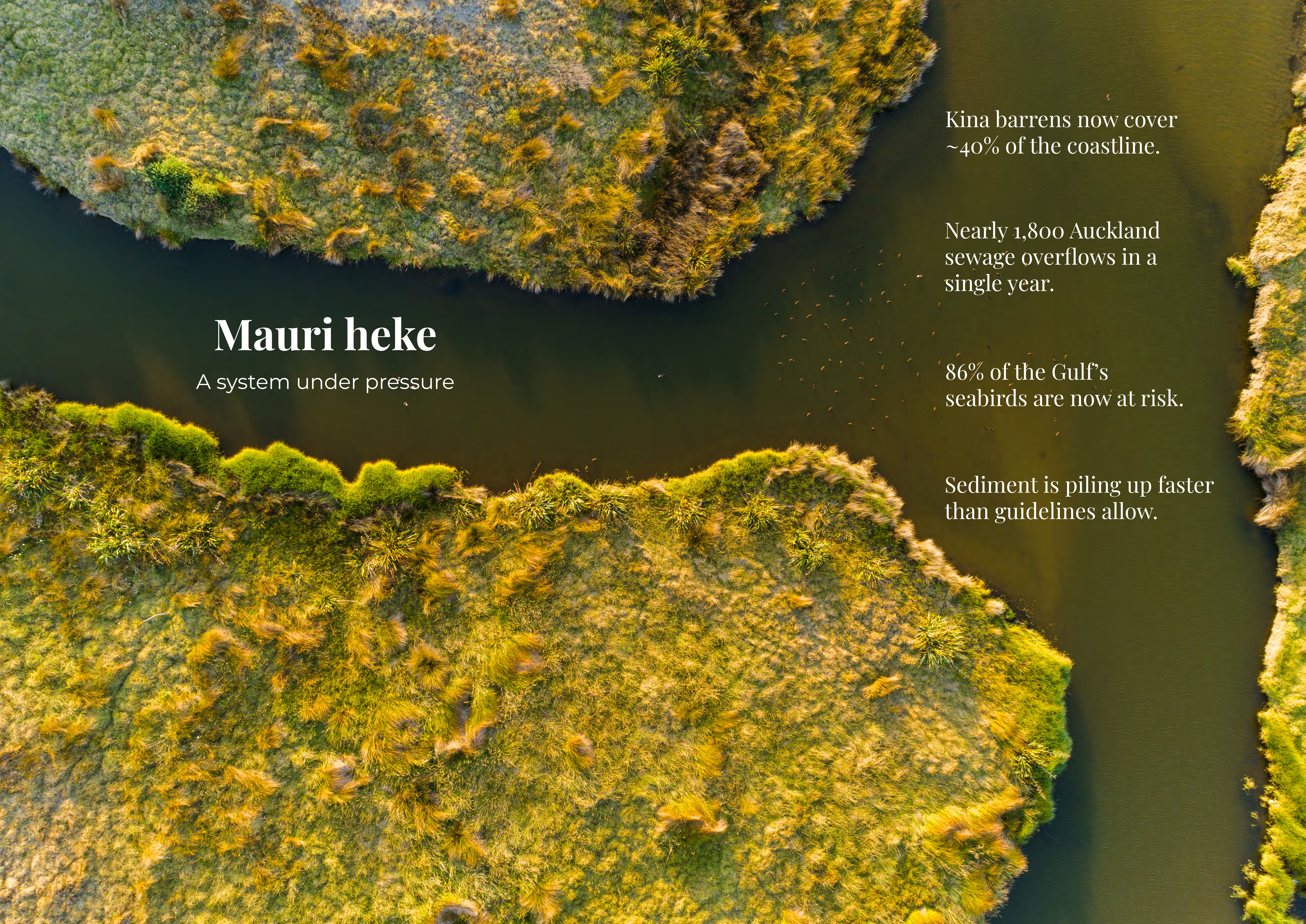
We also recognise the many community organisations, volunteers, and restoration programmes working across the Gulf - from island pest eradication and seabird recovery to riparian planting, kaimoana monitoring, and coastal clean-up efforts. Their work is often less visible in formal reporting, but the Gulf's recovery depends on it.

We are grateful to the councils and agencies whose monitoring programmes and environmental data underpin this assessment, including Auckland Council, Waikato Regional Council, Thames-Coromandel District Council, Hauraki District Council, Matamata-Piako District Council, Department of Conservation, Birds New Zealand and the Ministry for Primary Industries, as well as Watercare and the many environmental monitoring teams who maintain the datasets this report depends on.

The science and research communities have contributed significantly, particularly Waipapa Taumata Rau University of Auckland, NZIER, Earth Sciences New Zealand, the Pūkorokoro Miranda Shorebird Centre, and the many researchers and ecologists whose published and ongoing work informs our understanding of the Gulf's condition.

This report would not exist without the willingness of so many people to share what they know, what they have seen, and what they have built here.

Nō reira, nui te mihi kau ana ki a koutou katoa.



Mauri heke

A system under pressure

Kina barrens now cover ~40% of the coastline.

Nearly 1,800 Auckland sewage overflows in a single year.

86% of the Gulf's seabirds are now at risk.

Sediment is piling up faster than guidelines allow.

Rārangi Upoko

Contents

He Kupu Takatū

Foreword

Ko Te Tīkapa Moana / Te Moananui-ā-Toi / the Hauraki Gulf, is a tino taonga tuku iho. It is a living system shaped by whakapapa, sustained through kaitiakitanga, and central to identity, wellbeing, and connection across generations. More than two million people sit within reach of its shores and islands.

For 26 years, the Gulf has carried the status of a Marine Park, and State of our Gulf reporting, published every three years, has tracked what has been happening to it.

The 2023 report said the Gulf was degraded. This report assesses the Gulf to be in a state of mauri heke / under pressure.

The Gulf is getting warmer. Not gradually, but in ways that place sudden and repeated stress on an already strained system. Marine heatwaves now compound years of sediment runoff, damaged habitats, contaminants, and sustained fishing pressure.

The result is a system losing its resilience, visibly, and at pace. What is also increasingly visible is the response.

Mana whenua / hapū and iwi of Te Tīkapa Moana / Te Moananui-ā-Toi have long understood the health of the moana cannot be separated from the health of the whenua and freshwater that feeds it. Mātauranga Māori continues to guide restoration, rāhui, and localised action, grounded in responsibilities that do not shift with political cycles.

Communities are restoring streams, protecting coastlines, and rebuilding habitats, organising, finding funding, and getting on with the mahi. In this report, we look more closely at those people - the ones who know the Gulf best and are not holding back.

Their determination should be both encouraging and confronting.

A sense of greater coordination is also evident. Marine protection legislation established in 2025, arriving after decades of discussion, marks real progress towards the Forum's goal of 30% marine protection by 2030. Investment in stormwater and wastewater infrastructure is increasing, and agencies, councils, iwi, and communities are working more closely together to manage the Gulf as a connected ki uta ki tai system.

Yet the pace of action is still being overtaken by the pace of change. A single failed pipe under Parnell, Auckland, in 2023 cost tens of millions in lost recreation, fishing and water quality alone, a glimpse of what one failure can do.

This leaves a direct question. If the science has been consistent, if communities are already acting, and if the direction is broadly agreed, why is the response still falling short of what is needed?

Without a step change in speed and scale, the effort already underway will struggle against the weight of pressures driving decline. Left unaddressed, the next report will not describe pressure, it will describe collapse.

In this report, we celebrate the people compelled to act and the leadership they demonstrate.

If national and regional settings can match the energy and ambition already expressed locally, through collective determined effort we may yet turn the tide for the Gulf.

Me mahi tahi tātou katoa,
mō ngā rerana kei te heke mai

We must work together for the future generations

Nicola Rata-MacDonald MNZM
Hauraki Gulf Forum Tangata Whenua Co-Chair
Ngāti Manuhiri Tumu Whakarae

Councillor Warren Maher
Hauraki Gulf Forum Co-Chair
Chairperson Waikato Regional Council

"The State of our Gulf Report acts as a barometer to how the Hauraki Gulf / Te Moananui-ā-Toi / Tīkapa Moana is faring."

Nicola Rata-MacDonald MNZM
Hauraki Gulf Forum Tangata Whenua Co-Chair,
Ngāti Manuhiri Tumu Whakarae

"You can read about something, you can hear it, but if you can see it - if you can hear people articulate it, you will hear the passion in their voices. That is more powerful."

Warren Maher
Hauraki Gulf Forum Co-Chair,
Chairperson Waikato Regional Council

Te Kāhui Tautaki o Tīkapa Moana

The Hauraki Gulf Forum

The Hauraki Gulf Forum is the statutory body responsible for overseeing the integrated management and long-term protection of the Hauraki Gulf / Tīkapa Moana / Te Moananui-ā-Toi. The Forum was established under the Hauraki Gulf Act 2000, recognising the Gulf's ecological complexity, cultural significance, and the need for collaboration across the many agencies and jurisdictions involved in its management. Its membership includes representatives of mana whenua, central government, and local government from across the Gulf. The Forum does not hold regulatory powers. Its influence is exercised through advocacy, reporting, and its statutory role as a cross-sector body.

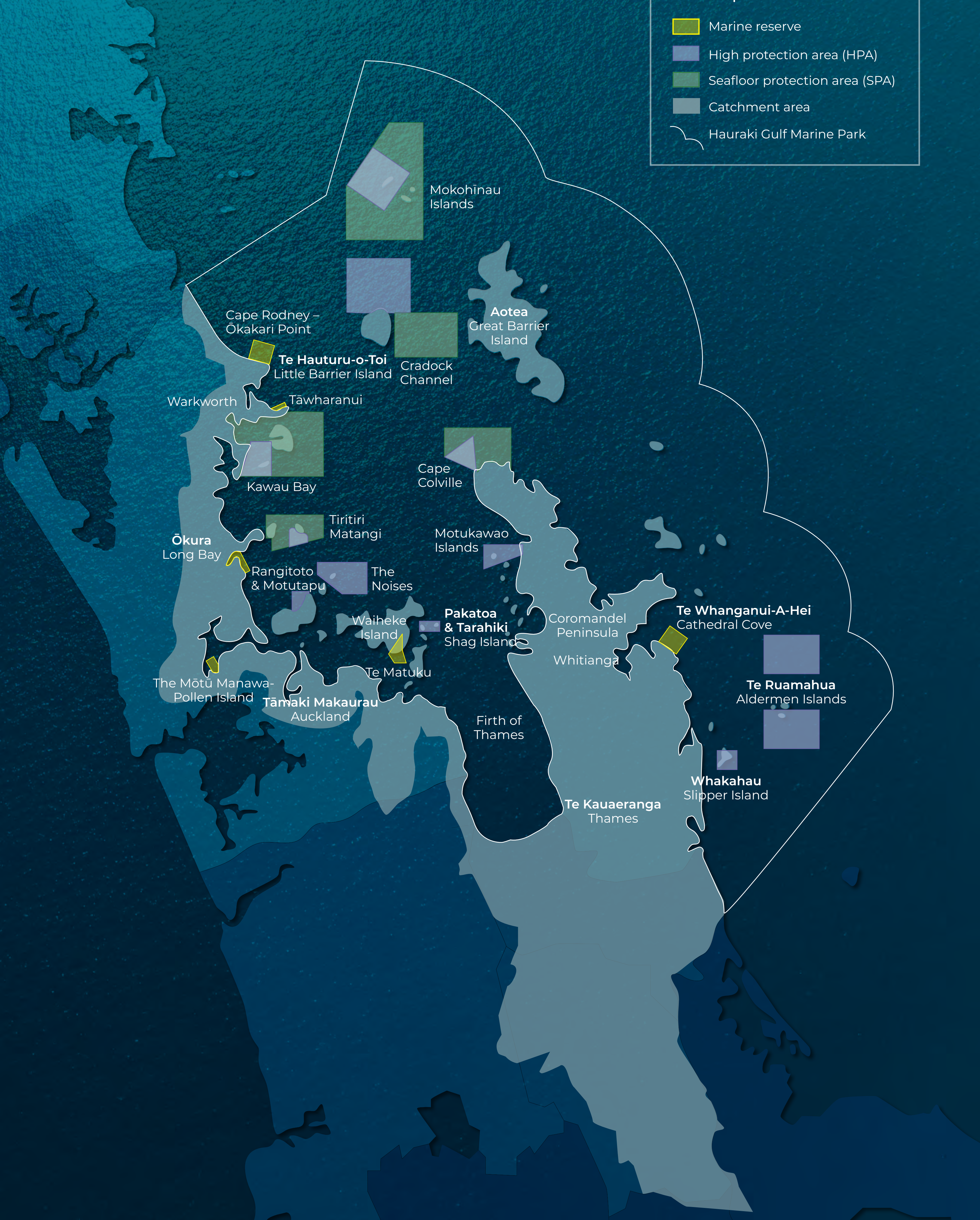
Since the last report, the Forum has advocated for the passage of the Hauraki Gulf / Tīkapa Moana Marine Protection Bill and the integrity of its High Protection Areas; an end to bottom-contact fishing methods through the Hauraki Gulf Fisheries Plan process; a funded risk assessment of the deteriorating RMS Niagara wreck; coordinated responses to the spread of exotic Caulerpa; and place-based, kaitiakitanga-led fisheries management, including local fisheries management measures for kōura at Aotea / Great Barrier Island.

Together, the 2023 Hauraki Gulf Fisheries Plan and the Hauraki Gulf / Tīkapa Moana Marine Protection Act 2025 have introduced the most significant changes to Gulf management since the Hauraki Gulf Act 2000. The map alongside shows the resulting network of marine reserves, High Protection Areas, and Seafloor Protection Areas across the Gulf.

The Forum is also required to produce triennial reports on the state of the Gulf. This is the eighth. It draws on monitoring data, research, and evidence from partner agencies and the wider scientific community. It does not represent the position of any individual Forum member or contributing agency.

The report is intended to give decision-makers, communities, and the public a clear and honest account of how the Gulf is changing - and what that requires in response.

Marine protection areas



A new network of marine protection

On 25 October 2025, the Hauraki Gulf Tīkapa Moana Marine Protection Act came into force, establishing a new network of marine protection across the Gulf.

The network comprises four types of protected area.

- Two existing marine reserves have been extended, at Te Whanganui-o-Hei / Cathedral Cove and Cape Rodney-Okakari Point (Goat Island / Te Hawere ā Maki).
- Twelve high protection areas have been established, designed to protect and restore marine ecosystems, allow active habitat restoration, and enable authorised customary fishing to continue.
- Five seafloor protection areas safeguard seafloor habitats from high-impact activities, while still permitting lower-impact uses such as line fishing, spearfishing, diving, and harvesting by hand.

This map is illustrative only and should not be relied upon for precise location or boundary information.

He tirohanga whānui

Executive summary

Tīkapa Moana / Te Moananui-ō-Toi / the Hauraki Gulf is a place of deep significance. For mana whenua, it is not separate from who they are, but part of their identity, whakapapa, and existence. For many others, it supports livelihoods, recreation, and everyday experiences. It is also one of the most heavily used and impacted marine environments in Aotearoa.

This report brings together what we know about the state of our Gulf, with a focus on how it has changed over the past three years. It assesses progress toward integrated management and the priority issues identified by the Forum, including marine habitats, water quality, fisheries, biodiversity, and biosecurity.

Independent research commissioned by the Forum values ecosystem services provided by the Gulf at $5.14 billion a year. Without more ambitious investment from central government, that value will diminish and the ecosystem will fail. Coordinated action is emerging, but it remains mana whenua and communities – using their own time and resources – who continue to defend the Gulf.

What has changed

Over the past three years, activity across the Gulf has increased and become more coordinated, including:

- establishment of 19 new marine protected areas
- fisheries closures, changes in fisheries management and ongoing reform, including closure of the inner Gulf to commercial and recreational kōura harvest from April 2025
- whole-catchment restoration increasingly coordinated across the Gulf, including large-scale riparian fencing and planting projects reconnecting wetlands to the coast
- restoration, protection, and monitoring led by mana whenua alongside communities and agencies
- more rigorous monitoring and analysis on marine biosecurity following the spread of exotic Caulerpa.

Together, these actions signal a shift from describing decline to actively responding to it.

There is also greater alignment between iwi, agencies, and communities. Ki uta ki tai, or catchment-to-coast approaches, are becoming more common, reflecting a clearer understanding that the health of the moana is shaped by what happens on land and in freshwater systems.

What remains under pressure

Despite this progress, the Gulf remains under significant, and in some cases increasing, pressure.

Sediment and contaminants from land-based activities continue to affect water quality and seafloor habitats. Auckland Council assessments found only 2% of monitored estuary sites in excellent condition. Every monitored estuary showed at least moderate impacts from excess land-derived sediment. The Firth of Thames was declared a degraded water body in 2025, with the Waihou and Piako among New Zealand's most nitrogen-loaded rivers.

Marine biodiversity remains under stress, with ongoing loss or degradation of habitats that support the wider food web. Some fish stocks and shellfish populations continue to show decline or slow recovery. This is evident in the request from three iwi within Pou Rāhui, Ngāi Tai Ki Tāmaki, Ngāti Tamaterā and Ngāti Paoa, for two-year extensions to their existing Section 186A Applications with Fisheries New Zealand supporting rāhui over shellfish species within their rohe.

New pressures are also emerging. The spread of exotic Caulerpa and the increasing frequency of marine heatwaves are affecting ecosystems in ways that are not yet fully understood, but already frightening.

For many people, these changes are experienced over time in what is caught, what is seen, and what is no longer there.






Climate change is intensifying the system

Climate change is no longer a future pressure. It is already influencing the Gulf.

Warmer waters, more frequent extreme weather events, and changing ocean conditions are increasing stress on ecosystems and compounding existing pressures. In some areas, change is occurring faster than recovery.

Marine heatwaves offer a clear illustration. During heatwave conditions pakahā / fluttering shearwater are forced to travel further to find food, with foraging trips doubling in length, reducing breeding success and leaving adults and chicks in poorer condition.

Response is increasing, but not yet at scale

Action across the Gulf is more visible, coordinated, and collaborative than in the past. Mana whenua continue to uphold their responsibilities as those with whakapapa to the rohe, exercising mana and rangatiratanga through efforts to restore and revitalise Te Tīkapa Moana / Te Moananui-ā-Toi. Community involvement is growing. Investment from philanthropy, policy change, and collaboration are enabling a broader range of responses.

While actions are increasing, the overall picture remains uneven.

With much of the directorial effort landing relatively recently, it is too soon to see measurable outcomes from this investment and decision-making. It will need to translate into consistent, system-wide improvement at the scale required for positive impacts to be explicitly seen.

The key issue is not whether effort is underway, but whether it is occurring at the pace and magnitude needed for lasting regeneration. For example, the designation of High Protection Areas in 2025 and manual removal of kina can kickstart recovery, but this requires reduced fishing pressure across the wider environment, so that natural predators like tāmure and kōura can keep kina in check, and healthy, productive ecosystems can be sustained long term.

Overall state of the Gulf: Mauri heke / Under pressure

Te hurihanga tai – a turning tide.

Three years ago, the last report found a system under pressure, with water quality, habitat condition, and key species already degraded or variable. This report finds the same indicators, but the pressure has not eased. It has compounded.

At the same time, there are visible signs of response, including restoration activity, closures in line with the Hauraki Gulf Fisheries Plan, and localised recovery in some areas, such as the return of kiwi to Waiheke, and the re-establishment of tīeke / saddleback on Rakitū Island after more than 50 years.

The direction of change is not yet fixed. There is still time to restore mauri, but the window is narrowing. With a warming climate and unpredictable weather systems setting in, every lever within our control must be pulled to regenerate and maintain a resilient system, or the next report will be painting a much starker picture.

Looking ahead

The response is becoming more deliberate, better equipped, and broader in reach, but the outcome is not guaranteed.

The future health of the Gulf will depend on whether current efforts are accelerated, aligned and sustained over time.

It will require continued partnership between mana whenua, agencies, communities, and decision-makers, and commitment to acting at the scale needed to support recovery.

The science and mātauranga generously provided over the lifetime of the State of our Gulf reporting has been clear and robust throughout. We have the information we need, we just need to get on with it; for the moana, for the mauri and for us all.

He tai moana, he tai ika.
He tai timu, he ika nunumi.

A healthy sea flourishes with life. A sea in decline becomes void of life.

"As mana whenua, we are here to look after what we can with what we've got. It is just a natural feeling to want to look after your place."

Miranda Andrews (Ngāti Pāoa), Engagement & Administrative Support, Te Korowai o Waiheke

Te Tirohanga Aromatawai ki Tīkapa Moana

How we assess the Gulf

Understanding the state of the Gulf means understanding how the system works as a whole. What happens on land flows into the sea. What happens in the sea affects ecosystems, species, and people.

This report is structured around a ki uta ki tai approach, recognising the Gulf as a connected system, the health of which is shaped by the interactions between land, freshwater, and marine environments.

Our approach

The state of the Gulf is assessed using a structured set of indicators that reflect different parts of the system.

These indicators are grouped to show:

- what is shaping the system
- how the system is responding
- what the system is able to provide.

Together, they describe the condition of the Gulf and how it is changing over time.

Each indicator is presented in a consistent way, focusing on three things:

- what we're seeing
- why it matters
- what the data shows.

This structure allows different types of information, including monitoring data, trends, and lived experience, to be considered together.

This report draws on existing monitoring and datasets from partner agencies. While these provide a strong overall picture, there are gaps in spatial and temporal coverage, and not all trends can be assessed consistently.

System overview: pressures, state, effects, response

The indicators are also understood within a simple system framework:

Pressures – activities and processes that influence the system, including land use, discharges, fishing, and climate change.

State – the current condition of the environment, including water quality, habitats, and species.

Effects – how changes in state are experienced, including impacts on ecosystems, biodiversity, and the ability to gather and use resources.

Response – actions taken to manage pressures, restore ecosystems, and support recovery.

This framework helps to connect individual indicators to the wider system and makes it easier to understand not just what is happening, but why.

Ngā tohu Māori

Core tangata whenua values and perspectives

Understanding the state of the Gulf also means recognising mana whenua knowledge, values, and perspectives.

These are not separate from the system. They are part of how the health of the Gulf is understood, experienced, and cared for.

For mana whenua, this includes concepts such as whakapapa, tapu, noa, mana, mauri, kaitiakitanga, and the relationship between people and the moana.

These perspectives are reflected throughout the report through iwi-led initiatives, lived experience, and the way change is interpreted.

This whakatauākī of Nukutawhiti reflects the understanding that the health of the moana cannot be fully understood through what is seen alone.

For this reason, mauri is used as an indicator within this assessment. It provides a way to understand the underlying condition of the system by integrating physical, ecological, and cultural dimensions.

Mauri as an integrated measure

Mauri is not always directly observable, but is understood through its effects, relationships, and the balance of the living system.[1] Biodiversity can be seen as one expression of mauri, reflecting the underlying condition of the environment.

Mauri provides an integrated understanding of the health and vitality of Te Tīkapa Moana, bringing together tohu o te ao tūroa, ecological condition, lived experience, localised mātauranga Māori, and environmental data. It reflects the cumulative condition of interconnected land, freshwater, and marine environments.[2]

It is understood through multiple signs, including ecosystem health, the abundance of key species, the ability to gather kai, and the visible impact of restoration and care.

Across the report, the pou collectively describe this system from ki uta ki tai:

- **Ki uta ki tai / Mountains to sea** – what is shaping the system
- **Te kanorau koiora / Biodiversity** – how the system is responding
- **Tiakina te pātaka kai / Preserving the food basket** – what the system provides

At the end of each pou, these lines of evidence are drawn together to indicate the overall mauri of the Gulf. Mauri is an expression of the system across four states:

Mauri ora
Thriving and abundant

Mauri tau/tū
Stable and resilient

Mauri heke
Under pressure

Mauri mate
Degraded system

No single indicator determines mauri. It is understood through the combined evidence of the environment, people, and place over time.

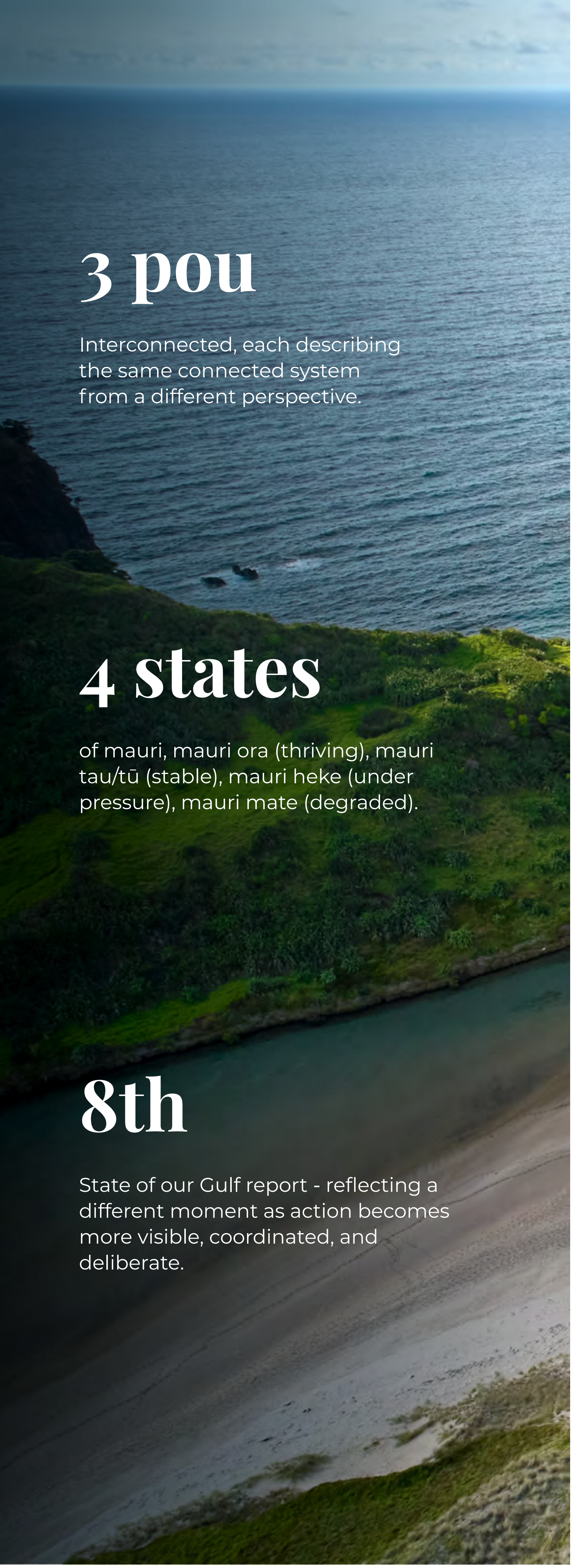
The mauri framework in this report provides a way of understanding the health and wellbeing of Tīkapa Moana / Te Moananui-ā-Toi / Hauraki Gulf. We respectfully acknowledge that many hapū and iwi of the Gulf may use other monitoring models, cultural practices and approaches according to place.

Ko te mauri he mea huna ki te moana.

The life force of the moana is not always visible, but it is ever-present.

Mauri heke

Overall mauri state assessed across most indicators - a system under pressure, with early signs of response emerging where active protection and management are in place.



3 pou

Interconnected, each describing the same connected system from a different perspective.

4 states

of mauri, mauri ora (thriving), mauri tau/tū (stable), mauri heke (under pressure), mauri mate (degraded).

8th

State of our Gulf report - reflecting a different moment as action becomes more visible, coordinated, and deliberate.

Ngā pou o te pūrongo

The three pou of the report

This report is structured around three pou.

Together, they reflect the connected systems that shape the health of the Gulf, from the drivers of change across land and freshwater, to the condition of ecosystems, to what the Gulf is able to provide.

Each pou brings together indicators, insights, and lived experience. Considered together, they provide a connected picture of how the Gulf is changing, what is driving that change, and how the system is responding.

How the pou work together

Each pou offers a different perspective on the same connected system:

Ki uta ki tai – Mountains to sea: The pressures shaping the system, from whenua to moana.

Te kanorau koiora – Biodiversity: The state of ecosystems and species.

Tiakina te pātaka kai – Preserving the food basket: The effects of change on what the Gulf provides.

Together, the three pou align with the report's assessment framework. They describe the pressures shaping the Gulf, the state of its ecosystems, and the effects of change on species, habitats, and the benefits the Gulf provides.

Response actions are reflected throughout, showing how mana whenua, communities, agencies, and decision-makers are working to support recovery.

Ki uta ki tai

Mountains to sea

The pressures shaping the system, from whenua to moana

Te kanorau koiora

Biodiversity

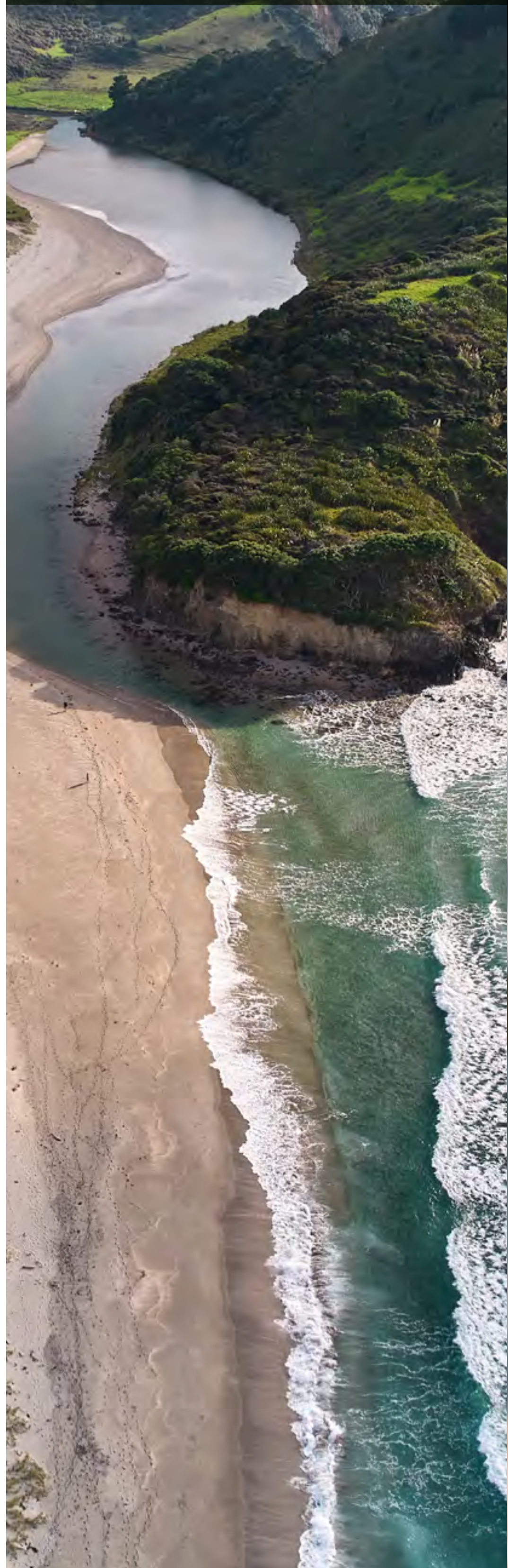
The state of ecosystems and species

Tiakina te pātaka kai

Preserving the food basket

The effects of change on what the Gulf provides

Drivers → Response → Outcomes



Ki uta ki tai

Mountains to sea

86%

Average swimmable hours at Auckland beaches in 2024/25 - though caution is always advised after rainfall.[7]

99%

Coromandel beaches were safe to swim 99% of the time during the 2024/25 summer, based on weekly water quality monitoring.[9]

250,000+

Native plantings along 36 km of Piako River riparian corridor.[13]

73% of sites

Auckland's monitored harbour and estuary sites show low levels of metal contamination.[8]

Firth classified

Firth of Thames declared a degraded water body, October 2025.[10]

~4-5mm/yr

Average sediment accumulation rate across monitoring sites in the Gulf.[11,12,6]

What is shaping the Gulf

Not all the pressures affecting the Gulf begin in the moana. Rainfall, land use, urban growth, and ongoing changes to the landscape all influence how much sediment, nutrients, and contaminants move through rivers, wetlands, and estuaries before reaching the coast.

In rural catchments, farming, horticulture, vegetation clearance, drainage, and earthworks can all increase runoff into waterways. In urban areas, stormwater and wastewater networks influence how contaminants move through the system, particularly during heavy rainfall.

The effects are not the same across the Gulf. Sheltered estuaries, enclosed harbours, and the southern Firth of Thames are more heavily influenced by land-based runoff, while the outer Gulf is shaped more strongly by ocean currents and coastal processes.[3] In many places, environmental condition reflects a combination of both land and ocean influences.

The Gulf is also affected by pressures that originate within the marine environment itself, including fishing, seabed disturbance, dredging, dumping, and other activities that influence ecosystem condition and resilience.

Long-term monitoring and modelling show consistent patterns across the Gulf. Sediment remains one of the most significant and persistent pressures on estuaries and nearshore habitats. In sheltered environments it can build up over time, while in more exposed areas it is redistributed by tides, waves, and storms. Across many monitored estuaries and nearshore environments, increasing mud content is affecting ecological condition and the health of seafloor habitats.[4–6]

The connections between land and sea are not always immediately visible, but they shape the health of rivers, estuaries, coastal habitats, and the wider moana.

“Without boundaries, without those rākau, then we can have sudden and violent movements of water - in a way in which the whenua is no longer protected.”

Charmaine Bailie (Ngāti Uru), Chairperson, Kaipatiki Project, Birkdale

Looking after the whole system

At the Kaipātiki Project, based in Birkdale on Auckland’s North Shore, restoration is about much more than planting trees.

A community-led organisation working to regenerate native biodiversity across Tāmaki Makaurau, the Kaipātiki Project runs a native plant nursery propagating tens of thousands of eco-sourced plants each year, alongside restoration work across ngahere, streams, estuaries and reserves, and programmes in sustainable living, zero waste, and environmental education.

It is about understanding the wider systems that support healthy ecosystems, from soil and leaf litter through to streams, forests, birds, and coastal environments.

As Chairperson Charmaine Bailie (Ngāti Uru) explains:

“It’s not enough to just release the babies into the wild and hope they grow well. We make sure we’re looking at all the different weeds that could impinge their growth. We look at the soil and the leaf litter, how we can actually protect whenua, protect soil, retain it, prevent further loss of it, and that’s so much more than just planting a plant and hoping that will just all hold it together.”

The same principle applies across the Gulf. The health of coastal waters is shaped by what happens upstream. Sediment, nutrients, contaminants, freshwater flows, habitats, and species are all connected through a single system. Understanding these connections is central to a ki uta ki tai approach and to restoring the health and resilience of the Gulf.

Indicator Group 1

Land use and development pressure

Land use shapes what reaches the Gulf

What we're seeing

Across the Gulf's catchments, land use continues to intensify. Urban growth, earthworks, farming, forestry, and highly modified rural landscapes are changing how water moves from land to sea.

The Gulf receives pressures from very different types of catchments. Central Auckland catchments around the Waitematā Harbour and Tāmaki Estuary are now highly urbanised, while catchments to the north and south remain more rural and pastoral.[14]

The Coromandel Peninsula remains predominantly forested, although farming, forestry, and coastal settlement continue to influence waterways and estuaries.[15]

Further south, the Firth of Thames catchment, the largest land-based influence on the Gulf by area, includes extensive drainage networks and intensive farming across the Hauraki Plains.[16]

Today, catchments across the Gulf are more modified, more connected to drainage and infrastructure networks, and more prone to generating runoff, erosion, and sediment loss during rainfall events.

Why it matters

Land use shapes the speed, volume, and quality of water moving through rivers, wetlands, estuaries, and coastal environments.

Changes to vegetation cover, drainage, and urban development alter how water moves across the landscape and how quickly it reaches waterways and the coast.

In urban areas, hard surfaces such as roads, roofs, and pavements increase runoff and place greater pressure on streams, stormwater systems, wastewater infrastructure, and coastal environments. Rural catchments can contribute sediment and nutrients over long periods of time.

Together, these pressures affect water clarity, habitat condition, ecological health, and the resilience of freshwater and coastal ecosystems.

3,000+

New residential and commercial building consents issued within 200m of the Gulf coastline (2023–2025).

Waiwera, north of the Auckland Region, New Zealand.

Ngā tohu Māori

Tangata whenua indicators

Understanding what is shaping the Gulf also means recognising environmental health through a te ao Māori lens. For mana whenua, this understanding is grounded in kōrero tuku iho and the localised mātauranga held by hapū and iwi through generations of observation, connection, and lived experience with Te Tīkapa Moana.

Central to this is te hurihanga wai - the continuous movement of wai from the atua through maunga, whenua, awa, wetlands, aquifers, and moana, and back again. The health of these relationships is critical to mauri, and the wellbeing of the Gulf cannot be separated from the wellbeing of the wider interconnected systems that sustain it.

Mauri is also reflected in the relationships among species, habitats, people, and place. Mana whenua hold deep intergenerational knowledge of environmental change, ecosystem balance, taonga species behaviour, and the overall health and abundance of the moana - knowledge developed through living alongside and within Te Tīkapa Moana / Te Moananui-ā-Toi over time.

These indicators are held differently across hapū and iwi, reflecting the distinct relationships each maintains with their rohe and taonga species, and they can reveal changes in the health, abundance, and balance of the moana that may not always be visible through other monitoring alone. Considering both mana whenua tohu and scientific indicators together provides a more complete understanding of the health of the Gulf.

What the data shows

Monitoring and land cover analysis show strong contrasts across the Gulf catchments. The most urbanised catchments cluster around the Waitematā Harbour and Tāmaki Estuary.[14]

By comparison, the Wairoa River, Mahurangi, north-east coast, Coromandel Peninsula, and Gulf Islands catchments retain lower levels of urban development and remain dominated by rural land use, indigenous vegetation, and exotic forest.[17]

The Firth of Thames catchment, covering more than 369,000 hectares of predominantly pastoral land, represents the single largest catchment influence on the Gulf by area.[3,18]

Urban growth pressure continues to increase. Between 2023 and 2025, more than 3,000 new residential and commercial building consents were issued within 200 metres of the Gulf coastline, most within the already highly urbanised Waitematā and Tāmaki catchments.[19]

On the Coromandel, approximately 940 hectares within the Thames-Coromandel District is either under development or identified for development within five years, including around 180 hectares for medium-density residential use.[20]

This scale of growth has the potential to increase stormwater runoff, sediment inputs, and infrastructure pressure on the Gulf.

Thirty treatment plants actively serve the Gulf catchment. Seven in Auckland discharge to coastal marine waters, while 23 in the Waikato region discharge primarily to rivers draining to the Firth of Thames, with most Coromandel plants discharging to land.[24,32] Between 2021–22 and 2024–25, Auckland's wastewater connections increased by 5%, with the fastest growth in the northern Gulf catchments, adding sustained pressure to infrastructure that drains directly to the wider Gulf.[25]

Catchment types

369,000 ha

The Firth of Thames catchment system is the single largest land-based influence on the Gulf by area.

940 ha

Land either under or identified for development within the Thames-Coromandel District.

Coromandel Peninsular, New Zealand

Catchment comparison

Different catchments, different pressures

WAITEMATĀ HARBOUR & TĀMAKI ESTUARY

Highly urbanised

Urban areas, roads, roofs, and paved surfaces create rapid stormwater runoff and place strong pressure on streams, estuaries, and wastewater infrastructure.

Generally poorest water quality in urban streams.

RURAL NORTH & SOUTH CATCHMENTS

Rural and pastoral

Large rural catchments dominated by horticulture and mixed land use contribute sediment and nutrient runoff across wide areas and long timeframes.

Water quality varies across catchments.

COROMANDEL PENINSULA

Predominantly forested

Generally better water quality in native forested catchments but can be strongly influenced by exotic forest harvesting.

Lower urban pressure, but water quality varies with land use and forestry activity.

FIRTH OF THAMES CATCHMENT SYSTEM

Largest catchment influence

Water quality is poor, with the Waihou and Piako among New Zealand's most heavily nitrogen-loaded rivers and delivering substantial phosphorus and sediment loads to the southern Gulf.

Strongly influenced by land use and freshwater inflows.

Indicator Group 2

Contaminants and nutrients

What moves through connected catchments and where pressures accumulate

What we're seeing

Contaminants, nutrients, and sediment move into the Gulf through connected freshwater and coastal pathways.

The dominant pressures differ across the Gulf. In Auckland, urban runoff, wastewater contamination, heavy metals, and highly modified streams drive some of the main contaminant inputs.[3,6,19] Further south, extensive drainage networks and intensive land use across the Hauraki Plains contribute large nutrient and sediment loads into the Firth of Thames and southern Gulf.[18]

In sheltered or slow-flushing estuaries, contaminants and nutrients can accumulate over time, placing sustained stress on ecological health.[4,5]

Why it matters

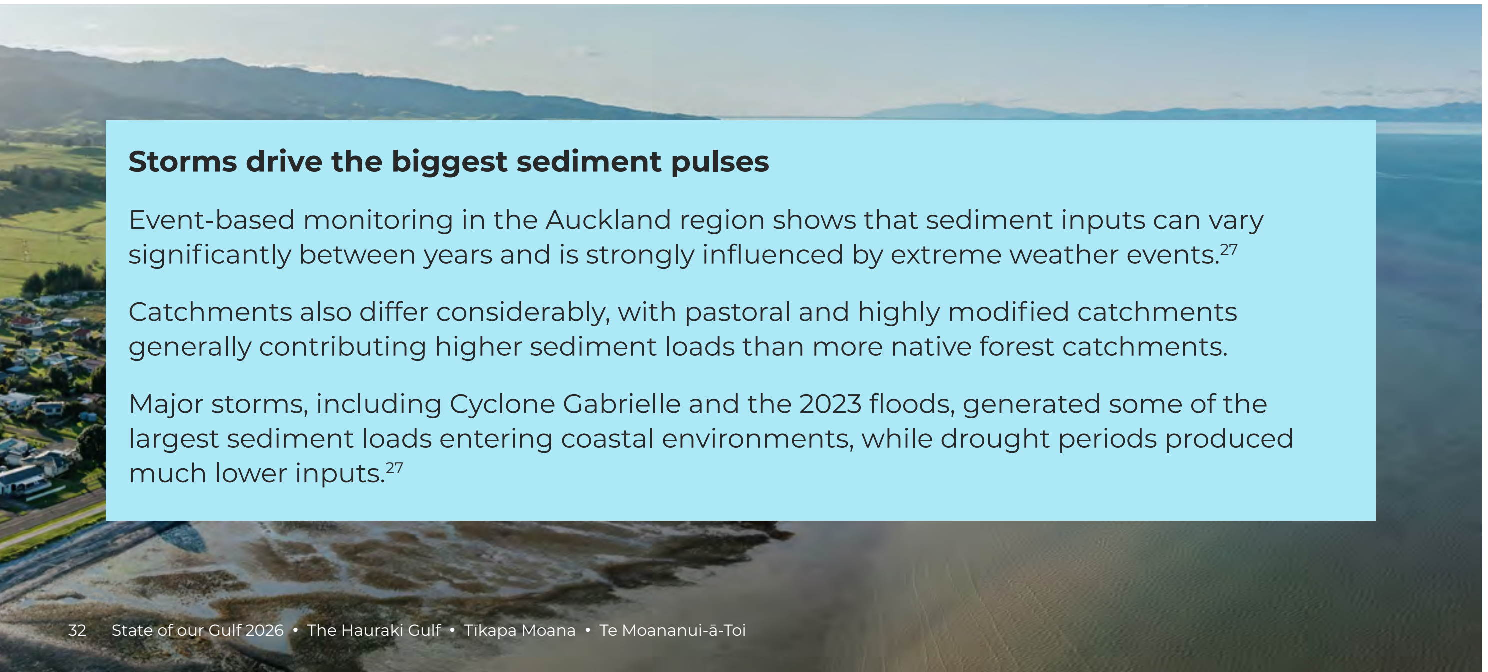
These pressures affect water quality, habitat condition, and the health of freshwater, estuarine, and coastal ecosystems across the Gulf.

Nutrient enrichment can stimulate algal growth, including harmful algal blooms that produce toxins dangerous to shellfish, fish, marine mammals, and people.

Even non-toxic blooms can cause ecological damage. As algae break down, oxygen is consumed from the water and sediments, creating low-oxygen conditions that can stress or kill marine life. Mobile species may move away, while shellfish and seafloor organisms are often unable to escape. Repeated periods of low oxygen can weaken ecosystems over time and shift ecological communities toward fewer, more tolerant species with flow-on effects for the food web.[4–6,22]

Metal contaminants such as copper, lead, zinc, and mercury can also accumulate in sediments over time. At elevated concentrations, these contaminants affect the feeding, growth, reproduction, and survival of seafloor organisms, including shellfish species that are important food sources for fish and birds. As contamination increases, diverse ecological communities can become dominated by fewer tolerant species, reducing biodiversity and disrupting food webs.[4,5,8]

Individually, each source of contamination may appear manageable, but their cumulative effects across connected catchments and coastal environments are significant. Ecosystems already under long-term stress are also less able to cope with climate-related pressures such as marine heatwaves, ocean acidification, and more intense storm events.



Storms drive the biggest sediment pulses

Event-based monitoring in the Auckland region shows that sediment inputs can vary significantly between years and is strongly influenced by extreme weather events.[27]

Catchments also differ considerably, with pastoral and highly modified catchments generally contributing higher sediment loads than more native forest catchments.

Major storms, including Cyclone Gabrielle and the 2023 floods, generated some of the largest sediment loads entering coastal environments, while drought periods produced much lower inputs.[27]

What the data shows

What rivers carry into the Gulf

Freshwater inflows are a major pathway for contaminants, nutrients, and sediment entering the Gulf. Runoff can bring with it faecal matter from farms, metals, emerging contaminants from urban areas, and sewage.

The Waihou and Piako rivers are the dominant freshwater influence on the Gulf together contributing an estimated 98% of total river-derived nitrogen and 97% of total phosphorus loads to the Firth of Thames.[23] Current total nitrogen loads are estimated to be approximately 82% above pre-European levels, reflecting decades of land-use intensification across the Hauraki Plains.[197,198] Agricultural land use was estimated to account for 73% of the combined nitrogen load and 40% of the phosphorus load, with point sources contributing 6% and 23% respectively, and natural background making up the remainder.[23] These figures are conservative, as monitoring sites are located at least 40 km upstream of the river mouths, meaning loads from the lower Hauraki Plains and pump station drainage are not captured[23], and monthly grab water quality sampling is known to underestimate load during high-flow events which can contribute over half of annual contaminant yields.[199]

In Auckland, catchments draining into the Waitematā Harbour and Tāmaki Estuary experience some of the highest stormwater and wastewater pressures, reflecting dense urban development and ageing infrastructure.[25,26]

River water quality

River water quality trends are mixed. Urban streams in the central Waitematā Harbour and Tāmaki estuary catchments were among the most impacted by elevated zinc concentrations, consistent with the sediment contamination patterns documented elsewhere in the Gulf.[21,28]

Urban streams generally have the poorest water quality, while native forest catchments have the best. Degrading trends are most evident for nutrients in urban streams and sediment-related measures in highly modified rural catchments.[21]

In the heavily modified rural catchments of the Waihou and Piako rivers, nitrogen trends are mostly degrading while phosphorus trends are more variable.[28]

Wastewater and network pressure

Wastewater networks and treatment systems are another major contaminant pathway.

Across Auckland, population growth, ageing infrastructure, and heavy rainfall continue to place pressure on wastewater and stormwater networks, particularly around the Waitematā Harbour and Tāmaki Estuary.[25]

Although overflows have reduced in some areas in recent years, uncontrolled discharges still occur during both dry weather and major rainfall events, contributing to contamination in streams, estuaries, and coastal environments.

"By far the biggest sediment source we have is bank erosion, and it's been made worse by the climate change effects of more intense rainfall."

Martin Evans, Vice-Chair, Friends of Awa Matakanakana

Sediment contamination

Sediment monitoring across Tāmaki Makaurau generally indicates good conditions although some locations - generally in our older, earliest urbanised areas continue to experience elevated metal contamination.[8]

In the Tāmaki Estuary, zinc concentrations have consistently exceeded national sediment guideline values across monitored sites since monitoring began in 2004, representing one of the region's longest-running records of persistent metal contamination – related to early urbanisation and heavy industrial use decades ago.[8] However, it is encouraging that the estuary is showing early signs of recovery.

In parts of the Firth of Thames, elevated mercury concentrations are likely linked to historic gold mining activity.[29,30] Elevated arsenic concentrations at some northern Coromandel sites are consistent with naturally mineralised geology[30], although these conditions may still interact with other environmental pressures affecting sensitive habitats and species.[4,28]

Alongside these well-established contaminants, growing attention is being directed towards emerging contaminants such as microplastics. While long-term monitoring remains limited, recent research suggests microplastics are now widespread throughout the Gulf's coastal environments.[188]

Outside of the heavy metals tested in regular monitoring, contaminants of emerging concern have also been detected at trace levels in sediments in the Gulf. PFAS has previously been reported in some local waters, fish and shellfish, but concentrations were below health-based guidelines.[183]

Tairua Harbour following severe storm events in January 2026. Heavy rainfall triggered widespread landslides and transported large volumes of sediment into the harbour.

*Waikato Regional Council. (2026)

Coastal and estuarine water quality

Areas closest to freshwater inflows, and sheltered or poorly flushed estuaries, generally experience the highest nutrient concentrations and most turbid waters.[6,14]

Nutrient enrichment is becoming more evident in some parts of the Gulf, including increasing microalgal blooms and reduced dissolved oxygen in some estuarine environments.[14,22] These pressures are particularly evident in parts of the Firth of Thames, where changes in algal communities, low oxygen levels, ocean acidification, and muddy sediments are reducing the system's natural ability to process excess nutrients in a balanced way.[22,33]

These changes pose risks not only to natural ecosystems, but also to aquaculture and shellfish growing environments.[34]

While many Auckland coastal water quality trends show improvement for nutrients, water clarity, and phytoplankton biomass, degrading trends continue in western parts of the Waitematā Harbour dominated by urban adjacent catchments.[14]

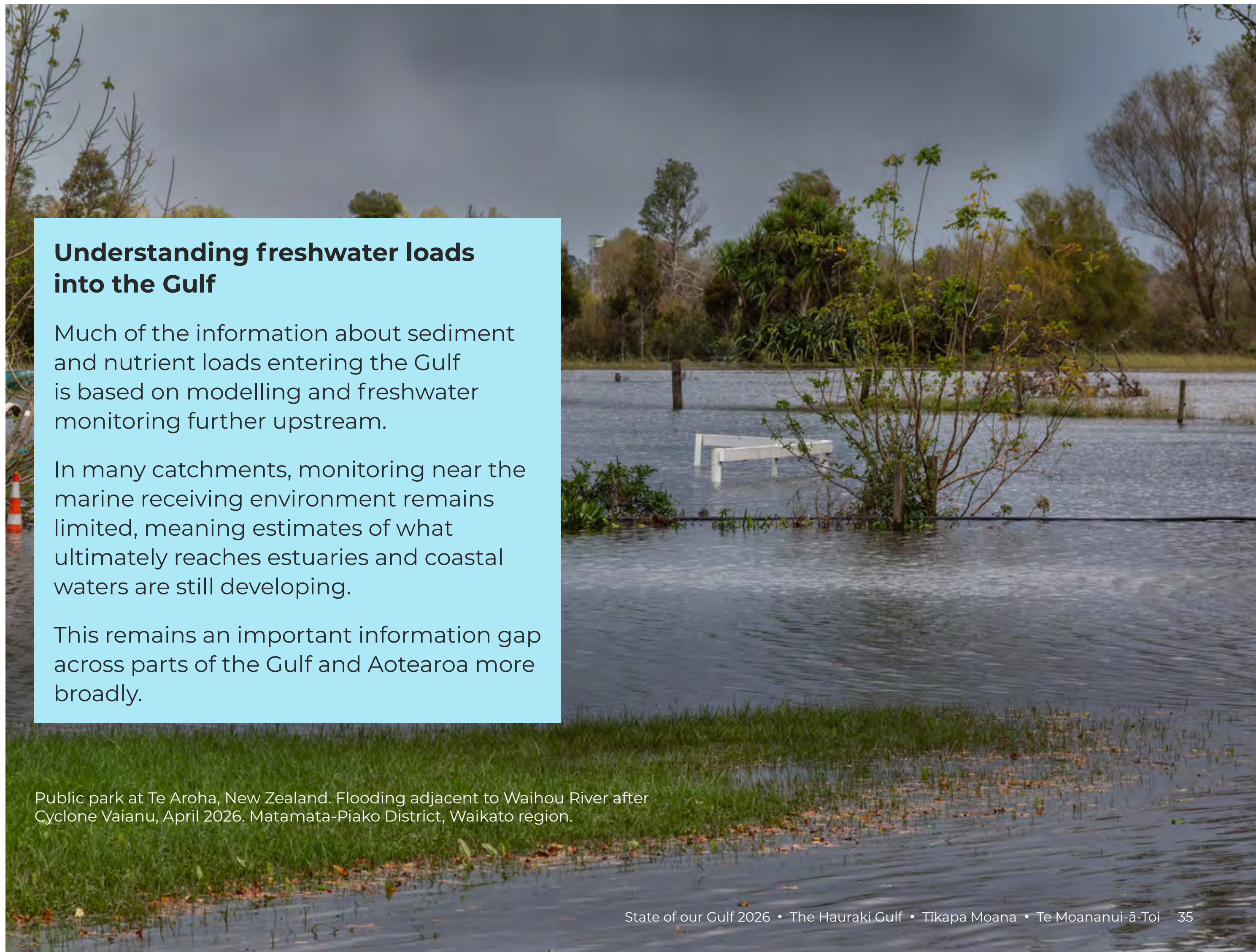
Response and management

Responses are becoming more coordinated across the Gulf.

In Auckland, investment in wastewater and stormwater infrastructure is increasing alongside contamination investigations, overflow reduction programmes, and network upgrades.[25]

In the Waikato, expanded coastal monitoring in the Firth of Thames, including long-term water quality monitoring buoys and catchment investigations, is improving understanding of long-term trends and contaminant pathways.[35]

The degraded water body classification for the Firth of Thames also provides a stronger framework for reducing further degradation and supporting long-term water quality improvement across the southern Gulf catchment system.[10]



Understanding freshwater loads into the Gulf

Much of the information about sediment and nutrient loads entering the Gulf is based on modelling and freshwater monitoring further upstream.

In many catchments, monitoring near the marine receiving environment remains limited, meaning estimates of what ultimately reaches estuaries and coastal waters are still developing.

This remains an important information gap across parts of the Gulf and Aotearoa more broadly.

Public park at Te Aroha, New Zealand. Flooding adjacent to Waihou River after Cyclone Vaianu, April 2026. Matamata-Piako District, Waikato region.

1 Land use pressures

The Firth is mainly fed by large pastoral catchments, especially the Waihou and Piako rivers. Intensive dairy farming and wastewater discharges add nutrients and other contaminants to the system.

2 Historic mining

Historic gold mining left contaminated waste in rivers and sediments. Heavy rainfall can still mobilise this legacy material into the Firth.

3 Historic and current drainage

Draining the Hauraki Plains enabled dairy farming but removed natural wetland filters. Today, canals and pumps move nutrients, sediment and microbes quickly into the Firth.

4 River sediment loads to the Firth of Thames

The Waihou and Piako rivers deliver large sediment loads, but much of the mud now accumulating comes from legacy sediment already in the estuary. Reducing river inputs is important, but recovery will take time.

5 River water quality

The Waihou and Piako are among New Zealand's most nitrogen-loaded rivers. Water quality at Kopu Bridge and Pipiroa Bridge consistently exceeded guideline trigger values for key nutrient and sediment parameters.

6 The Waihou Project

The Waihou Project by Waikato Regional Council is filling a key knowledge gap by tracking how sediment and nutrients move through the tidal river system before reaching the Firth.

7 Coastal water quality

Water quality is poorest in the southern Firth where river inputs are strongest, then improves northward as waters mix with the wider Gulf. Nutrient enrichment is driving algal growth, low bottom-water oxygen and acidification.

8 Sedimentation, muddiness and benthic health

Fine sediment is making intertidal flats muddier and degrading seabed habitats. Benthic communities show signs of stress, with mud-tolerant species increasing and sensitive species declining.

9 Aquaculture and the health of the Firth

Mussel farming depends on good water quality, but the Firth's declining condition is increasingly putting the industry under pressure. Future finfish farming could add further nutrient load to an already stressed system.

10 Connection to the wider Gulf

The Firth is not isolated, river-derived nutrients can influence parts of the wider Gulf, especially during high-flow winter periods. Monitoring gaps still limit understanding of these wider effects.

Policy

The Firth has been formally recognised as a degraded water body in the Proposed Waikato Regional Coastal Plan. This means management needs to focus on restoration, not just preventing further decline.

The Firth of Thames: A connected system

The Firth of Thames is shaped by the Waihou and Piako river catchments, the surrounding landscape, and activities within the marine environment itself. Land-use intensification, wetland drainage, river modification, infrastructure development, and historic mining have created cumulative pressures that continue to influence the health of the Firth today.

These interact with marine activities such as fishing, aquaculture, and shipping, creating a complex and interconnected system.
The Firth and its catchments provide a clear example of ki uta ki tai connections in action, demonstrating how pressures from both land and sea can influence rivers, estuaries, coastal habitats, and ultimately the moana.

This map is illustrative only; dot markings may not be geographically accurate.

Case study

Reading the river - catchment science in the Matakana

In the catchment behind Sandspit Estuary, sediment is not an abstract environmental pressure. It is something you can see in the water, measure in instruments, and trace from the hilltops down to the sea.

Friends of Awa Matakanakana (FOAM) was founded in 2017 after residents became concerned about the volume of sediment entering Sandspit Estuary and the ongoing loss of land from river banks.

The catchment runs from Mount Tamahanga to Sandspit Estuary, covering approximately 5,700 hectares. Continuous instruments at multiple river sites record sediment plumes in real time. Their measurements have allowed the group to estimate around 6,000 tonnes of suspended sediment entering Sandspit Estuary and ultimately the Gulf in a single year.

Climate change appears to be intensifying these events, with heavier rainfall accelerating bank erosion in historically incised channels - the legacy of past land use. eDNA sampling alongside physical monitoring has revealed a catchment of surprising ecological richness: long-finned tuna, freshwater mussels (including the rare Auckland freshwater mussel), Hochstetter's frogs, and a nationally threatened caddis fly.

FOAM's response is practical and long-term. The group is developing a community-led catchment plan focused on "slowing the flow" through wetland construction and riparian planting. A shared community laboratory available across East Rodney allows local organisations to test for E. coli and enterococci at a fraction of commercial lab costs.

"The aim is to put in place something sustainable, to allow future generations to pick up what we've got," says Martin Evans, FOAM's Deputy Chair. "We've done the baselines. Now we need to move forward."

Tiny particles, system-wide consequences

Microplastics are plastic particles smaller than 5mm, produced through the breakdown of larger plastic items and from everyday sources such as synthetic clothing fibres, tyre wear, paints, packaging, wastewater, and stormwater runoff. Unlike many contaminants, they can persist in the marine environment for decades. Once in coastal waters, they accumulate in sediments and move through food webs.

Their presence in the Gulf is now well established. Litter Intelligence surveys found that nearly 75% of all litter items collected across the Auckland Region were plastic[186], pointing to the scale of material entering the environment before it breaks down into smaller particles.

Research has detected microplastics in several Gulf fish species, including tāmure / snapper, kahawai, hauture / jack mackerel, mohimohi / pilchard, kumu / gurnard, and pātiki-tōtara / yellowbelly flounder.[188] Studies have also estimated that Bryde's whales feeding within the Gulf may ingest around three million microplastic particles each day through contaminated prey.[187]

Together, these findings show how contaminants entering from land can travel through the food web to reach some of the Gulf's most iconic species.

Microplastics may also be affecting the ecosystem in less visible ways. Recent research has shown that exposure can reduce the activity of sediment-dwelling organisms that help mix and oxygenate the seabed - organisms that play an important role in nutrient cycling and maintaining healthy habitats.[189] Like other cumulative pressures, their presence in sediments, fish, and marine mammals highlights how land-based pollution can propagate through interconnected ecosystems in ways that are often difficult to see.

Indicator Group 3

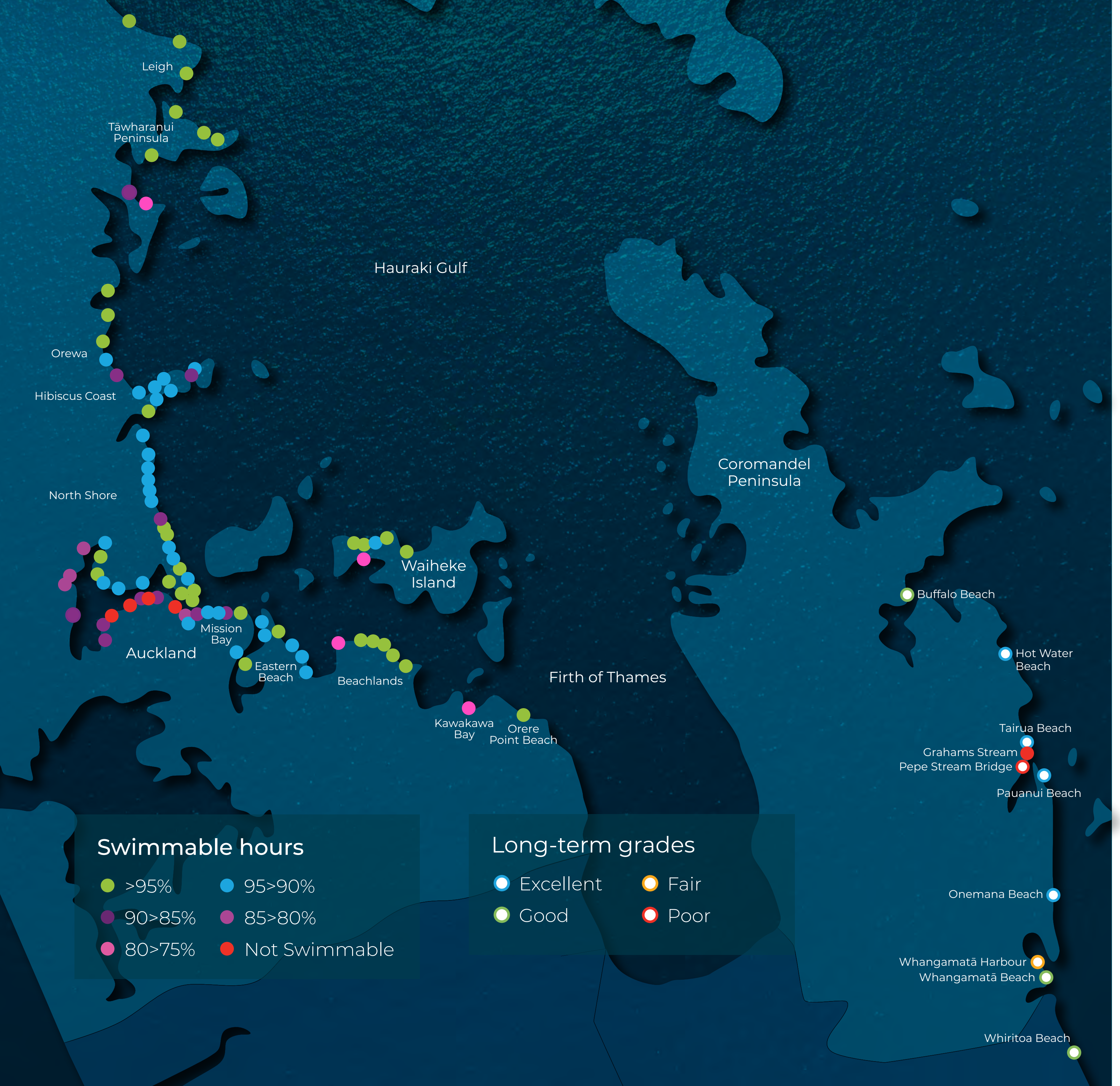
Water quality and human experience

How people experience the Gulf

What we're seeing

Recreational water quality across the Gulf varies by place and over time. Many beaches and coastal sites are suitable for swimming most of the time, but conditions can change quickly following rainfall, wastewater overflows, and catchment runoff.

Open coast beaches generally perform best, while inner harbours, estuaries, and sites near urban streams or freshwater inflows are more vulnerable to short-term declines in water quality.[7,9]



Why it matters

Recreational water quality is one of the most visible and immediate ways people experience the health of the Gulf. It influences how people use and enjoy the moana, from swimming and paddling to gathering kai and spending time with whānau.

For many communities and mana whenua, the ability to safely enter the water reflects more than public health - it reflects the wider mauri of the moana. When water quality is poor, or even perceived to be poor, that connection is broken, and for mana whenua and coastal communities in particular, that loss runs deep.

Poor water quality is also a signal of wider system pressure. Ageing infrastructure, urban runoff, catchment modification, and excess nutrients all contribute, and their effects are felt most acutely where land and sea meet.

What the data shows

Swimming suitability is generally high, but uneven.

On average the Safeswim system showed Auckland sites were swimmable 86% of the time in 2024/25, which is comparable to levels in previous years.

In the Coromandel, 99% of weekly samples indicated water quality suitable for swimming in 2024/25 and excellent to good long term grades at six out of nine sites.

Rainfall remains a key trigger for short-term declines

Water quality is strongly influenced by rainfall. Heavy or prolonged rain can wash contaminants from land into streams, estuaries, and coastal waters, causing water quality to deteriorate rapidly. The extent and duration of these effects vary between locations, depending on factors such as catchment characteristics, drainage networks, and contamination sources. As a result, conditions can change quickly.

In areas where they are available, tools such as the Safeswim website and app provide location-specific forecasts and up-to-date information on swimming conditions, helping people make informed decisions about when and where it is safe to swim.

Wastewater network pressure is most visible in urban catchments

In Auckland, ageing wastewater infrastructure and continued population growth place increasing pressure on the network. During wet weather, stormwater and groundwater can enter damaged or constrained pipes through cracks, faulty connections, and inflow points, increasing flows beyond network capacity and contributing to overflows into waterways and coastal environments.

Recent reporting shows improvements in some dry-weather overflows across parts of the east coast catchments, although persistent pressure remains in parts of the Western Isthmus, Hobson Bay, East Coast Bays, and Upper Tāmaki catchments.[25] These areas drain directly into the Waitematā Harbour, Tāmaki Estuary, and adjacent coastal environments.

Severe weather events in 2023 highlighted how quickly intense rainfall can overwhelm ageing infrastructure and reverse recent gains in water quality.

Faecal contamination comes from multiple sources

Wastewater overflows are one source of faecal contamination in coastal waters, but not the only one. Monitoring shows that almost all urban and rural river and streams in the region are affected by faecal contamination, reflecting a combination of wastewater, stormwater, agricultural runoff, and on-site wastewater system inputs.

Urban stormwater can carry faecal matter from animal waste and bird droppings into streams and coastal waters, particularly after rainfall, although dry-weather contamination can also occur. In rural and peri-urban catchments, livestock with access to waterways can contribute faecal matter through direct deposition and runoff. Poorly maintained septic tanks and on-site wastewater systems can also contribute contamination.

The relative contribution of these sources varies by location, making it difficult to identify and target the most effective interventions.

Tracking contamination through the network

Tiaki Wai - Safe Networks

Improving water quality in the Gulf depends not only on reducing contamination at its source, but also on understanding how contaminants move through urban infrastructure before reaching streams, estuaries, and the moana.

Tiaki Wai – Safe Networks is a joint initiative between Auckland Council and Watercare that investigates sources of faecal contamination across stormwater networks, waterways, and coastal environments. Working alongside the Safeswim programme, it traces contamination through connected urban systems, identifying damaged pipes, cross-connections between stormwater and wastewater networks, private drainage faults, and other pathways that allow contaminants to reach the coast.

Since 2023, investigations have included targeted sampling across streams, beaches, stormwater outlets, and urban drainage networks, alongside inspections across thousands of properties. A significant proportion of identified wastewater-to-stormwater cross-connections were associated with properties built or redeveloped after 2005, highlighting that contamination issues are not limited to ageing infrastructure and can also arise through design, construction, or network integration failures.

Alongside investigation and remediation work, major infrastructure upgrades are also underway across Auckland's isthmus. These include network separation programmes, stormwater improvements, and Watercare's Central Interceptor project, planned for commissioning in mid-2026, all aimed at reducing wet-weather wastewater overflows into the Waitematā Harbour and surrounding coastal environments.

Despite ongoing improvements, 1,793 uncontrolled dry-weather overflow events were still recorded across 19 catchments during 2024/25, representing a substantial ongoing source of untreated wastewater entering the Gulf.[25]

For many coastal communities and local businesses, wastewater and stormwater contamination is one of the most immediate and visible pressures on the Gulf. The concern is felt through beach closures, contaminated shellfish beds, and the cultural and economic costs of a compromised harbour. Continued population growth and ageing infrastructure mean these pressures are unlikely to ease without sustained and accelerating investment.

Together, these efforts reflect a more integrated approach to catchment and infrastructure management, recognising that improving the health of the Gulf requires coordinated action across freshwater, wastewater, stormwater, and coastal systems.

What this means

The Gulf remains highly valued for recreation, and many places are still suitable to swim most of the time, but this experience is not consistent across all parts of the Gulf.

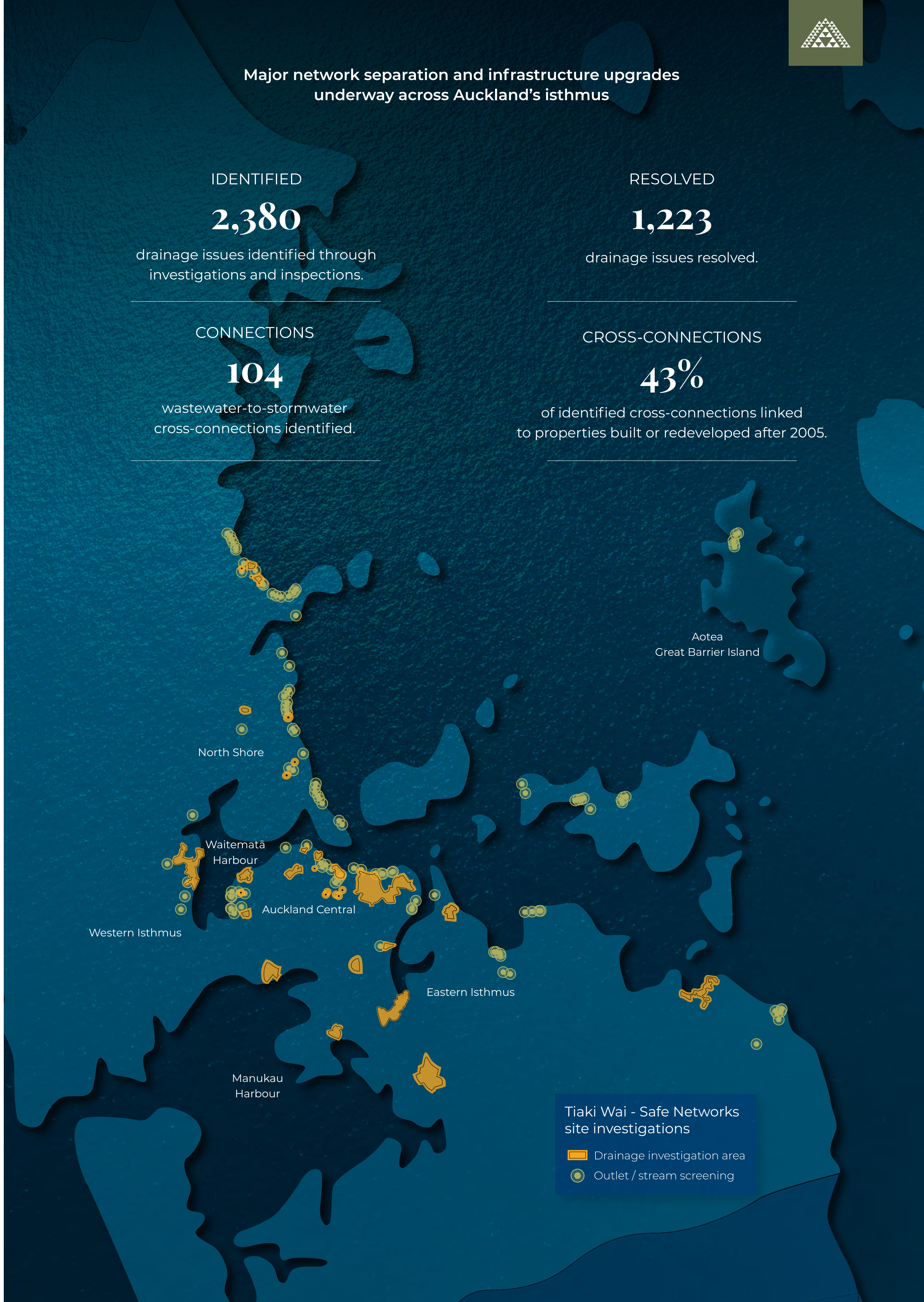
The greatest pressures tend to occur where land and sea meet, particularly in urban harbours, estuaries, and stream mouths connected to ageing infrastructure and highly modified catchments. Other sources, including private wastewater systems, urban runoff, and faecal contamination from birds and other animals, also contribute.

Programmes such as Tiaki Wai – Safe Networks demonstrate what more integrated management can achieve. Long-term improvement will depend on sustained and coordinated action across freshwater, wastewater, stormwater, and coastal environments.

Why do cross-connections matter?

There are areas of Auckland which still operate wastewater and stormwater on a combined network, but in most areas they are separate.

When faulty plumbing, damaged pipes, or other defects connect them, contamination can move where it shouldn't. Wastewater can enter streams, estuaries, and coastal waters, while stormwater can overload wastewater networks during heavy rain, increasing the risk of overflows. Both can reduce water quality and harm the environment.



Indicator Group 4

Sediment and benthic condition

A defining pressure on the Gulf

What we're seeing

Sediment continues to move from land into rivers, estuaries, and coastal environments across the Gulf.

Much of this sediment originates from historic deforestation, farming, drainage, earthworks, and ongoing catchment modification. Once mobilised, it moves through freshwater and coastal systems before accumulating in estuaries and on the seafloor.

Across many parts of the Gulf, water clarity has declined, light penetration is reduced, and seabed habitats are changing.

In some areas, formerly sandy environments are becoming increasingly muddy, altering the plants and animals able to survive there.[37]

Mānawa / mangroves are also expanding across many intertidal estuaries. Their spread reflects increasing sediment accumulation and estuary infilling[42], while also trapping additional sediment over time.[38]

In the Waikato region, less than 20% of the original intertidal and subtidal seagrass extent is estimated to remain. Recent surveys note that some beds have remained stable or slowly increased since 2004, though these meadows show signs of human-induced impacts including epiphyte cover, fungal wasting disease, and anchor or mooring scarring.[190,191]

Although catchment management has improved in some areas, the effects of historic land use continue to shape the Gulf's estuaries and coastal environments today.

Why benthic life matters

Small sediment-dwelling organisms help recycle nutrients, oxygenate sediments, and support wider marine food webs. Changes in these communities can provide early warning signs of environmental stress within estuaries and coastal environments.

Why it matters

The effects of sediment extend well beyond reduced water clarity.

Fine sediment can smother benthic habitats, reduce light available for seagrass and other marine plants, and alter ecological communities across estuaries and nearshore environments.

Intertidal estuaries are among the most ecologically productive and culturally significant environments in the Gulf. Healthy mudflats and estuaries support shellfish, worms, fish, and migratory shorebirds that form the foundation of wider coastal food webs and hold deep cultural significance for mana whenua.

Changes in benthic communities can also provide early warning signs of environmental stress. As sediment, contaminant, and nutrient pressures increase, ecological communities shift, ecosystem functions decline, and estuaries become less resilient over time.[4–6] This is particularly evident in areas where mānawa / mangroves have expanded into habitats once dominated by seagrass and shellfish beds.[39]

Unlike some other pressures, sediment can remain in estuaries and coastal environments for long periods once deposited. Recovery can therefore lag well behind improvements made on land.[40]

Excess sedimentation can also reduce the natural ability of estuaries to remove nitrogen from the water. As muddy sediments and organic enrichment increase, more nitrogen is retained within the system rather than naturally processed and removed. Managing sediment inputs is therefore closely linked to nutrient pressures across the Gulf.[41]

What the data shows

Catchment modelling and environmental monitoring show that large quantities of sediment continue to move from land into estuaries and coastal environments, particularly during heavy rainfall and major storm events. Sediment supply varies between catchments, reflecting differences in land use, vegetation cover, earthworks, and extreme weather.[27]

More than one-third of monitored intertidal sites across the Gulf region are accumulating sediment above guideline rates.

In Coromandel Harbour, three of four monitored sites exceed these thresholds, with one site accumulating sediment at more than three times the guideline rate.[4–6]

The Firth of Thames remains one of the most affected environments in the Gulf. Organic matter is increasing at most monitored sites, while benthic communities are declining and becoming dominated by species more tolerant of muddy conditions. Sediment and nutrient inputs from the Waihou and Piako catchments continue to influence tidal flats, estuaries, and nearshore habitats.[6,18]

Similar patterns are evident elsewhere. Monitoring shows increasing mud content and declining ecological condition across many estuaries, particularly in more modified catchments. Auckland Council assessments found only 2% of monitored estuary sites were in excellent condition, while every monitored estuary showed at least moderate impacts from excess land-derived sediment.[4,5]

Research indicates that sedimentation rates in many New Zealand estuaries remain significantly higher than before human settlement. Much of the sediment affecting the Gulf today is likely legacy material already stored within estuaries and on the seafloor, meaning recovery can take decades even after sediment inputs are reduced.[43,44]

Efforts to reduce sediment at its source are increasing across the Gulf through improved earthworks management, erosion control, riparian planting, and catchment restoration.

Auckland Council's strategic sediment programme has resulted in more frequent inspections, stronger enforcement, and improved compliance from earthworks operators. Waikato Regional Council's Integrated Catchment Management programme has worked with landowners across the Coromandel and Firth of Thames catchments to retire erosion-prone land, fence riparian margins, and support large-scale native planting. While there are examples of local improvement, the overall trend remains one of ongoing pressure and declining ecological condition at many monitored sites.[4,5,195]

Case study

Restoring connections from land to sea

Across the catchment, iwi, councils, landowners, and community groups are restoring riparian margins, wetlands, and waterways to slow water movement, reduce sediment loss, and improve the quality of water reaching the coast. Increasingly, this work is coordinated across whole catchments, recognising that isolated projects alone cannot restore the health of the Gulf.

In the Waikato, the Piako Waihou Catchment Trust has grown over the past decade from a small community forum into a partnership of farmers, iwi, councils, schools, and community members. Its work includes riparian fencing and planting, wetland restoration, pest control, and biodiversity corridor projects reconnecting habitats across the floodplain. Working alongside Ngāti Hauā, the Trust is also restoring wetlands on marae land.

The Piako River Green Corridor is reconnecting the Kopuatai wetland to the Firth of Thames through 36 kilometres of riparian fencing and more than 250,000 native plantings.

These catchments drain to the Firth of Thames, one of the most important shorebird feeding environments in the southern hemisphere, with the Piako and Waihou rivers the Firth's primary freshwater inputs, carrying sediment and nutrient loads from the Hauraki Plains. Wetland restoration, riparian planting, and native forest protection are helping to slow flood flows, reduce sediment loss, and improve habitat connectivity.

Together with iwi-led restoration initiatives elsewhere in the Gulf, including projects led by Ngāi Tai ki Tāmaki and Ngāti Whātua Ōrākei, these efforts reflect a growing understanding that the health of the Gulf depends on restoring connections from the mountains to the sea.

Key signals

Pressures

- Land use intensification, and scale, is increasing runoff, erosion, and contaminant inputs to the Gulf.
- Sediment remains one of the most widespread and persistent pressures affecting the Gulf.
- Wastewater overflows continue to affect streams, estuaries, and coastal environments during both dry and wet weather.

State

- Nutrient enrichment is becoming more evident in parts of the Gulf.
- Older urban estuaries experience some of the highest contaminant pressures.
- Water quality can decline rapidly following heavy rainfall.

Impacts

- Excess sediment and nutrients are reducing ecological condition in estuaries and nearshore habitats, with increasing mud content, lower species diversity, and reduced resilience documented across many monitored sites.
- Contamination of streams, estuaries, and coastal waters is affecting water quality for people and kaimoana, including beach closures, shellfish bed closures, and reduced swimming suitability - particularly in urban catchments and following heavy rain.

Response

- Recovery is uneven, localised, and often slow to emerge, with a lag after the initial stressor is reduced.
- Investment in wastewater and stormwater infrastructure, catchment restoration, and more coordinated ki uta ki tai management is increasing across the Gulf, with early signs of improvement in some areas.

Bringing it all together

The condition of the Gulf is shaped by what flows into it.

Water, sediment, nutrients, and contaminants move from land through rivers, wetlands, estuaries, and coastal environments, carrying the effects of land use and catchment change into the moana. These pressures accumulate over time, affecting water quality, habitat condition, biodiversity, and ecosystem resilience across the Gulf.

Many are longstanding. In some places, the Gulf is still responding to sedimentation and catchment modification that began generations ago. This helps explain why recovery is often slow and uneven, and why improvement can lag well behind action on land.

Viewed through a te ao Māori lens, this reflects the movement and condition of wai from maunga through whenua to moana, and the way these connections shape mauri. The picture that emerges is one of mauri heke. The system remains under pressure, particularly where land-based inputs are highest.

Signs of recovery are emerging in some catchments where restoration, protection, infrastructure investment, and more coordinated ki uta ki tai management are beginning to improve freshwater and coastal condition.

What is changing is not only the scale of this work, but the way it is being planned. Catchment restoration is increasingly coordinated across whole systems rather than isolated projects, reflecting a growing recognition that improvement in the moana depends on sustained action across the land. Whether this translates into measurable improvement in coastal condition will take time to become clear. The lag between land-based action and ecological response can span decades.

Mauri heke
Under pressure

Te Kanorau Koiora

Biodiversity

40+

Predator-free islands across the Gulf.[47]

76%

Rise in native bird counts on Waiheke Island, 2020–2025.[48]

10+

Confirmed exotic Caulerpa infestations recorded in 2024/25.[51]

> 80 times

Higher - juvenile snapper densities in seagrass habitats compared to other habitats.[112]

12 days

Maximum number of days birds spent away from breeding colony in search of food in a marine heatwave.[53]

12.4%

Of the Gulf under some form of seafloor protection.[54]

What is happening to life in the Gulf

Biodiversity provides one of the clearest signals of how the Gulf is responding to pressure, protection, and change over time.

For mana whenua, biodiversity reflects the interconnected relationships between all living things, shaped by whakapapa and sustained through kaitiakitanga.

It reflects the condition of habitats, the abundance of species, and the overall resilience of the system.

The Gulf supports a wide range of interconnected ecosystems, from offshore islands and coastal margins to estuaries, reefs, and open water. These systems do not operate in isolation. Changes in one part of the system influence others.

Across the Gulf, the picture is divergent, with signs of both pressure and recovery.

Where habitats are intact and pressures are reduced, ecosystems can recover and are buffered against threats. Where pressures remain high or new threats emerge, biodiversity declines.

On offshore islands where predators have been removed and ecosystems are actively managed, native species are returning and ecosystems are rebuilding. In the broader marine environment - reefs, seagrass beds, soft sediment habitats, and open water - decline continues, shaped by sediment, water quality, fishing pressure, seabed disturbance, marine heatwaves, and emerging biosecurity threats such as exotic Caulerpa.

Case study

Kaitiakitanga from the maunga to the moana - Tunaiti Kaitiaki Rōpū

The name Tunaiti means “little eel.” It is the name Errol’s hapū have given to both their block of land and their kaitiaki roopu near Whangamatā, on the eastern Coromandel. The name carries history. The rivers and harbour here once ran dark with tuna returning to breed. The eels still come, but no longer in the numbers their ancestors knew.

“They tell you if your river is healthy,” Errol says. “When they come home, it means something.”

Tunaiti Kaitiaki Roopu Mana Whenua has been working to restore that health for nearly 20 years. What began as possum trapping on ancestral land - guided by the recognition that walking through sacred sites was the beginning of becoming kaitiaki, not just fur traders - has grown into a wide-ranging programme connecting the whenua directly to the health of the coast.

The roopu works with Waikato Regional Council on wilding pine removal from the islands of the Tunaiti group, part of an ancient volcanic complex that includes Whenuakura (Donut Island), a former tūātara sanctuary. On the mainland block behind, two teams are now clearing wilding pines from wetland margins and along the Tunaiti awa, restoring habitat for species including matuku australis / Australasian bittern - detected through Council surveys after farmers heard calls from adjacent paddocks.

Sand dune restoration, riparian work with neighbouring landowners, and a community stormwater wetland in Whangamatā - once a toxic sludge pond, now a habitat for frogs, waterfowl, and wading birds - complete a programme that runs from hilltop to harbour.

“We try to mitigate the siltation,” Errol says of the catchment’s water quality challenges. “It’s all about relationships. The relationships you create are the people who come to help you on the journey.”

Errol Gilbert (Ngāti Pū), Tunaiti Kaitiaki Roopu, Whangamatā

Indicator Group 1

Island biodiversity, ecosystem recovery and protection

Where pressures are removed, nature responds

Some of the clearest and most well-established signals of recovery in the Gulf are seen on offshore islands, where pressures have been reduced through pest eradication and sustained management.[55]

The Gulf contains more than 200 islands and islets, many of which provide refuges for native species to breed, feed, and recover in the absence of mainland pressures.[56]

Across this network, restoration and protection efforts are becoming more coordinated, with increasing involvement from iwi, agencies, and community-led initiatives.[57]

Long-term pest eradication, reforestation, and active management have created environments where native species can return and ecosystems can rebuild.[58]

These islands represent some of the strongest evidence in the Gulf that sustained intervention works. The challenge now is maintaining and extending these gains as biosecurity pressures and restoration ambition both grow.

What we're seeing

More than 40 islands in the Gulf are now free of mammalian predators.[47]

Native vegetation continues to regenerate across many of these islands, supporting the return of species and the rebuilding of functioning ecosystems.[55,58] Restoration efforts are becoming more coordinated, sustained, and increasingly community-led, with growing involvement from iwi, agencies, and community groups through programmes such as Predator Free 2050 and Auckland Council's natural environment targeted rate.[57,59,60]

Te Korowai o Waiheke continues to scale, with extensive trapping networks and strong community participation. Aotea / Great Barrier Island has extensive areas of relatively intact habitat supporting regionally and nationally significant species, supported by ongoing biosecurity and protection efforts.[57] Biosecurity measures, such as vessel inspections, pest detection, and incursion response, are proving critical to preventing reinvasion, particularly on inhabited and highly visited islands.[57]

Pest-free islands provide important refuges for native species and demonstrate what is possible when pressures are removed.

10,000+

hectares predator free.

300% increase

in kākā calls recorded on Waiheke Island since 2017.[57]

Ngā tohu Māori

Tangata whenua indicators

Understanding biodiversity is not only about species counts and habitat extent. It is also about the condition of mauri, the integrity of ecosystems, and the strength of relationships between people and the natural world.

For mana whenua, this includes the presence and diversity of native species, the health and connectedness of habitats, the visibility of life across seasons, and the ability of ecosystems to sustain themselves over time.

These indicators draw on localised mātauranga Māori, lived experience, and intergenerational knowledge, and are brought together with scientific monitoring to understand biodiversity in the Gulf - each offering ways of knowing that the other does not fully capture.

Work to develop mātauranga Māori-led biodiversity monitoring for the Gulf is actively underway. The Pou Rāhui project is led jointly by Ngāti Pāoa, Ngāti Tamaterā, Ngāi Tai ki Tāmaki, Ngāti Hei, and Ngāti Rehua Ngātiwai ki Aotea. The project is building an iwi-led environmental monitoring model that draws on mātauranga mapping to track the historical distribution and abundance of taonga species.

A central focus is understanding how rāhui works as a tool for ecosystem restoration and developing the evidence base to apply it as effectively as possible. The project integrates mātauranga Māori and marine science, and is developing the capacity of iwi as kaitiaki to lead action-oriented approaches to environmental management across their rohe moana.[45,46]

Why it matters

The gains on offshore islands are among the clearest evidence the Gulf has for what becomes possible when pressure is managed effectively. Where predators have been removed and ecosystems actively managed, nature is responding. Native vegetation is regenerating, seabirds are returning, and species absent for decades are coming back.[55,58]

For mana whenua, the restoration of these islands is not only an ecological achievement. It reflects the revival of mauri, the strengthening of kaitiakitanga, and the return of species that carry deep cultural and ancestral significance. Ecologically, these islands support functioning food webs[55], contribute to species recovery across the wider Gulf[56], and underpin statutory obligations under the Gulf Act and regional biodiversity strategies.[61,62] They carry important cultural, recreational, and educational values that extend well beyond their shorelines.

Together, these dimensions make island ecosystems a reference point for what the wider Gulf system could look like under sustained restoration - setting a benchmark against which progress elsewhere can be measured.[63]

The challenge is scale. These gains remain concentrated where active management is in place, and maintaining predator free status requires constant vigilance.[64] Extending the ecological conditions achieved on islands to the wider system remains the central long-term challenge.

Islands also have an important role to play in what we can learn. Because management is active and outcomes are increasingly being tracked, they provide valuable insights into how native species and ecosystems respond when conditions improve. This makes them not just places of recovery, but a source of evidence about what recovery can look like and the conditions that help it succeed.

That evidence base is still developing. Many restoration programmes began before comprehensive ecological monitoring was established, making it difficult to fully measure change over time. Monitoring across the island network is now expanding, with growing efforts to improve consistency and track long-term ecological outcomes. This will help build a clearer understanding of how ecosystems recover and what supports successful restoration.

What the data shows

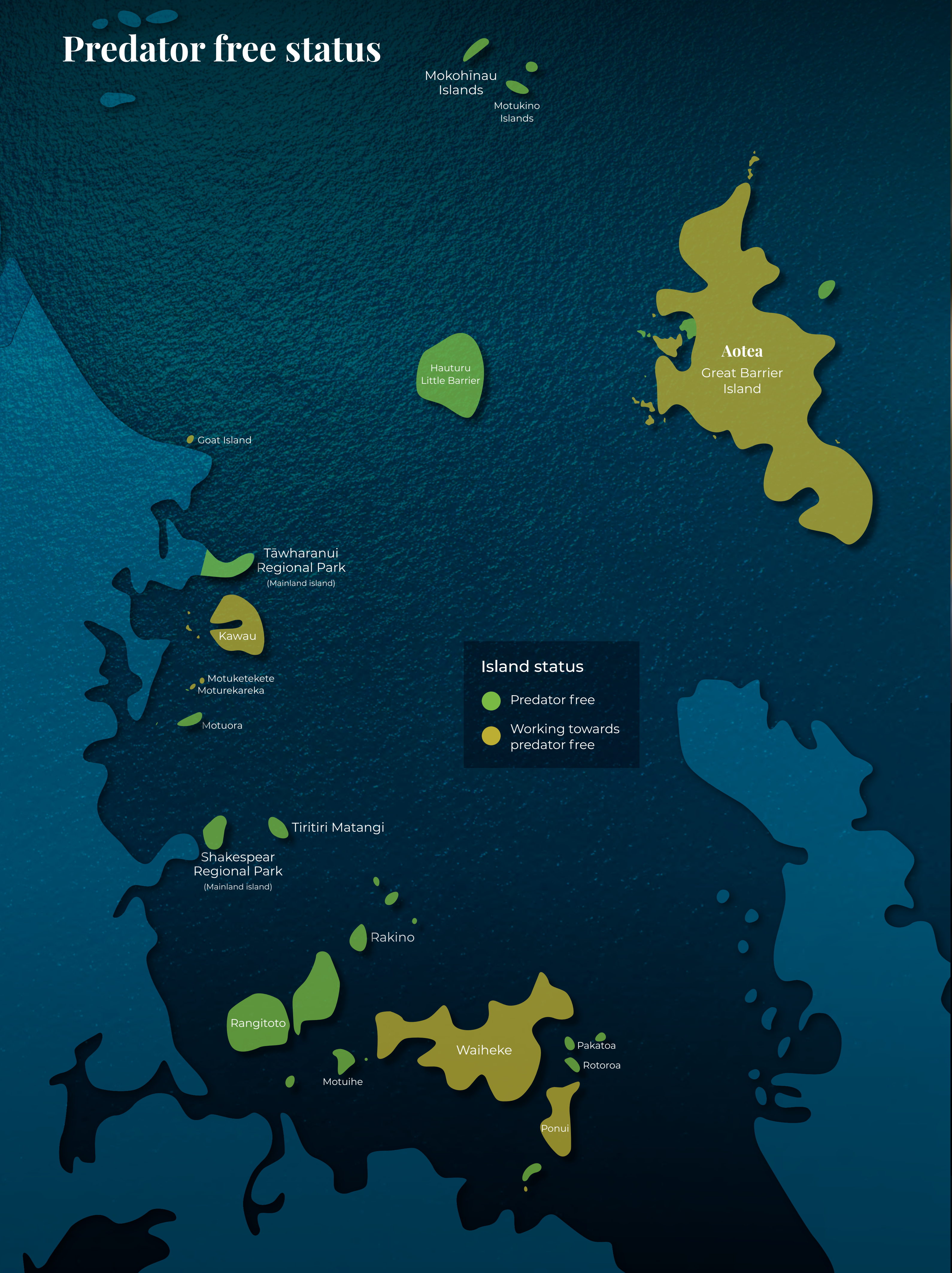
There are strong and consistent signals of recovery where pest eradication and management have been successful. On Waiheke Island, native bird counts increased by 76% between 2020 and 2025, and kākā call detections have increased by 300% since 2017.[48,57] Brown kiwi were reintroduced to the Coromandel Peninsula from a staging population on Motutapu Island, and are hopefully now establishing in the wild.[56]

Species reintroductions and translocations reflect improving conditions more broadly, including the return of kiwi to Waiheke[65], and the re-establishment of tīeke on Rakitū Island after more than 50 years.[55]

Predator free islands have increased species abundance, improved breeding success, and recovery of ecological processes, although recovery rates vary and can take decades.[57]

While monitoring efforts across the island network are growing[66–68], more consistent long-term programmes beyond project-specific initiatives would provide a valuable opportunity to better track change, measure progress, and support coordinated action across all islands.[63]

Predator free status



"Getting those last stoats is imperative to complete the eradication and to safeguard all of the gains that we've made for years to come."

Jenny Holmes, Project Director, Te Korowai o Waiheke

Case study

Island-wide stoat eradication on Waiheke

Waiheke Island is home to one of the most ambitious community-led predator eradication programmes in the Gulf.

Te Korowai o Waiheke leads an island-wide stoat removal effort covering the entire island - one of the largest urban stoat eradication attempts in New Zealand.

The programme combines trapping, trail cameras, and predator detection dogs, with trap checks carried out by a broad coalition of volunteers, contractors, community groups, and the Te Korowai o Waiheke field team. Biosecurity work to prevent reinvasion is being developed in partnership with Pest Free Hauraki Gulf.

Outcome monitoring tracks key indicator species including kākā, kororā / little blue penguin, ōi / grey-faced petrel, and ruru, with native bird counts showing strong increases since the programme began.

The kiwi reintroduction to Waiheke, made possible by the stoat eradication work, represents the clearest signal of what this programme has achieved. The Waiheke programme demonstrates that island-wide predator eradication is achievable in an inhabited, working landscape, and that it depends as much on community ownership and sustained participation as it does on the tools deployed.

Indicator Group 2

Indicator species and system health

Species that reveal the Gulf's condition

Some species provide a clear and widely recognised signal of how the wider system is functioning.

In the Gulf, marine predators and birds each reflect different parts of the ecosystem. Together, marine mammals, seabirds and shorebirds show both the value of protection and the ongoing effects of pressure and change.

What we're seeing

Marine mammals

The global significance of the Gulf for marine mammals has been formally recognised. Tīkapa Moana Te Moananui-ā-Toi was designated an Important Marine Mammal Area by the Marine Mammal Protected Areas Task Force, one of very few such designations in New Zealand waters, reflecting the Gulf's importance as habitat for Bryde's whales, false killer whales and pygmy blue whales, with up to 17 cetacean species in total.[70] It remains one of the few places in the world where Bryde's whales are present year-round in coastal waters.

Current research suggests the Bryde's whales may be spending more time further out of the inner Gulf, likely in response to shifting prey availability and marine heatwave-related ecosystem change.[49] Annual monitoring from 2014 to 2023 estimates the northeastern coast population at approximately 67 individuals in 2023, with the population appearing broadly stable over that period.[49]

Seabirds

The Gulf remains internationally significant for seabirds, but the overall picture is mixed. Many seabirds still face serious and systemic pressures. For example, seabird bycatch from commercial fisheries remains a significant concern, with up to 411 birds reportedly caught within the park in 2025.[71] In marine heatwave years, some species are also taking significantly longer to find enough food for their chicks.[53]

Historically, seabird numbers in the Gulf have declined by an estimated 69% since pre-human settlement - a long-term loss that makes current recovery signals more significant, but also underlines how far the system remains from its former condition.[72]

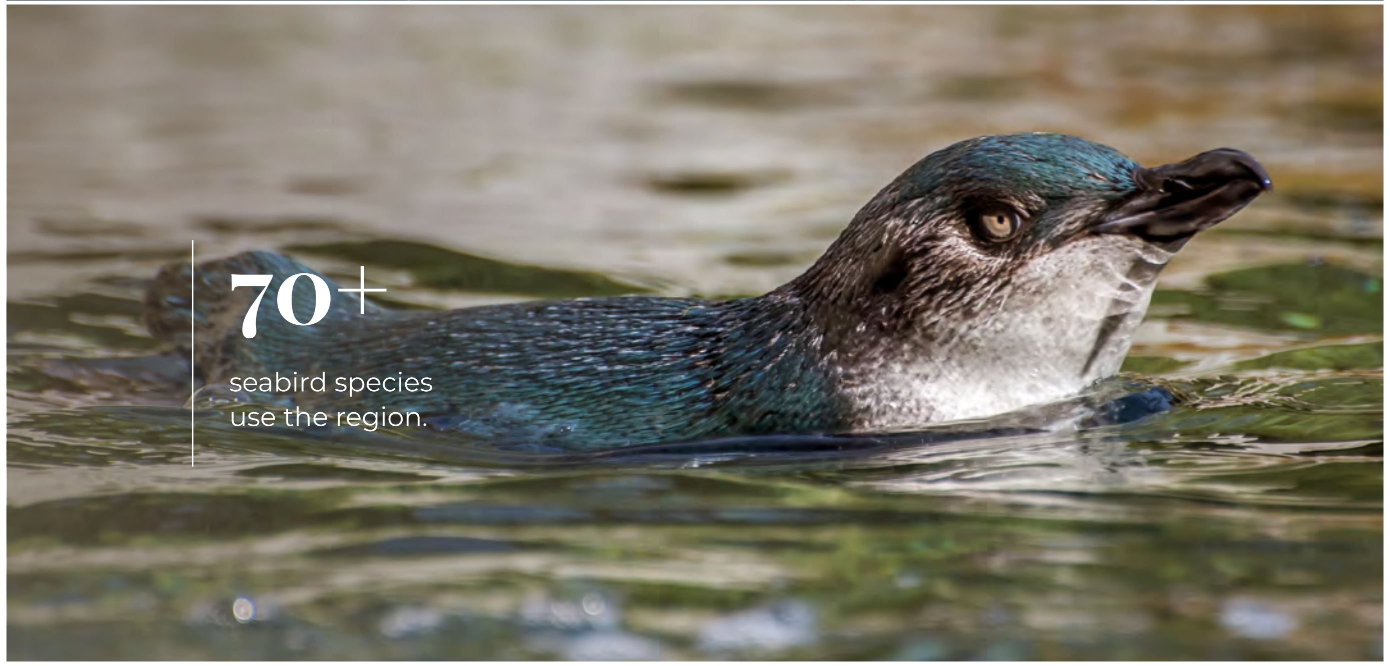
At the same time, protection is making a difference in some places. For example, the Tāwharanui seabird restoration project has demonstrated how sustained predator exclusion can re-establish seabird populations on the mainland. From a remnant population of ōi / grey-faced petrels, the site has recently supported up to four breeding species of petrels and shearwaters, including the first mainland breeding pair of tītī / Cook's petrels in living memory, with a chick fledging in 2021.[73]

Shorebirds

The Firth of Thames is one of the Gulf's most important biodiversity strongholds for shorebirds. Up to 35,000 birds from 43 shorebird species use the area during all or part of their life cycle, travelling from as far as the Arctic to feed on its intertidal flats.[50] Several thousand wrybill gather there each year, representing a significant portion of the world population, making it the most important wintering ground for the species in the country.[74]

The Firth of Thames is also a Ramsar-listed wetland and part of the East Asian-Australasian Flyway Partnership network, affirming its importance as a staging ground for migratory shorebirds.[75]

However, the picture for shorebirds is mixed. While some species are increasing, others - including Tōrea tuawhenua / South island pied oystercatcher and several migratory species - are in decline.



Why it matters

These species reflect the condition of the wider system. Many are long-lived, slow to reproduce, and are high up in the food chain, making them sensitive to combined pressures such as climate change, prey depletion, habitat loss, and fisheries interactions.[76,77]

These species show the system is capable of responding. Where protection has been maintained, species are recovering or holding steady.[78]

No Bryde's whale deaths from ship strikes have been reported in the Gulf since 2014 - a direct outcome of the voluntary 10-knot transit protocol and a significant conservation outcome.[49,79]

Restoration and monitoring programmes continue to expand across the Gulf, supporting the recovery of native species and improving understanding of how ecosystems respond to restoration over time.[73,80]

Simultaneously, these species also show where the system remains under stress.

Seabird bycatch remain a significant pressure.[71] Shorebirds reflect the quality and availability of intertidal habitats, including mudflats, estuaries, and coastal margins, which are increasingly affected by coastal development, catchment land use that increases sediment loads, and sea-level rise.[81]

Together, they give an honest picture - recovery is possible and is happening in places, but it is fragile and uneven.

Because many of these species are nationally threatened or at risk[82,83], the Gulf plays a critical role in their persistence at a population level.

Species vulnerability across the Gulf

Recent assessments reinforce the scale of ongoing biodiversity pressure across the Gulf.[84,85]

The current conservation status for key species highlights that many marine mammals, seabirds, and shorebirds associated with the Gulf are either threatened with extinction or considered at risk.[82,83]

State of species in the Gulf

Many marine species associated with the Gulf remain threatened or at risk despite ongoing restoration efforts and continuous protection measures being implemented to conserve their habitats and populations.

SEABIRDS

86%

23 of 27

breeding seabird species within the Gulf are threatened or at risk.

MARINE MAMMALS

30%

10 of 33

marine mammal species recorded within the Gulf are threatened or at risk.

SHOREBIRDS

23%

10 of 43

shorebird species recorded at Pūkorokoro - Firth of Thames are threatened or at risk.

These species provide important signals of ecosystem condition and the ongoing pressures affecting the wider Gulf system.

Among seabird species known to breed within the Gulf, more than 80% are classified as threatened or at risk.[83] Marine mammal observations also show ongoing vulnerability[82], while many shorebird species that rely on Gulf habitats continue to face pressure across migratory and breeding environments.[86,87]

These findings reinforce that while recovery is occurring in some locations, many species across the Gulf remain highly dependent on continued protection, habitat restoration, and long-term management.[78,88,89]

While available datasets differ across species groups and do not represent a complete inventory of all species present within the Gulf, the overall pattern remains consistent: many species associated with the Gulf continue to face significant ecological pressure.[49,90]

What the data shows

For Bryde's whales, the strongest current signal is not just that ship-strike risk has reduced, but that the expected population rebound may not be showing up in inner Gulf sightings despite fewer whales lost to ship strikes.[49] Research suggests warming seas and shifting prey may be pushing whales further into outer areas that are monitored less frequently.[49] Marine mammals can also be affected by interactions with commercial fisheries, including bottom longlining, bottom trawling, and purse seining.

For seabirds, the data shows both recovery and pressure. Predator free breeding habitat continues to support species return and breeding success in some locations[78,91], but bycatch remains a serious issue particularly for kuaka / common diving petrel, pakahā / fluttering shearwater, tākoketai / tāiko / black petrel, and toanui / flesh-footed shearwater. In 2025, 142 pakahā, 23 tākoketai / tāiko, and 88 kuaka were recorded as bycatch, representing an increase on previous years.[71]

DOC's long-term monitoring of tākoketai near Aotea / Great Barrier Island - home to the largest known breeding population - shows the species' continued vulnerability, alongside broadly stable breeding success (67.7% in the 2024/25 season) near the long-term average of 72.3%.[78]

Shorebird monitoring indicates that the Firth of Thames remains one of the most important habitats in the system.[92] Several migratory species, including curlew sandpiper, eastern curlew, kuriri / Pacific golden plover, huahou / lesser (red) knot, red-necked stint, ruddy turnstone, and kohutapu / sharp-tailed sandpiper are declining. Eastern curlew numbers have fallen from around 30 birds to only a few individuals visiting the Firth each year. The species is internationally endangered, making the Firth one of its few key sites[92]. Key threatened and at risk species such as pohowera / banded dotterel, tūturiwhatu / New Zealand dotterel, spur-winged plover, and tōrea pango / variable oystercatcher are increasing over time. DOC helps manage New Zealand dotterels through fencing off nesting areas and monitoring mammalian predators during breeding season.[89]

Case study

Tracking the Gulf's gentle giants

Most people do not know that oceanic manta rays visit the Gulf. They are not reef fish or familiar seafloor species. They are open-ocean travellers - reaching up to seven metres across and weighing as much as two tonnes - and the Gulf is one of the few places in Aotearoa where they are regularly seen.

Large and mobile pelagic species like manta rays have not been well represented in this or previous State of the Environment reporting - a broader data gap that Manta Watch NZ's work begins to address.

Manta Watch New Zealand Charitable Trust has been working to understand this presence since 2017. Founded by marine ecologist Lydia Green, the Trust combines targeted research with citizen science to build the knowledge base that conservation management of this globally endangered species depends on. Their work spans the entire country, but the Gulf sits at its centre.

The Trust maintains a national sightings database, fed by public submissions through its app and website. From that data, researchers identify hot spots - locations where manta activity is consistent enough to support intensive survey work. In the Gulf, feeding aggregations driven by seasonal krill availability have become a key focus. Satellite tagging and photo identification research, conducted in partnership with the University of Auckland, Conservation International, and DOC, is building a picture of individual movements, foraging habitats, and population structure. This research has produced the first detailed local account of manta foraging ecology in the Gulf.

Manta rays are long-lived and slow to reproduce - a single pup every two to five years. Understanding where they feed, mate, and travel is the foundation of any meaningful protection. Manta Watch NZ is building that foundation, one sighting at a time.

2,000 kg

Oceanic mantas rays can weigh up to 2,000 kg.*

40 years

Likely lifespan to be around 40 years.*

mirror test

Manta rays are the only fish known to have passed the mirror test. A measure of self-recognition previously demonstrated only by animals such as dolphins, chimpanzees, and humans.*

* Manta Watch Aotearoa New Zealand

Tūturiwhatu / New Zealand dotterel

A conservation success story in progress

Long-term monitoring has tracked the substantial increase in tūturiwhatu numbers since the 1960s. While challenges remain, the trend demonstrates that sustained predator control, habitat protection, and community stewardship can support the recovery of native species.

3% increase

in average annual counts since the 1960s

211 birds

Highest annual count recorded (2022)

Key signals

- Numbers have increased substantially over time.
- Habitat protection and predator control are supporting recovery.
- Continued management is needed to secure future gains.

Tūturiwhatu are taonga species of the Gulf and a positive reminder that recovery is possible when pressures are reduced.

Long-term increase in annual counts

Average number of dotterels recorded each year (1960-2025)

1960s
AVERAGE
16

1960-1969

1980s
AVERAGE
22

1980-1989

2000s
AVERAGE
61

2000-2009

2020s
AVERAGE
120

2020-2025*

*2020s average includes 2020–2025.[92]

"We rarely heard kākā here. Now, most winters, we will hear them. The hill behind our home is called Te Kaka, obviously named for the bird, and they are coming back."

Fin Buchanan, Founder, Thames Coast Kiwi Care

Case study

Protecting the tākoketai / tāiko

Every year, tākoketai / tāiko / black petrels travel more than 11,000 kilometres between wintering grounds off Ecuador and Peru and breeding colonies in the Gulf. Their largest breeding population is on Aotea / Great Barrier Island, with smaller colonies on Hauturu-o-Toi / Little Barrier Island.[78,93]

The journey makes them vulnerable to threats both at sea and on land. Since 2009[157], black petrels have been recorded as bycatch in bottom longline fisheries.[71] In response, the Black Petrel Working Group has brought together industry, government agencies, researchers, and environmental organisations to reduce bycatch risk through fisher engagement, monitoring programmes, and improved understanding of fisheries interactions. Bycatch levels declined substantially between 2022 and 2024, although captures increased again in 2025, highlighting the need for ongoing efforts to reduce risk.

On land, long-term monitoring of nearly 500 study burrows on Aotea shows breeding success remains relatively stable. Breeding success in the 2024/25 season was 67.7%, close to the long-term average of 72.3%.[78] Ongoing predator control remains a priority for the species' recovery and continues to support breeding success.

The species is classified as Threatened – Nationally Vulnerable.[83] It is also one of only five seabird species that breed exclusively within the Gulf, making the Gulf critical to its long-term survival.

Indicator Group 3

Marine pests and emerging threats

Marine biosecurity pressures

Marine pests are an increasing and visible pressure in the Gulf.[95] Exotic Caulerpa is the most prominent current example, but it is part of a broader picture of established incursions and ongoing risk of new introductions across the system.[51,96]

Invasive species are now present across a range of habitats, including subtidal rocky reefs, soft sediments, harbours, and artificial structures such as marinas and aquaculture infrastructure.[95,97–100] Several species, including clubbed tunicate, Australian droplet tunicate, and Mediterranean fanworm, are present at multiple locations and becoming more prevalent at monitored sites.[95,101]

In the past three years, Mediterranean fanworm has spread from the western Coromandel to the east coast, including onto mussel farms at Kennedy Bay and Port Charles.

Taken together, this reflects multiple concurrent and historical invasions rather than a single isolated event. These species can alter habitats, outcompete native species, and are difficult to manage once established.[102]

What we're seeing

Marine non-indigenous species are widely recognised as one of the most significant threats to marine biodiversity because they can outcompete native species, alter habitat structure, and disrupt ecological processes.[102] These changes can affect biodiversity, ecosystem function and resilience, and cultural, recreational, and fisheries values.[99,103]

Exotic Caulerpa is now established across multiple locations in the Gulf, and continues to spread.[51] Identified locations include the Mokohinau Islands, Te Hauturu-o-Toi / Little Barrier Island, Aotea / Great Barrier Island, Omaha Cove at Leigh Harbour, Kawau Island, Repanga / Cuvier Island, the Mercury Islands, Port Jackson, the Coromandel, Tiritiri Matangi Island, the Noises, Waiheke Island, Ohinau Island, Whakau / Red Mercury Island, and most recently the Tāwharanui Marine Reserve.[104] The pattern underlines how critical it is that new incursions are detected quickly, and acted on.

Why it matters

Key pathways for the spread of exotic Caulerpa and other non-indigenous species include vessel and gear biofouling, as well as movement between marinas and anchorages.[96] These risks are elevated in the Gulf due to high levels of commercial and recreational vessel activity and the density of ports and marinas.[96]

Climate-related factors, including warming sea temperatures and marine heatwaves, may also increase the likelihood of establishment and expansion for some species - with evidence of this already occurring in the Gulf.[105]

Exotic Caulerpa is established and continuing to spread within the Gulf. In some areas, particularly shallow and sheltered environments, it can dominate the seabed.[104] There is currently no feasible method for large-scale control or eradication in open marine environments.

Recent investment and national coordination have strengthened the response[51,104], but uncertainty remains around long-term outcomes.

The exotic Caulerpa response has also demonstrated what coordinated action looks like. Agencies, mana whenua, and communities have worked together quickly, both to confront the current incursion and to build capacity for future ones - the monitoring networks, community awareness, and regulatory tools that make early detection possible.[48]

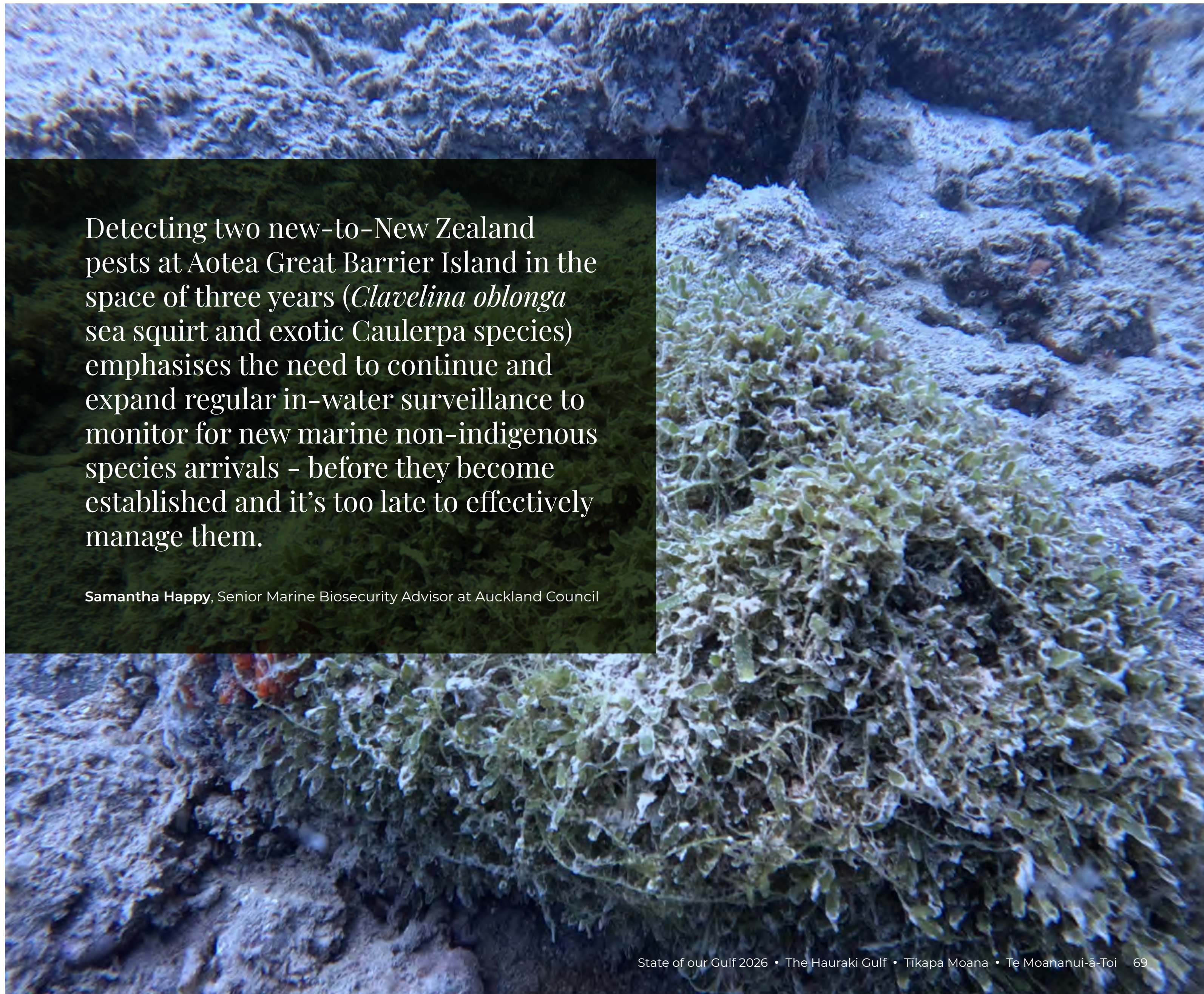
What the data shows

Marine biosecurity in the Gulf is under increasing pressure. Widespread detections are concentrated around ports, harbours, and high-use marine areas where vessel traffic and surveillance are highest.[96] Detections have also been recorded outside surveillance sites, indicating the need for ongoing vigilance throughout the Gulf.

Marine pests can form dense colonies or mats, overgrow substrates, and alter habitats and ecological processes.[102] In some cases, they compete directly with native species for space or food, while in others they modify habitat structure and influence community structure.[103] However, ecological impacts are variable and often delayed, with some studies showing limited or context-specific effects and others highlighting the potential for larger impacts over time as populations expand.[97,106–108]

Exotic Caulerpa can dominate the seafloor, but ecological impacts are not fully understood, with some studies showing limited or habitat-specific effects, and others highlighting greater potential impacts.[106,107] In some areas where Caulerpa was found early, biomass has been reduced by up to 95–100%, although the reasons for this are unclear and infestations continue to be identified.[109]

There is increasing recognition that cumulative effects from multiple invasive species may be significant but are not yet well understood. Future outcomes will depend on continued surveillance, effective pathway management, and improved understanding of ecological impacts, supported by coordinated regulatory approaches across regions.[57,110]



Detecting two new-to-New Zealand pests at Aotea Great Barrier Island in the space of three years (*Clavelina oblonga* sea squirt and exotic Caulerpa species) emphasises the need to continue and expand regular in-water surveillance to monitor for new marine non-indigenous species arrivals - before they become established and it's too late to effectively manage them.

Samantha Happy, Senior Marine Biosecurity Advisor at Auckland Council

Case study

Responding to exotic Caulerpa

Exotic Caulerpa is one of the most significant marine biosecurity challenges the Gulf has faced. First identified at Aotea / Great Barrier Island and Ahuahu / Great Mercury Island, it is still spreading and has since been confirmed at multiple locations across the Gulf.

The spread of exotic Caulerpa, like many marine pests, is linked to pathways such as vessel biofouling and the movement of vessels between anchorages, marinas, and ports. In some places it forms dense mats across the seafloor, although recent monitoring shows biomass has reduced by up to 95–100% in some areas. This has not occurred everywhere, and the reasons remain unclear

The response has involved agencies, mana whenua, and communities working together through rāhui, controlled area notices, expanded monitoring, and public awareness initiatives. Significant investment has followed, including additional government funding for research and management, with MPI and partners trialling response methods such as suction dredging, smothering, and UV-C light treatment

What this response has demonstrated, above all, is how much depends on early detection.

Like many marine pests, exotic Caulerpa becomes increasingly difficult to manage once established. The critical factor is not the area already affected, but the speed at which new incursions are found and acted on.

The long-term ecological consequences remain uncertain. Research to date suggests the impacts of exotic Caulerpa are more complex than first thought. In some habitats, scientists have found little evidence of ecological change, while in others dense infestations may still have significant effects. More time is needed to understand how the species interacts with native plants, animals, and habitats over the long term. Ongoing research is also improving understanding of how the species reproduces, spreads, and responds to changing environmental conditions.

An independent assessment commissioned by the Forum estimated that, under a worst-case scenario, exotic Caulerpa could cost up to $154 million annually in lost ecosystem services. More recent evaluations suggest biomass and distribution can change over time, highlighting the importance of ongoing monitoring, research, and adaptive management as the species continue to spread within the Gulf.

Indicator Group 4

Marine habitats and ecosystem condition

How ecosystems are functioning

Habitats such as reefs, seagrass meadows, and soft sediments underpin biodiversity across the Gulf. They provide food, shelter, and breeding grounds for species, and support the overall functioning of ecosystems. Changes in habitat extent and condition directly affect the species that depend on them.[4,95,111–114]

What we're seeing

There is a mixed pattern of biodiversity change across the Gulf. Island ecosystems are generally improving under sustained management, while many marine and coastal habitats continue to experience ongoing pressure.[85]

This reflects a long history of habitat change, with many ecosystems shifting from complex habitats built by species such as shellfish and mussels to simpler states that now persist over time.[115,116]

Rocky reefs illustrate this clearly. Many are now characterised by kina barrens, where sea urchins maintain low macroalgal cover and simplified habitat structure.[117,118]

Across other habitats, similar patterns emerge. Estuaries remain productive but are degraded in many areas and are increasingly dominated by mangroves, reflecting ongoing sediment and nutrient inputs.[4,42]

In some locations, intertidal seagrass has increased in recent years, although this does not represent a full-scale recovery from historical losses.[85] In the Waikato region, less than 20% of the original intertidal and subtidal seagrass extent is estimated to remain. At Wharekawa Harbour on the Coromandel Peninsula, approximately 99% of seagrass extent has been lost over the past six years.

Soft-sediment habitats dominate much of the seafloor but are often characterised by low structural complexity following the loss of biogenic habitats such as shellfish beds.[114] In many places, these simplified habitats continue to support life, but they often provide fewer ecological functions and less resilience than the habitats they replaced.[85,114]

Overall, many major habitats remain degraded and recovery remains uneven across the Gulf.[85,95]

Why it matters

Habitats underpin the entire ecosystem. They support biodiversity, provide nursery areas for fish, regulate nutrient and carbon cycles, and stabilise sediments and coastlines.[4,95,113,121–123] Changes in habitat extent and condition directly affect the species that depend on them and the services they provide.[4]

When habitats degrade, the effects are widespread. Many habitats, particularly subtidal seagrass, soft-sediment shellfish beds, and inner Gulf reefs, remain heavily degraded, and natural recovery without active intervention is not occurring.[85,95] Green-lipped mussel beds once covered large areas of the Gulf and are now depleted or at very low densities, while horse mussels are restricted to limited locations.[85] These habitat-forming species once helped stabilise sediments, improve water quality, and create habitat for many other marine species.

The decline of many of these habitats reflects the cumulative effects of multiple pressures over time. Historical dredging and bottom-contact fishing methods contributed to the loss of extensive shellfish beds and altered seabed habitats in parts of the Gulf, while sedimentation and declining water quality have affected their ability to recover. The loss of these habitats has reduced food, shelter, and nursery areas for many species, with consequences that extend through marine food webs.

Their loss has reduced the complexity and resilience of many marine ecosystems, limiting their ability to withstand additional pressures such as sedimentation, marine heatwaves, and invasive species.

Healthy habitats also support the productivity of the Gulf's food webs, influencing the abundance, distribution, and survival of many fish, seabird, and marine mammal species. Changes in habitat condition can alter how energy moves through the ecosystem and affect the availability of food for species at higher levels of the food web. Changes in habitat condition therefore have consequences that extend well beyond the habitats themselves.

There are early signals of recovery. Kelp has recovered at trial sites where kina grazing pressure has been reduced, in some cases within months to a few years of intervention.[124] Seagrass, where it persists, continues to function as a critical ecological asset. Juvenile snapper occur at densities more than 80 times greater in seagrass habitats than in adjacent non-seagrass areas, and individuals in seagrass show higher growth rates and better body condition.[112,125] In some areas, new shellfish beds are beginning to establish, including pipi and tipa / scallop beds near the mouth of the Kauaeranga River.

Where positive recovery trends are occurring, they carry an important message: the system can respond if given the chance. These examples demonstrate that recovery is possible when key pressures are reduced and ecological processes are restored.

To better manage marine habitats and biodiversity, marine protection has expanded significantly since the last report. Together, marine reserves, High Protection Areas, Seafloor Protection Areas, Cable Protection Zones, and temporary closures now mean that around 18% of the Gulf is subject to some form of spatial protection.[54] Several temporary closures also recognise rāhui and support the recovery of customary fisheries for iwi, including Ngāti Pāoa, Ngāti Tamaterā, Ngāi Tai ki Tāmaki, and Ngāti Manuhiri.[127,128] Regional Council coastal plans also recognise significant areas and control the activities within them. These measures are intended to reduce pressures on habitats and support long-term recovery, particularly in areas affected by fishing pressure and other cumulative impacts.

What the data shows

Long-term monitoring indicates that many habitats remain under pressure, despite localised improvements and targeted restoration efforts. Habitat condition varies across the system, reflecting differences in exposure, depth, proximity to land, and cumulative pressures such as sedimentation, nutrient enrichment, fishing, and coastal development.[4,42,95,111,118,129] The variability across habitats reflects the interconnected nature of the system.

Sedimentation is identified as one of the most pervasive and chronic pressures, particularly in the inner Gulf, where it reduces water clarity, alters substrate composition, and limits the growth and recovery of habitat-forming species.[4,37,114] In estuarine environments, relatively small increases in fine sediment can lead to disproportionate declines in biodiversity, habitat complexity, and ecosystem function, with long-term data showing widespread degradation linked to catchment inputs.[38]

Reef monitoring reveals a shift in community structure, with declines in canopy-forming macroalgae and increases in turfing algae, sediment cover, and invasive species.[95,111] These changes are linked to interacting pressures, including sedimentation, fishing impacts on key predators, physical disturbance of seabed habitats from activities such as bottom trawling, and climate-related events such as marine heatwaves.[105,111,130]

Soft sediment habitats, which dominate much of the Gulf, have also undergone major changes. Historically extensive biogenic habitats such as green-lipped mussel and horse mussel beds have largely been lost or reduced to low densities, leading to simpler and more homogeneous seabed environments with reduced structural complexity and ecological function.[85] Physical disturbance from fishing activities such as bottom trawling, habitat modification, and other cumulative pressures have contributed to these long-term changes.

Estuaries remain highly productive, but reflect changes in sedimentation and nutrient inputs with increasing dominance of mānawa / mangroves, loss of sensitive species, and declining ecological condition.[2,4,129] Overall, the data shows that while some habitats persist and localised recovery is occurring, the system as a whole remains altered and under ongoing pressure.

Recovery is often slow and depends on sustained reductions in key pressures, particularly sedimentation, water quality pressures, and habitat disturbance.[85]

"There was a lot of evidence that bottom-contact fishing methods, including dredging and bottom trawling, were doing damage to indigenous biodiversity in the coastal marine area."

Warren Maher, Hauraki Gulf Forum Co-Chair, Chairperson Waikato Regional Council

Island restoration and recovery

Across the Gulf, decades of predator eradication and active restoration are producing visible, documented results. These islands now stand as some of the clearest evidence of what the Gulf's ecosystems can achieve when pressures are reduced.

On Rakitū Island, tīeke / North Island saddleback were reintroduced in June 2025 - their first return in more than 50 years. Forty birds were translocated from Taranga / Hen Island in a partnership between Ngāti Rehua and DOC, following rat eradication from Rakitū in 2018. Since eradication, the island has shown measurable regeneration, including the return of native understory plants and increasing gecko and skink populations.

On Tiritiri Matangi, 277 hihi / stitchbird successfully fledged in the 2024/25 breeding season - the highest count ever recorded on the island. In May 2025, 40 adult hihi were translocated to Shakespear Open Sanctuary on the mainland, where the 2024 release had already produced more than 60 fledglings.

On Waiheke Island, community-led predator control through Te Korowai o Waiheke, including island-wide stoat eradication, enabled kiwi reintroduction in 2025, while native bird counts and kākā detections continue to increase.

Using Motutapu Island as a source population, brown kiwi have also been reintroduced to the Coromandel Peninsula for the first time, with birds hopefully now establishing in the wild.

These examples reflect a broader pattern. Where predators have been removed and ecosystems actively managed, native species are returning and ecological function is rebuilding. These gains remain concentrated on islands and in places where management has been sustained, but they demonstrate clearly what is possible.

Case study

When warming seas reshape seabird feeding

Researchers from the Integrative Biology Lab at Waipapa Taumata Rau / University of Auckland have investigated the impacts of marine heatwaves on breeding seabirds in Tīkapa Moana, focusing on pakahā / fluttering shearwaters, a year-round resident species widely distributed across the Gulf.

Field studies at the Mokohinau Islands and Tāwharanui have combined GPS tracking with blood and feather sampling across multiple breeding seasons (2019–2021, 2025, and continuing) to assess diet and stress in adults, building a picture of how foraging behaviour and breeding success respond to changing ocean conditions.

During marine heatwaves, such as the significant 2021 event, adults struggle to raise their chicks. Higher water temperatures reduce prey quality and availability, forcing birds to travel further for food, with foraging trip lengths doubling compared to non-heatwave years. The consequences are stark: adults and chicks are in poorer condition, and chicks are less likely to fledge. These findings align with broader signals across the Gulf, where seabirds have shifted their feeding behaviour and distribution.[90]

As top predators, seabirds reflect changes in prey species and ecosystem productivity, making them key indicators of food web health. Their declining breeding success under heatwave conditions signals that climate change is already reshaping the Gulf's ecosystems. As marine heatwaves become more frequent and intense, these pressures are likely to grow.

The implications extend beyond the marine environment. Seabirds transport marine nutrients onto land, linking ocean productivity to coastal and island ecosystems. Reduced breeding success therefore affects both marine and terrestrial systems, reinforcing the need to manage the Gulf as a connected ki uta ki tai system.

Research was conducted by Edin Whitehead and Brendon Dunphy, with thanks to TOSSI, The Seabird Trust, James Ross, Jamie Darby, and Isabella Brown.

Key signals

Pressures

- Marine habitats remain under pressure from sedimentation, habitat disturbance and climate change.
- New marine pest threats are emerging and spreading, and are difficult to manage once established.

State

- Many shellfish beds, seagrass meadows, reefs, and soft sediment habitats remain altered, with reduced ecosystem complexity and resilience.
- Indicator species show mixed trends, with many still at risk.

Impacts

- Habitat simplification and loss of ecological complexity are widespread, including transitions to kina barrens and degraded soft-sediment systems, reducing overall ecosystem resilience.
- Marine food web dynamics are shifting, with seabirds travelling further to forage, breeding success becoming more variable, and signals of reduced prey availability emerging in the inner Gulf.

Response

- Recovery is visible but uneven, and gains are typically seen where pressures are reduced and active management is in place.
- Predator-free islands and restoration programmes are supporting the return of native species and rebuilding ecosystems.

Bringing it all together

Biodiversity in the Gulf remains under pressure.

Some ecosystems are beginning to recover. Others remain degraded or under ongoing stress. Across the system, the signals point to a Gulf that is capable of recovery, but not yet restored.

From a te ao Māori perspective, this reflects a system where the diversity of life, the health of habitats, and the balance between species is becoming less certain in some areas. Where those relationships are under pressure, mauri declines. Where they are restored and actively cared for, mauri can recover.

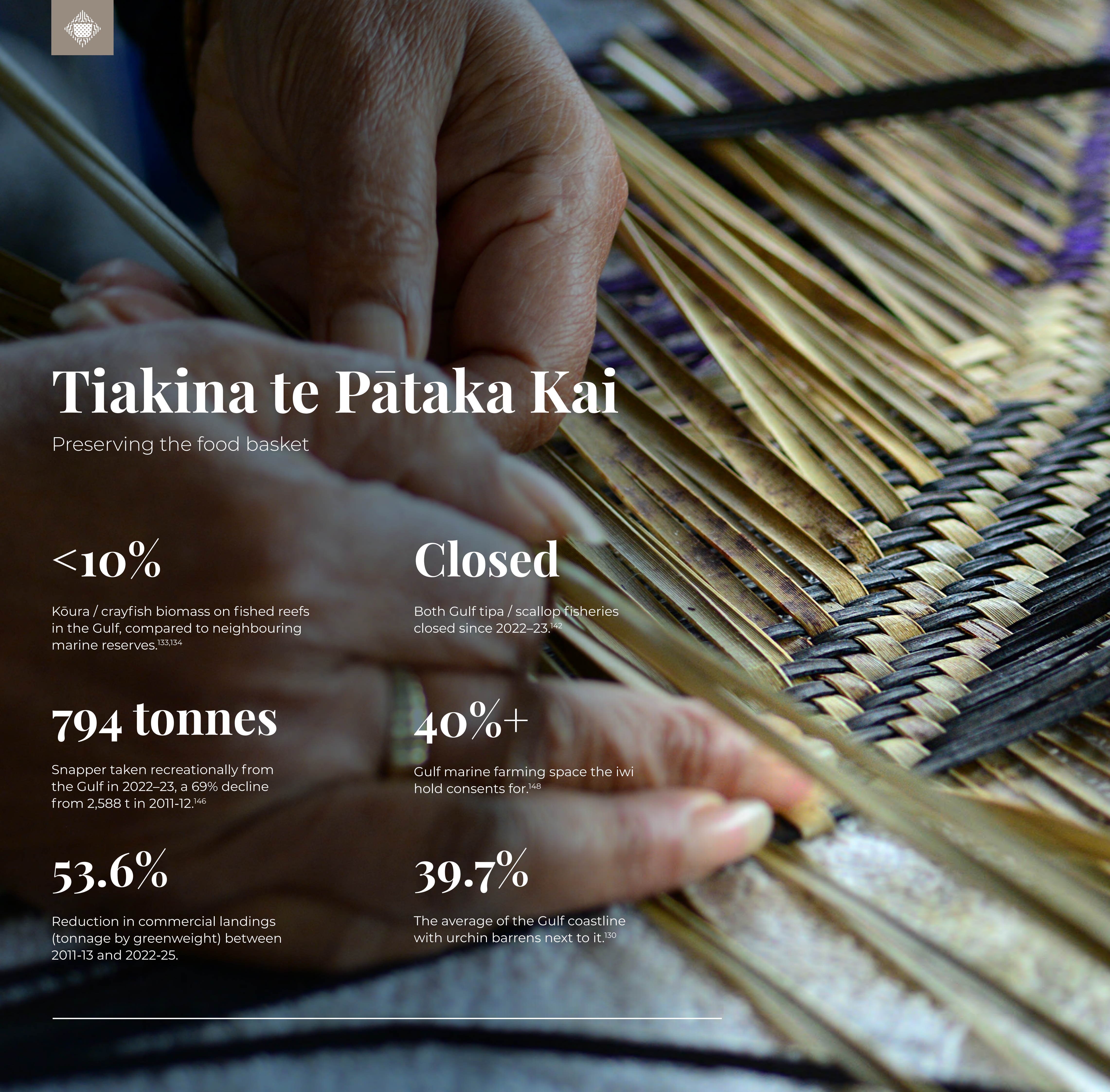
Taken together, these indicators show that the mauri of biodiversity in the Gulf is mauri heke, with early signs of recovery emerging where protection, restoration, and coordinated management are in place.

The new marine protection framework introduced under the Hauraki Gulf / Tīkapa Moana Marine Protection Act 2025 represents the most significant expansion of spatial protection in the Gulf's history. DOC's 10-year biodiversity monitoring programme is now underway across the High Protection Areas, with baseline surveys providing the reference point against which future change will be measured. Whether protection translates into recovery - and at what pace - will only become visible over time.

Active habitat restoration, including reef and shellfish bed interventions, is also increasing, and the Pou Rāhui project is building an iwi-led evidence base for understanding how rāhui and customary stewardship contribute to the return of taonga species.

These are meaningful steps. What they achieve will define the picture in the next report.

Mauri heke
Under pressure



Tiakina te Pātaka Kai

Preserving the food basket

<10%

Kōura / crayfish biomass on fished reefs in the Gulf, compared to neighbouring marine reserves.[133,134]

Closed

Both Gulf tipa / scallop fisheries closed since 2022–23.[142]

794 tonnes

Snapper taken recreationally from the Gulf in 2022–23, a 69% decline from 2,588 t in 2011-12.[146]

40%+

Gulf marine farming space the iwi hold consents for.[148]

53.6%

Reduction in commercial landings (tonnage by greenweight) between 2011-13 and 2022-25.

39.7%

The average of the Gulf coastline with urchin barrens next to it.[130]

What the Gulf can provide

The Gulf has long been a source of food. For mana whenua, it is Te Pātaka Kai o Tikapa, where relationships with the moana are guided by tikanga and mātauranga. Today, it remains a place where communities come to fish, gather kaimoana, and spend time on the water.

That relationship is changing. Abundance can no longer be taken for granted, and the ability of the system to sustain harvest is under increasing pressure.

Since the 2023 report, the 2023 Hauraki Gulf Fisheries Plan[132] and the Gulf / Tikapa Moana Marine Protection Act 2025[54] have together introduced significant changes to Gulf management, bringing an area-based approach to fisheries and a more connected network of marine protection across the Gulf.

Despite this, many fish and shellfish populations remain well below historical levels. Kōura / crayfish remain depleted across much of the Gulf[133,134], limiting their role as key reef predators. Tāmure / snapper show signs of rebuilding[135], but the scarcity of larger fish in many inshore environments remains a concern. Shellfish have fared worse. Tipa / scallops have collapsed across much of the Gulf, and tuangi / cockles continue to show localised fluctuations in abundance, with declines in some areas despite harvesting pressure being removed, and recovery in others.

On the Gulf's shallow reefs, reduced predator populations have allowed kina / sea urchins to expand and overgraze kelp forests in some areas.[141] This has contributed to the spread of kina barrens - bare rock with limited habitat and reduced biodiversity. Historical aerial imagery indicates barrens were largely absent from Gulf reefs in the 1950s, but recent monitoring indicates their expansion to almost 40% of Marine Park coastline by 2025.[111]

Early signs of reef recovery are emerging where predator populations are rebuilding, although ecological recovery takes time and remains uneven across the Gulf.[135]

Case study

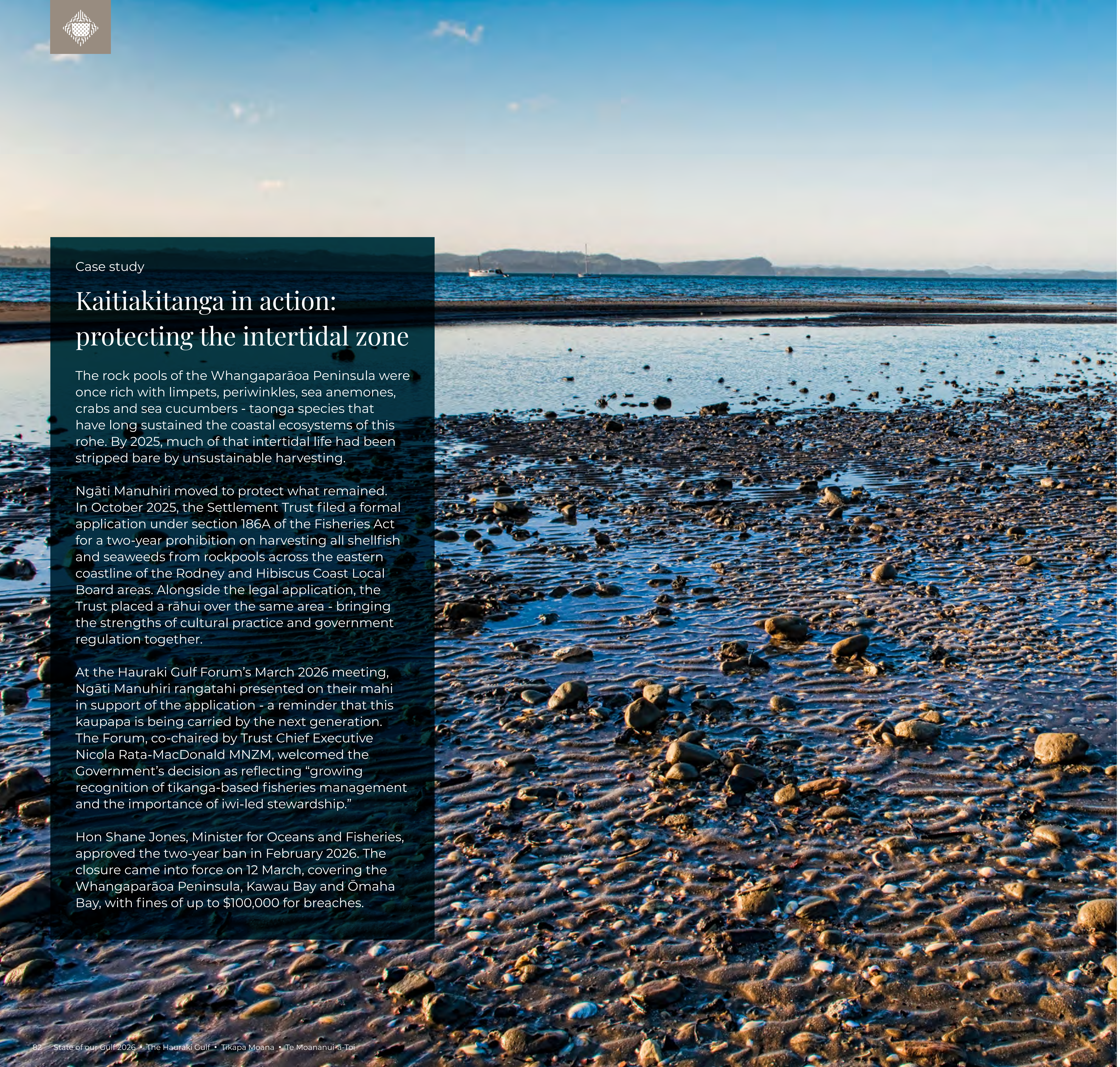
Swimming to end bottom trawling

In January 2026, Auckland ultra-marathon swimmer Jono Ridler set off from North Cape on one of the most ambitious ocean swims ever attempted in New Zealand. Over roughly three months, swimming unassisted in togs only, without a wetsuit, he made his way down the entire east coast of the North Island to Wellington. Dubbed Swim4TheOcean and done in collaboration with Live Ocean Foundation, Ridler was driven by a simple belief; that there's no place for the destructive practice of bottom trawling in a healthy ocean, and that ordinary New Zealanders, if given the chance to say so, would agree.

The swim carried a petition calling on Government to phase out bottom trawling, starting with vulnerable seamounts. Ridler and the campaign gathered momentum as he went. By the time he and Live Ocean co-founder Blair Tuke presented the Swim4TheOcean petition to Parliament on 29 April 2026, more than 73,000 New Zealanders had signed. Polling by Horizon Research in April 2026, commissioned by WWF-New Zealand, found 90% of New Zealanders support limiting bottom trawling in some form.

It was not Ridler's first swim for a marine protection kaupapa. In 2023 he completed Swim4TheGulf, a 99-kilometre, non-stop crossing from Aotea / Great Barrier Island to Auckland's North Shore over 33 hours. That swim was a direct response to the declining health of Tīkapa Moana / the Hauraki Gulf, and set a New Zealand record for the longest continuous solo unassisted open-water swim. Swim4TheOcean went further still, with international open water swimming bodies expected to ratify the swim as the longest, unassisted staged swim ever.

Ridler's motivation is straightforward. The ocean needs people who are willing to act, and he intends to keep being one of them.



Case study

Kaitiakitanga in action: protecting the intertidal zone

The rock pools of the Whangaparāoa Peninsula were once rich with limpets, periwinkles, sea anemones, crabs and sea cucumbers - taonga species that have long sustained the coastal ecosystems of this rohe. By 2025, much of that intertidal life had been stripped bare by unsustainable harvesting.

Ngāti Manuhiri moved to protect what remained. In October 2025, the Settlement Trust filed a formal application under section 186A of the Fisheries Act for a two-year prohibition on harvesting all shellfish and seaweeds from rockpools across the eastern coastline of the Rodney and Hibiscus Coast Local Board areas. Alongside the legal application, the Trust placed a rāhui over the same area - bringing the strengths of cultural practice and government regulation together.

At the Hauraki Gulf Forum's March 2026 meeting, Ngāti Manuhiri rangatahi presented on their mahi in support of the application - a reminder that this kaupapa is being carried by the next generation. The Forum, co-chaired by Trust Chief Executive Nicola Rata-MacDonald MNZM, welcomed the Government's decision as reflecting "growing recognition of tikanga-based fisheries management and the importance of iwi-led stewardship."

Hon Shane Jones, Minister for Oceans and Fisheries, approved the two-year ban in February 2026. The closure came into force on 12 March, covering the Whangaparāoa Peninsula, Kawau Bay and Ōmaha Bay, with fines of up to $100,000 for breaches.

A kete of tools – a new approach to marine protection

Marine protection in the Gulf is undergoing its most significant shift since the Hauraki Gulf Act 2000. For more than two decades, protection relied largely on a small number of marine reserves, providing important refuges, but limited in extent and not designed to address the full range of pressures affecting the Gulf.

A new "kete of tools" approach is emerging, applying a wider range of mechanisms across the Gulf. High Protection Areas, Seafloor Protection Areas, marine reserves, and local action such as rāhui are being implemented alongside each other, each addressing different pressures and management objectives.

This reflects a growing understanding that no single tool can respond to the complexity of the Gulf. Pressures such as fishing, habitat disturbance, and climate change operate at different scales and require different responses.

A kete approach allows protection to be tailored to place, values, and ecological need, and provides for input from communities and a stronger focus on Ahu Moana and kaitiakitanga.

The scale of protection is also increasing, moving beyond isolated sites toward a more connected network across the Gulf. While many of these measures are recent and outcomes are not yet fully observable, they represent a clear shift in how marine protection is applied.

Taken together, this transition signals a turning point toward a more adaptive, integrated system better aligned with the scale and complexity of the challenges facing the Gulf.

Indicator Group 1

Fish stock condition

Abundance that can no longer be taken for granted

Fish stocks are one of the clearest indicators of whether the Gulf is able to support healthy, functioning ecosystems while continuing to provide abundant and sustainable fisheries.

At a regional scale, many assessed fish stocks are considered to be within sustainable limits. However, this broader picture does not always reflect what is happening within the Gulf itself, where several important inshore species remain depleted, locally stressed, or are still rebuilding.

Understanding the condition of stocks at the local level and the pressures that shape them is essential for tracking whether management actions are translating into recovery across multiple values. The 2023 Hauraki Gulf Fisheries Plan introduced a more place-based approach to fisheries management in the Gulf, and the indicators in this section are a key test of whether that shift is beginning to take effect.

What we're seeing

Across key species, the condition of fish and shellfish populations in the Gulf remains mixed. Some fisheries are stabilising or showing early signs of recovery, reflecting changes in management, reduced fishing pressure, and improved understanding of ecosystem impacts. Others remain depleted, highly variable, or closed to harvest.

For many people, these changes are experienced gradually: smaller catches, longer time spent fishing, and species that were once common becoming increasingly difficult to find.

Why it matters

Fish stocks and shellfish beds play a critical role in the health and resilience of Gulf ecosystems. They support food webs, help maintain ecological balance, and underpin cultural practices, recreation, and food gathering.

When key species decline, the effects extend beyond harvest. Food webs can become disrupted, habitats can change, and ecosystems may become less resilient to additional pressures such as climate change, sedimentation, and pollution.

For mana whenua and many coastal communities, these changes also affect long-standing relationships with the moana and the ability to continue customary and recreational practices.

Status of key commercial fish stocks

Top 20 stocks caught commercially in the Gulf in relation to targets set by the Minister of Oceans and Fisheries.

1

Needs rebuilding

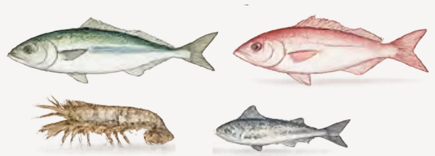
overfished or depleted, stocks need rebuilding

Tarakihi

10

Around target

around target no action required

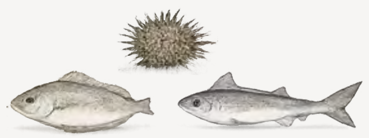


Jack mackerel, tāmure / snapper, blue mackerel, trevally, kahawai, school shark, kōura*, john dory, scampi, gemfish

7

Status unknown

unknown



Kina, flatfish, rig, pilchard, gurnard, grey mullet, northern spiny dogfish

2

Unassessed

unassessed non-quota management species

Porcupine fish, eagle ray

Status can change over time as new data and assessments become available.

**At the CRA2 level, however depleted populations below the hard limit of 10% have been assessed in shallow reefs of the Gulf.*

Ngā tohu Māori

Tangata whenua indicators

Understanding the state of the food basket is not only about stock levels and harvest. It is also about the condition of mauri, the balance of the system, and the ability to sustain relationships with the moana over time.

For mana whenua, this includes the presence and abundance of key species, the ability to gather kaimoana safely and consistently, the health of habitats, and the transmission of knowledge across generations.

These indicators reflect lived experience and intergenerational knowledge and are brought together with scientific monitoring to understand the state of the Gulf, each offering ways of knowing that the other does not fully capture.

In many areas, reduced abundance, smaller sizes, and increased variability in availability mean gathering is less reliable than it once was.

Indicator Group 2

Key species signals

The kaimoana people rely on, and what they reveal

Tāmure Snapper

What we're seeing

Tāmure populations have rebuilt substantially from the severe depletion recorded in the 1980s, when stock biomass fell to around 10–15% of unfished levels. Today, the wider stock is considered to be fished within sustainable limits, and long-term trends indicate rebuilding.[135]

Recent surveys also show a more diverse age structure, including a greater proportion of older fish than seen in previous decades.[136] However, this recovery is uneven across the Gulf and has not yet translated into full ecosystem recovery.

Kina barrens remain widespread across many shallow reef systems, indicating that predator populations are still not abundant enough in many areas to fully restore kelp forest ecosystems.[124]

At the same time, new signals are emerging within the fishery. Growth rates appear to be slowing, with fish generally smaller for their age than in the past[136], and "milky flesh syndrome" has become more visible in recent years.[137,149] Together, these trends suggest increasing environmental and ecosystem stress within the Gulf.

Why it matters

Tāmure are a taonga species and one of the defining fish of the Gulf, culturally, ecologically, and socially.

They make up around 70% of the recreational finfish catch in the Gulf by number, and the Gulf supports a significant proportion of New Zealand's recreational snapper harvest.[146]

Beyond their value as a fishery, tāmure play an important ecological role. Alongside kōura, larger snapper help regulate kina populations, reducing overgrazing pressure on kelp forests.[150]

These kelp forests support reef biodiversity, productivity, and habitat complexity across the Gulf.

Because tāmure are long-lived and move across multiple habitats, changes in their growth, condition, and abundance provide insight into wider ecosystem health. Their condition increasingly reflects not only fishing pressure, but also broader environmental change.

What the data shows

Management changes introduced during the early 2010s reduced fishing pressure on the stock, and biomass has increased steadily since then. Recent age composition data show the highest recorded average fish age in more than three decades[136], reflecting a shift away from the historically younger populations created by heavy fishing pressure.

Management approaches are also changing. Rather than relying solely on rebuilding stocks relative to historic unfished biomass targets, management is increasingly focused on maintaining sustainable exploitation rates, healthy population structure, and ecosystem function.[132,135]

However, ecological recovery within the Gulf remains incomplete.

Monitoring continues to show extensive kina barrens across many shallow reef systems, particularly outside protected areas.[130] Studies from marine reserves in northeastern New Zealand consistently demonstrate that where predator populations recover, kina densities decline and kelp forests regenerate.[124] The persistence of barrens across much of the Gulf suggests predator abundance and size structure are still insufficient to fully restore these reef ecosystems.

Emerging signals within the fishery also point to broader ecosystem stress.

Growth rates of tāmure within the wider Snapper Auckland (East) (SNA1) fishery appear to have declined over recent decades, with fish generally smaller for their age than previously observed.[136] The causes are not yet fully understood, but may reflect increasing competition for food as biomass rebuilds, changing ocean conditions, or a combination of both.[136]

"Milky flesh syndrome" has also become more apparent. Affected fish show pale, soft, or opaque flesh associated with poor muscle condition. Current evidence suggests this may be linked to nutritional stress, prolonged warm-water conditions, reduced ocean productivity, and changes in food availability, although the relative contribution of these drivers is still being investigated.[151]

Together, these signals suggest the Gulf's capacity to support healthy and productive tāmure populations is under increasing pressure from environmental change as well as fishing pressure.

Management is increasingly recognising these broader ecosystem connections. The 2023 Hauraki Gulf Fisheries Plan marked a shift toward ecosystem-based fisheries management for the Gulf, recognising that rebuilding stock biomass alone does not necessarily restore ecological function.

Tāmure populations are rebuilding[135], but the wider system around them continues to show signs of stress. Biomass is higher than it was historically[135], yet large fish are largely confined to protected areas[134], reef ecosystems remain degraded in many places, and fish condition is raising new questions about the changing state of the Gulf.

Tāmure are smaller for their age than they used to be

Changes in snapper growth and condition may reflect broader ecosystem stress, such as heightened competition for food.

SMALL FISH
Young snapper

Little change observed

MID-SIZE FISH
Adult snapper in their prime feeding years

Smaller for their age

LARGE FISH
Older, mature snapper

Large fish are increasingly concentrated in protected areas

What this might indicate

Fish size and condition can reflect food availability, ocean productivity, warming waters, and ecosystem health.

Ecosystem recovery takes time, even when fish numbers increase.

Case study

Giving communities a say – the Aotea Ahu Moana pilot

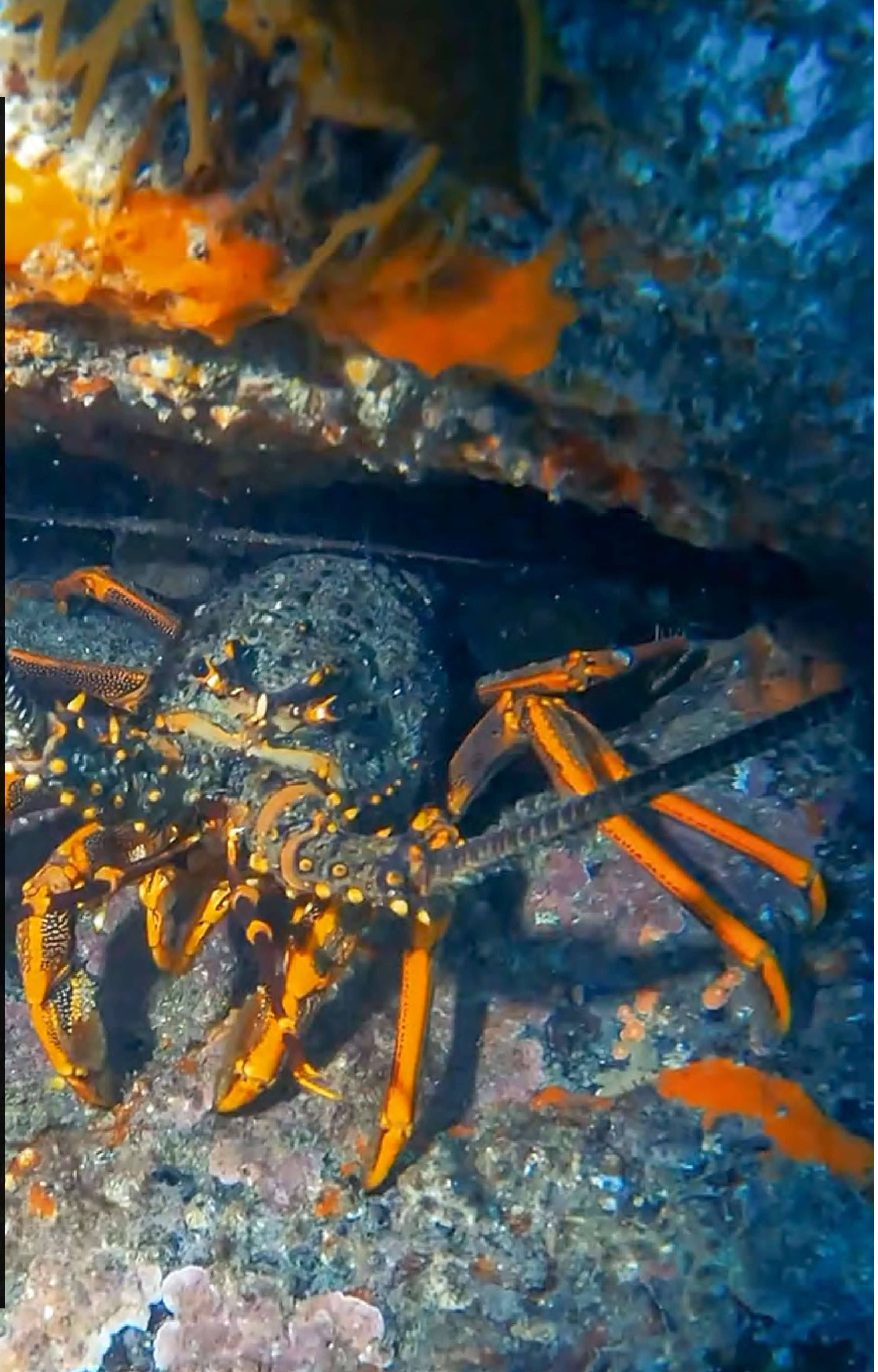
Along the coastline of Aotea/Great Barrier Island, a new model of fisheries management is being tested, with mana whenua and the local community helping to shape the rules that govern their moana.

Ahu Moana (meaning to tend to, foster, or nurture the ocean) emerged from the 2017 Sea Change Marine Spatial Plan and was included in the Government's 2021 Revitalise the Gulf strategy. The concept creates locally managed coastal zones where mana whenua and communities work in formal 50:50 partnership to set management priorities, drawing on both scientific knowledge and mātauranga Māori. Communities can set their rules, from bag limits and seasonal closures to exclusion zones, tailored to local pressures and values.

The Aotea pilot is led by Ngāti Rehua Ngātiwai ki Aotea Trust and the Aotea Local Board, with support from Fisheries New Zealand. Central to the project is Hauora Moana, a community monitoring method developed by marine ecologist Glenn Edney, which trains community divers to assess reef health using ecological and cultural indicators plotted on a simple health index.

Since late 2022, dive teams from Katherine Bay and Schooner Bay have completed surveys across nine sites. Monitoring within the Tryphena rāhui, a full no-take closure, has shown measurable improvement in reef health over two years, particularly for kōura and tāmure.

The pilot has taken on new urgency following the 2025 closure of the inner Gulf to kōura fishing, which has redirected pressure toward Aotea's coastline. In April 2026, the Under-Secretary for Oceans and Fisheries visited the island to discuss a community-developed proposal for local kōura rules, including a reduced two-crayfish bag limit, seasonal breeding closures, and recreational-only zones near settlements. A formal Government response is expected.



Kōura Crayfish

What we're seeing

The kōura picture across the Gulf is mixed.

At the scale of the wider Hauraki Gulf/Bay of Plenty (CRA2) rock lobster fishery, stock assessments indicate rebuilding following major catch reductions introduced since 2018.[152,153] However, within the Gulf, particularly across the inner Gulf, kōura populations on fished reefs remain severely depleted outside marine reserves.[133,134]

Fisheries-independent reef surveys consistently record very low numbers of kōura on shallow reefs open to fishing. Biomass is often less than 10% of that observed within long-established marine reserves, where populations remain larger and denser, and include more large breeding individuals.[133,134]

This contrast highlights an important disconnect between regional stock assessments and local ecological condition. While broader assessments suggest rebuilding is underway, recovery at the reef scale remains limited across much of the inner Gulf.[134]

Why it matters

Kōura support customary, recreational, and commercial harvest, while also playing a critical ecological role as a keystone predator on rocky reefs, controlling kina populations.[118, 154] Where kōura and large predatory fish are abundant, kina grazing pressure is reduced, allowing kelp forests to thrive - sustaining biodiversity, fish habitat, and reef resilience across the Gulf.[118]

When kōura populations decline, kina can expand unchecked, creating extensive kina barrens where kelp forests struggle to recover. Larger kōura are especially important, capable of preying on bigger kina and exerting stronger ecological control.[155] Kōura depletion is one contributing factor to the spread of kina barrens, and growing numbers of self-introduced *Centrostephanus rodgersii* (long-spined sea urchin) are another.

Because kōura are long-lived and relatively slow-moving, their abundance and size structure provide a strong signal of cumulative fishing pressure and long-term ecosystem condition.

What the data shows

At the broader CRA2 scale, the fishery is showing signs of rebuilding. However, much of the data informing the regional stock assessment comes from the eastern Coromandel, where commercial fishing effort is highest, rather than from the inner Gulf itself.[153]

Within the Gulf, fisheries-independent monitoring continues to show much lower kōura biomass on fished reefs than within protected areas. Populations are typically dominated by smaller individuals, and some reefs now record very low densities or local absence of kōura altogether.[133,134]

These patterns suggest many local populations may remain below the levels needed to fully support rebuilding and ecological function.[133,134]

The contrast between regional stock assessments and local reef monitoring highlights how broad-scale assessments can mask local depletion.[134] It also reinforces the need for finer-scale monitoring and management approaches that better reflect the species' distinct biology, and ecological conditions within the Gulf itself.[156]

Recent management decisions have increasingly recognised these local ecosystem signals and the ecological relationship between kōura, kina, and kelp forest health.[141,157]

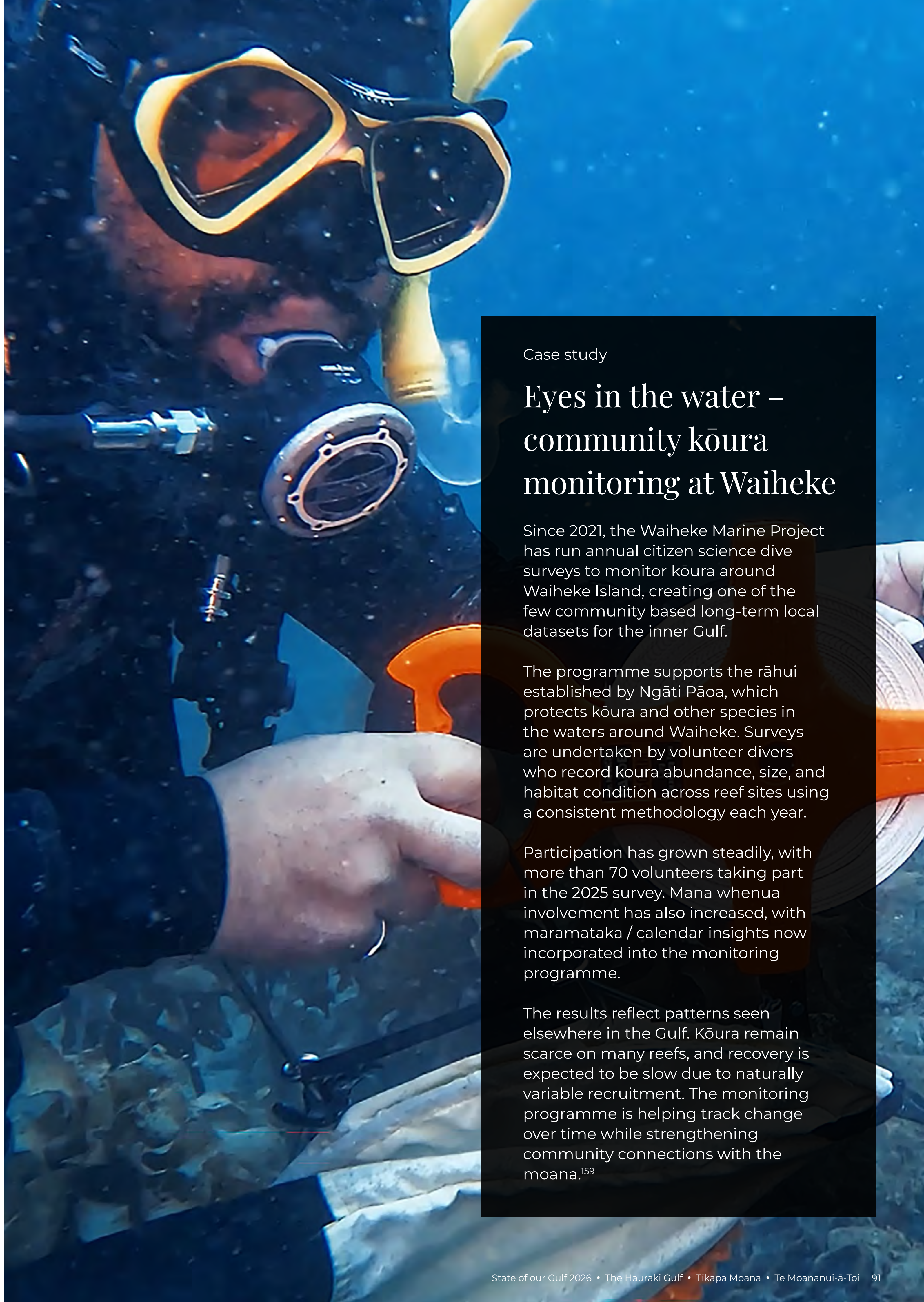
From 1 April 2025, the inner Gulf was closed to both commercial and recreational kōura harvest.[144] The closure was introduced as a targeted spatial management response to low kōura abundance and declining reef condition and is scheduled for review after three years.[144]

From 1 April 2026, closures were extended further north into parts of the Northland rock lobster fishery and the northern inner Gulf.[145]

Additional measures have also been introduced to assist kelp forest restoration including increased recreational kina harvest limits, approval of community-led kina removal permits, reduced kōura catch limits, and tighter fisheries controls.[158] Together, these changes reflect a broader shift away from managing species in isolation and toward ecosystem-based fisheries management.

Overall, kōura continue to present one of the clearest examples of the difference between stock rebuilding and ecosystem recovery.

Regional assessments indicate improvement[153], yet many inner Gulf reefs remain depleted and kina barrens remain widespread.[117,133,134] Recovery of ecological function across the Gulf is likely to require sustained rebuilding of local kōura populations over long timeframes, alongside continued spatial protection and ecosystem-focused management.



Case study

Eyes in the water – community kōura monitoring at Waiheke

Since 2021, the Waiheke Marine Project has run annual citizen science dive surveys to monitor kōura around Waiheke Island, creating one of the few community based long-term local datasets for the inner Gulf.

The programme supports the rāhui established by Ngāti Pāoa, which protects kōura and other species in the waters around Waiheke. Surveys are undertaken by volunteer divers who record kōura abundance, size, and habitat condition across reef sites using a consistent methodology each year.

Participation has grown steadily, with more than 70 volunteers taking part in the 2025 survey. Mana whenua involvement has also increased, with maramataka / calendar insights now incorporated into the monitoring programme.

The results reflect patterns seen elsewhere in the Gulf. Kōura remain scarce on many reefs, and recovery is expected to be slow due to naturally variable recruitment. The monitoring programme is helping track change over time while strengthening community connections with the moana.[159]

Tipa Scallops

What we're seeing

Tipa populations across the Gulf remain severely depleted. Both the Northland (SCA1) and Coromandel (SCA-CS) scallop fisheries are now closed to commercial and recreational harvest, and substantial wild scallop fisheries no longer exist within the Gulf.

Where tipa are still present, they are sparse and unevenly distributed, largely confined to a small number of isolated beds rather than spread widely across the Gulf as they once were.

Some areas are showing very early signs of recovery[160], particularly within parts of the eastern Coromandel, but recruitment remains inconsistent and populations are not yet rebuilding at a scale that would support a functioning fishery.[160]

Why it matters

Tipa were once an important part of the Gulf's food basket, supporting customary harvest, recreational gathering, and commercial fisheries across the region.

Their decline represents more than the loss of a fishery. It reflects broader changes in the condition and resilience of coastal ecosystems.

As filter-feeding shellfish, tipa help cycle nutrients, improve water clarity, and support the health of soft-sediment habitats.[161] When tipa beds become sparse and fragmented, these ecological functions are reduced alongside their cultural and food value.

Because tipa are highly sensitive to environmental conditions, changes in their abundance can provide an important signal of cumulative stress within the Gulf.

What the data shows

The story of tipa in the Gulf is one of boom, decline, and collapse.

Both the Northland and Coromandel fisheries reached record biomass levels during the mid-2000s. Surveys in 2005 and 2006 recorded the highest stock levels observed for both fisheries. However, this was followed by rapid decline.[162,163]

By 2021, biomass in the Coromandel fishery had fallen by around 77% compared with 2012 levels, while the Northland fishery had declined by approximately 63% from 2007 levels.[164] Most surveyed areas were no longer capable of supporting sustainable harvest.

Initial closures were introduced in 2022, including a full closure of the Northland fishery and partial closure of the Coromandel fishery. However, follow-up surveys later that year showed further dramatic declines, including losses of between 37% and 85% in some remaining beds within a single year.[165]

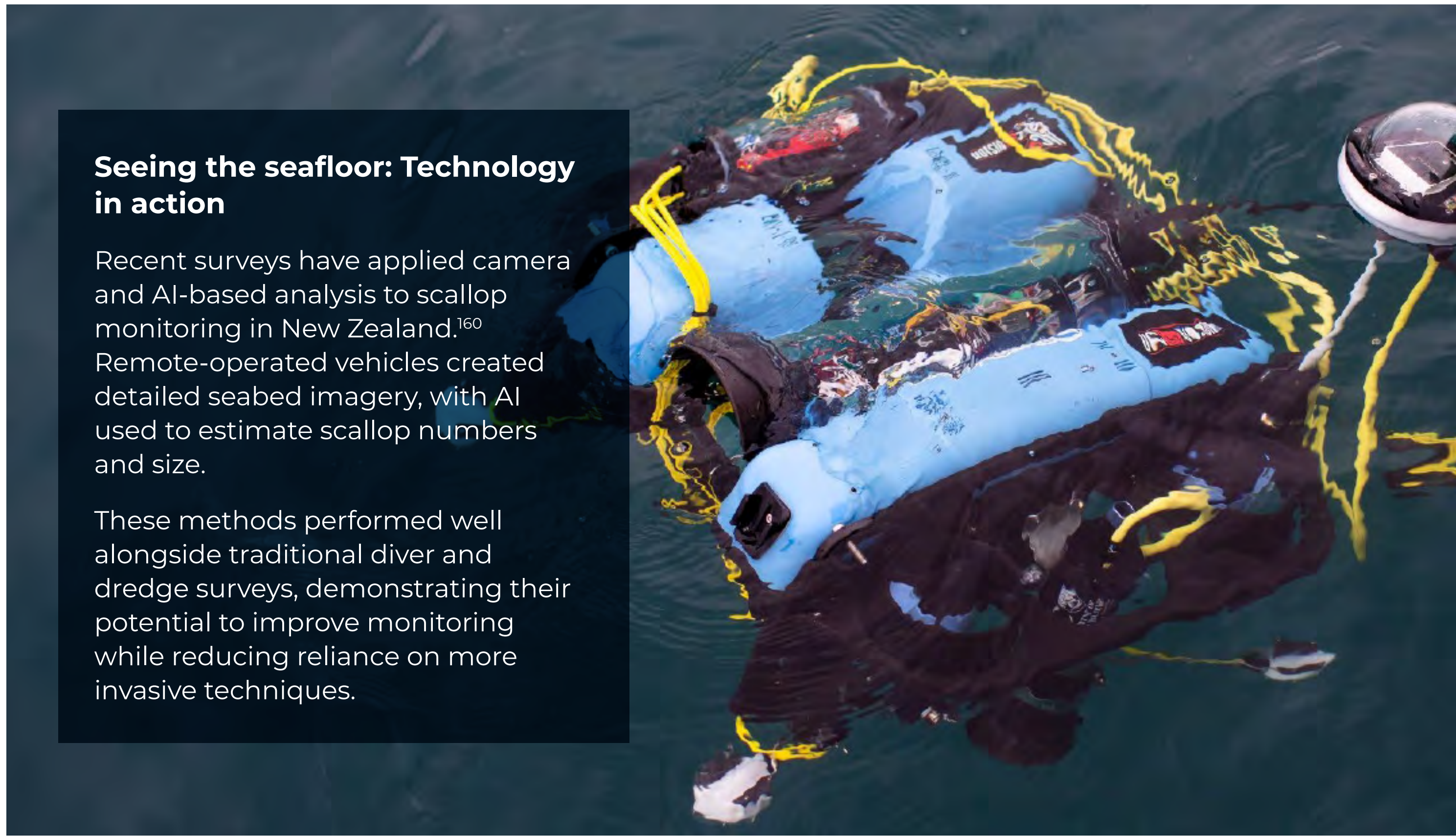
The speed of decline, particularly in areas where fishing pressure had already been heavily reduced, indicated that environmental pressures were also playing a major role.

Current evidence suggests multiple stressors are affecting recovery, including sedimentation, habitat degradation, warming water temperatures, and highly variable recruitment success. The relative contribution of these pressures is still not fully understood.

Some protected beds in the eastern Coromandel and Whangārei Harbour are showing cautiously positive signs, with surviving scallops increasing in size and density.[160] However, juvenile recruitment remains limited across much of the wider fishery, and recovery is occurring only in isolated pockets rather than across the Gulf as a whole.[160]

This patchy distribution leaves populations vulnerable to further disturbance from storms, sedimentation, disease, and marine heat stress.

Overall, tipa are best described as depleted and only beginning the earliest stages of recovery. Fisheries closures have likely prevented further collapse, but rebuilding a healthy and resilient scallop population across the Gulf is expected to take many years, and may depend as much on improving environmental conditions as on continued protection from harvest.



Seeing the seafloor: Technology in action

Recent surveys have applied camera and AI-based analysis to scallop monitoring in New Zealand.[160] Remote-operated vehicles created detailed seabed imagery, with AI used to estimate scallop numbers and size.

These methods performed well alongside traditional diver and dredge surveys, demonstrating their potential to improve monitoring while reducing reliance on more invasive techniques.

Tuangi Cockles

What we're seeing

Tuangi populations across the Gulf show a pattern of persistence alongside ongoing change.[143] At many monitored sites, total cockle numbers remain moderate or fluctuate through time, and in some locations, populations have increased. However, these populations are increasingly dominated by smaller individuals, with consistently low proportions of large, harvestable (≥ 30mm) tuangi.[143]

This suggests recruitment is still occurring, with young cockles continuing to settle and establish, but fewer individuals are progressing into older, larger size structures. Even where overall abundance appears relatively healthy, the population is not functioning as it once did.[166–168] Tuangi remain present across much of the Gulf, but populations are increasingly younger, smaller, and less mature.

At a small number of sites, particularly where harvesting pressure has been reduced and habitat conditions remain favourable, there are signs that size structure can recover. However, this pattern is not consistent across the Gulf, and many beds remain dominated by small individuals despite long periods of protection.[143]

Why it matters

Tuangi are woven into the identity of the Gulf culturally, ecologically, and socially. They were among the most frequently consumed marine species by tangata whenua before the arrival of Europeans[169] and remain important kaimoana for mana whenua and recreational gatherers today. For many coastal communities, tuangi are one of the most visible and accessible connections to the moana.

Ecologically, tuangi help maintain healthy intertidal systems. As suspension feeders, they filter water, support nutrient cycling, and help maintain sediment health.[161,170] Large tuangi contribute disproportionately to these processes[168], meaning size structure matters as much as abundance. Dense, mature beds also support wider food webs that include pātiki / sand flounder, whai repo / rays, mud whelks, and tōrea / pied oystercatchers.

Because tuangi are sedentary and relatively long-lived, changes in abundance and size structure provide an important signal of environmental condition in intertidal habitats.

What the data shows

Long-term monitoring across the northern North Island, including the Gulf, shows a consistent pattern. At many monitored sites, the proportion of harvestable tuangi reaching 30 mm remains very low and in some cases continues to decline.[143]

Substantial declines in the proportion of harvestable-sized tuangi have been recorded at several monitored harbours, including Tairua, Whangamatā, Whangapoua, and Whangateau.[143] In many cases, large cockles now make up only a small fraction of the population, even where total numbers remain moderate or high.

Importantly, this pattern is not limited to sites open to harvesting. Some of the lowest proportions of large tuangi occur at sites where harvesting bans have been in place for years or decades.

The contrast between sites highlights the importance of local environmental conditions. In areas such as Eastern Beach and Umupuia, long-term harvesting closures have been associated with increases in the proportion of larger cockles. However, at other sites, including Whangateau, size structure has not recovered despite extended closures, suggesting environmental pressures are now a major constraint on recovery.[143]

Multiple stressors are likely contributing to this pattern, including sedimentation, habitat degradation, warming water temperatures, variable recruitment success, harvesting pressure, disease, and extreme weather events.[171–174]

Whangateau provides a clear example of these cumulative pressures. The harbour contains the largest monitored cockle population within the Gulf and has been closed to harvesting since 2010 following a mass mortality event linked to a parasite. Since then, total tuangi numbers have increased substantially, yet the proportion of harvestable-sized individuals has continued to decline.[143]

Recovery is possible where habitat quality remains high and pressures are reduced. However, as large tuangi become less common, both ecological function and opportunities for food gathering decline.

Across the Gulf, the signal is clear: tuangi populations remain present, but they are smaller, less mature, and less resilient than they once were.

Indicator Group 3

Fishing pressure and harvest

Demand on a system still rebuilding

Fishing pressure reflects how people interact with the Gulf through recreational, commercial, and customary harvest.

What we're seeing

Fishing remains one of the most visible and direct ways people engage with the Gulf. While both recreational and commercial fishing continue to operate within managed limits, they place ongoing demand on species and ecosystems that are still rebuilding.

Recreational fishing remains particularly significant in nearshore and inner Gulf areas, where access is easiest. Activity has declined substantially over the past decade[146], both in the number of people fishing and the total catch taken, but this follows a period of very high pressure in the early 2000s. Despite this reduction, effort remains concentrated in accessible coastal areas, where inshore species are most exposed to cumulative impacts.

At the same time, commercial fishing continues to remove biomass from across the wider Gulf, targeting a diverse range of species including jack mackerel, tāmure / snapper, blue mackerel, trevally, kina, kahawai, flatfish, and kōura. Most assessed stocks are currently managed within target ranges, although tarakihi remains depleted and subject to an active rebuild plan.[175–178] Commercial landings also show a gradual decline in greenweight across successive reporting periods.[176]

Tarakihi illustrate how recovery can take time. Once common across the Gulf, they are now considered overfished, and rebuilding is expected to be gradual despite stronger management controls. This highlights the long lag between reduced fishing pressure and population recovery.

Together, these patterns point to a system where fishing pressure may have reduced from historical highs, but remains concentrated, sustained, and increasingly shaped by broader environmental change.

Why it matters

Fishing pressure is a key driver of change in the Gulf, and understanding it requires looking across all sectors together. Recreational, commercial, and customary harvest all contribute to total fishing mortality, and their combined effect influences how quickly species can rebuild and how ecosystems respond.

Commercial fishing is monitored and managed through quotas and reporting systems, providing a relatively clear picture of catch and effort. Recreational fishing is more widely distributed and influenced by human behaviour, making it more variable and harder to measure without dedicated surveys. Despite this, it represents a significant share of total harvest for key inshore species such as tāmure.

Even where individual sectors are operating within limits, the cumulative effect of harvest across all sectors can slow recovery, particularly for species that are still rebuilding or ecosystems already under stress. Fishing pressure also interacts with broader environmental change, including habitat degradation, sedimentation, and shifts in productivity, meaning sustainable management increasingly depends on understanding these combined effects rather than treating pressures in isolation.

Changes in fishing activity also reflect broader social and environmental trends, including access to fishing grounds, fish availability, regulatory change, and public awareness. As a result, fishing pressure provides insight not only into resource use, but into how the Gulf ecosystem is functioning and changing over time.

The Government's Revitalising the Gulf programme, led by DOC and Fisheries New Zealand, was developed in direct response to these pressures, and has restoring the Gulf's pātaka kai among its core goals.

Case study

From surface to seafloor – how fishing shapes the Gulf

Fishing pressure in the Gulf varies depending on how fishing occurs. Different methods interact with the marine environment in different ways, shaping habitats, species, and food webs across the system.

Some methods operate away from the seabed. Purse seining, which accounts for the majority of commercial catch, targets schooling fish in the water column and generally has lower direct impact on habitats. However, it can remove large volumes of forage fish, reducing food availability for seabirds, marine mammals, and larger predatory fish, with broader food-web effects.

In contrast, bottom trawling has some of the most direct and widespread environmental effects. By towing nets across the seafloor, it disturbs sediments, damages habitat-forming organisms, and alters seabed structure. Over time, repeated trawling can reduce habitat complexity and disrupt the ecological processes that support productivity and recovery.

Bottom longlining has more localised physical effects but can result in bycatch of non-target species, including seabirds. Danish seining also disturbs the seabed, although typically with less impact than trawling.

Together, these differences show that how fishing occurs matters, in addition to how much is taken. Seafloor-contact methods, particularly bottom trawling, tend to have higher impacts on habitats and ecosystem function, while pelagic methods more strongly influence food-web dynamics.

Different fishing methods create different ecosystem pressures

PURSE SEINE	BOTTOM TRAWL	BOTTOM LONGLINE
56–61%	8–11%	9–11%
OF COMMERCIAL CATCH*	OF COMMERCIAL CATCH*	OF COMMERCIAL CATCH*
Food web impacts: Removes large schools of fish that provide food for seabirds, marine mammals and larger predatory fish.	**Seabed impacts:** Disturbs seabed habitats, re-suspends sediment and can reduce habitat complexity.	**Bycatch impacts:** Associated with the highest bycatch of black petrel and flesh-footed shearwater.

Different fishing methods interact with marine ecosystems in different ways, affecting food webs, habitats and non-target species.

* within the statistical areas 005, 006, 007 and 008 that make up the Gulf.

What the data shows

There have been substantial reductions in both recreational activity and commerical landings since 2011.

Between 2011–12 and 2022–23, the number of recreational fishing trips in the Gulf fell by approximately 71%, while total fish and shellfish harvest declined by around 84% by number.[146]

Despite this decline, the structure of the recreational fishery has remained broadly consistent within the Gulf. Tāmure continue to dominate the catch, making up around 70% of finfish taken by number in 2022–23, up from 39% in 2011–12.[146] The Gulf accounted for 26.4% of the national recreational snapper harvest by tonnage in 2022–23, down from more than half in 2011–12.[146] This indicates that while overall effort has reduced, fishing pressure remains strongly focused on a small number of key inshore species and within a concentrated geographic area.

Commerical catch data also provides an important signal. While a wide range of species continues to support the fishery, the overall greenweight landed from the Gulf has been reduced across successive three-year reporting periods.[176]

Taken together, these trends show that fishing pressure has reduced from historical highs, but remains spatially concentrated and focused on key species.

Reduced total catch does not necessarily equate to reduced ecological pressure, particularly where effort remains concentrated in nearshore environments and on species that are central to both fisheries and ecosystem function.

While fishing pressure in the Gulf is no longer at the peak levels seen in the early 2000s, the system remains under sustained demand.

The concentration of effort on key species such as snapper, combined with continued biomass removal across commercial fisheries, means fishing remains an important influence on how quickly populations and ecosystems can recover. In a system already affected by habitat change, sedimentation, and climate-driven stress, this ongoing pressure can limit the recovery of both species and ecological function.

Management is increasingly moving toward an ecosystem-based approach, recognising that sustainable fisheries depend not only on controlling catch, but also on maintaining healthy habitats, resilient food webs, and functioning ecosystems.

The signal from this indicator is one of moderation, not removal. Pressure has reduced from historical highs, but fishing remains a defining influence on the Gulf, shaping both fisheries and the pace of ecosystem recovery.

Indicator Group 4

System stress signals

The ecosystem beneath the fishery

What we're seeing

The Gulf continues to show signs of a system under pressure. While it remains productive and supports diverse marine life, signals across multiple parts of the ecosystem point to changes in how the system is functioning over time.

On rocky reefs, the expansion of kina barrens remains one of the most visible signs of ecological imbalance. Areas once dominated by kelp forests are now, in many places, characterised by bare rock and high densities of grazing kina.[130] This shift reflects the long-term reduction of key predators such as tāmure and kōura, allowing kina populations to expand unchecked.[118,130] While significant, this change is also well understood and can be reversed where predator populations recover and ecological balance is restored.[118,124]

Broader food web signals are also emerging. Seabirds in parts of the Gulf are travelling further to forage and are experiencing more variable breeding success[53], while some marine mammals appear to be shifting their distribution in response to changing ocean conditions.[49] Together, these patterns suggest increasing variability in prey availability and ecosystem dynamics.

Within fish populations, condition-based indicators are providing additional insight into ecosystem health. Reports of "milky white flesh" in snapper, particularly in the inner Gulf, indicate periods where fish may have experienced reduced nutritional condition.[151] Research suggests this is linked to lower food availability at the base of the food web, associated with warmer temperatures and climate variability.[137,151] Fisheries data also show that growth rates can slow when fish abundance is high and competition for food increases, resulting in smaller fish at a given age.[136] Together, these patterns point to a system where food supply and ecosystem productivity are not always keeping pace with demand.

Climate-related pressures are becoming increasingly evident. Long-term monitoring shows the Gulf has warmed over recent decades, with marine heatwaves occurring more frequently and with greater intensity in recent years.[179] These events have been linked to temporary kelp loss, stress to benthic species, and shifts in species distributions, particularly when combined with existing pressures such as fishing and declining water quality.[95,179]

Land-based inputs continue to add further pressure. Increased sediment and nutrient loads influence coastal productivity and water quality, contributing to reduced water clarity, lower oxygen levels, and occasional harmful algal blooms in some nearshore environments.

Taken together, these signals point to a system responding to multiple interacting pressures across both land and sea.

Why it matters

These signals matter because they reveal changes in how the ecosystem is functioning, even while the Gulf remains biologically productive.

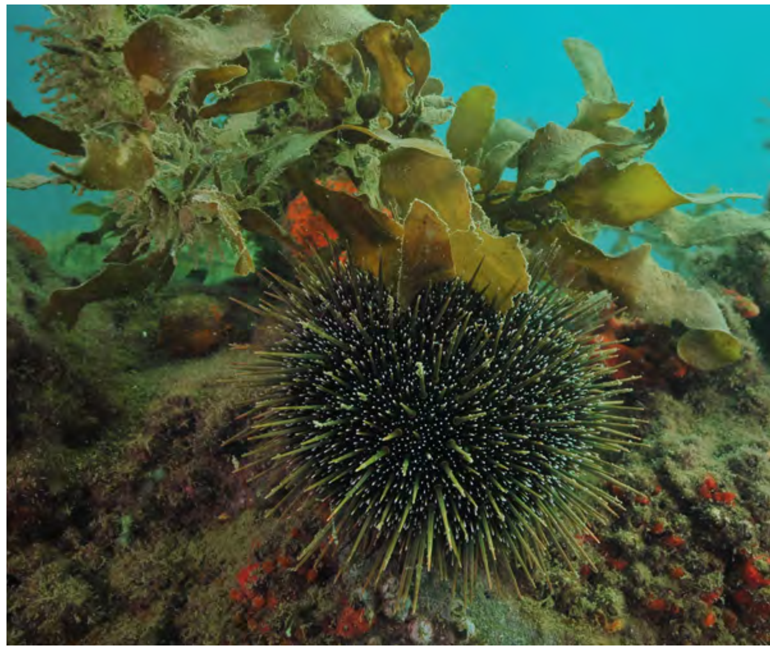
Kelp forests provide important habitat, support biodiversity, and contribute significantly to coastal productivity. Their replacement by kina barrens reduces habitat complexity and alters how energy moves through reef ecosystems. Evidence from marine reserves and protected areas shows this process can be reversed where predator populations recover, highlighting the importance of ecological balance within the system.

Changes in food web dynamics are also important because they affect the transfer of energy from plankton and forage species through to fish, seabirds, and marine mammals. Greater variability in prey availability can increase stress on predators, influence breeding success, and alter species behaviour over time.

Fish condition and growth provide another integrated measure of ecosystem health. Reduced condition or slower growth reflects the combined effects of environmental variability, food availability, and population pressure, linking changes at the base of the food web to outcomes higher in the ecosystem.

Climate change adds further complexity. Warming waters and marine heatwaves can influence habitats, productivity, and species interactions, but their effects are often intensified where ecosystems are already under pressure from fishing, sedimentation, and declining water quality.

Overall, these signals highlight the importance of restoring balance within the system, particularly between predators and prey, and between land-based pressures and marine ecosystem processes.



What the data shows

Reef ecosystems and trophic balance

Monitoring shows kina barrens are widespread across parts of the Gulf and are closely linked to reduced abundance of key predators such as kōura and large snapper.[130]

In marine reserves where predator populations remain intact, kina densities are lower and kelp forests are more extensive. Recent studies also show that reef recovery can occur in recently protected or recovering areas where predator populations rebuild, reinforcing the importance of management in restoring ecosystem function.[194]

Food web dynamics and predator responses

Data from seabirds, marine mammals, and ecosystem modelling indicate that while the overall structure of the food web remains intact, prey availability and foraging behaviour are becoming more variable over time.[49,84,90]

Rather than indicating a collapse in ecosystem productivity, these patterns point to increasing instability in how energy moves through the system and how species respond to changing environmental conditions.

Fish condition and growth signals

The occurrence of 'milky white flesh' syndrome in snapper provides evidence of periods of nutritional stress linked to lower plankton productivity and reduced food availability.[137]

Slower growth rates and smaller size-at-age observed in some fisheries are also consistent with increased competition for food and changing environmental conditions.[136]

Together, these indicators suggest ecosystem change is already influencing the biological performance of important fish species.

Climate and environmental drivers

Long-term observations confirm a warming trend across the Gulf, with marine heatwaves increasing in both frequency and intensity since the early 2010s.[179]

These events can affect habitat condition, species distributions, and ecosystem productivity, particularly when combined with other pressures already affecting the system.

Water quality and nutrient inputs

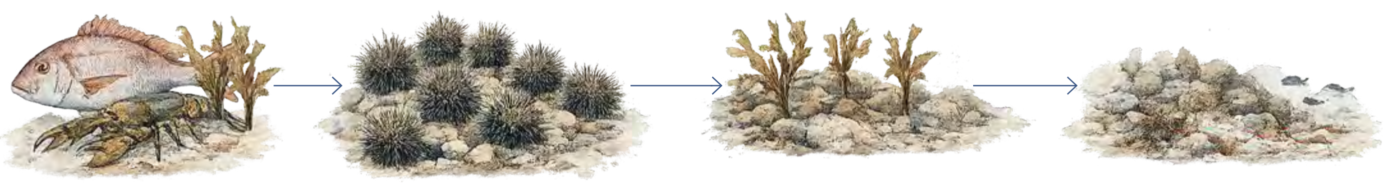
Evidence shows nutrient and sediment inputs from land continue to affect coastal water quality and ecosystem processes.

Increased nutrient enrichment contributes to algal growth, reduced water clarity, and localised oxygen depletion in some estuarine and nearshore environments. These changes influence lower trophic levels and can have cascading effects throughout the wider food web.

Together, these signals point to a system under pressure, where ecological impacts are becoming more visible and, in some cases, more frequent.

The challenge ahead is increasingly one of rebalancing the system: rebuilding predator populations, improving water quality, reducing land-based pressures, and strengthening resilience to climate variability so ecological function can be maintained and restored over time.

WHEN BALANCE IS LOST



Evidence from marine reserves and restoration projects shows that reef recovery can occur when predator populations rebuild and grazing pressure is reduced.

Case study

When the food web starts to shift

Marine food webs connect the entire Hauraki Gulf system, from plankton and forage fish through to seabirds, marine mammals, and fisheries species. These connections help regulate ecosystem function and provide an important signal of ecosystem health and resilience.

Evidence suggests the Gulf's food web is still functioning, but the balance within it is changing. Long-term studies point to shifts in ecosystem structure and energy flow, including reduced abundance of large predators and changes in where and how energy moves through the system.[84] These changes are linked to a combination of pressures, including fishing, habitat degradation, and climate variability.[49,90]

Small forage fish such as anchovy, pilchard, sprat, and jack mackerel play a critical role by transferring energy from plankton to larger predators.[131] When these species decline or become less available, impacts can ripple throughout the food web.

Recent observations suggest increasing stress within parts of the ecosystem. During the 2025–2026 breeding season, fluttering shearwaters experienced nest failure rates of around 50%, with birds travelling more than 200 kilometres from breeding colonies to find food.[53]

Other studies point to broader ecological shifts. Stable isotope analysis indicates long-term changes in seabird foraging habitats[84], while Bryde's whales appear increasingly influenced by changing ocean conditions and marine heatwaves, likely reflecting shifts in prey distribution.[49,53]

Taken together, these signals suggest a system that remains connected and dynamic, but is becoming more vulnerable to disruption as environmental pressures accumulate.

Similar signals are also emerging within fisheries species. Changes in snapper growth rates and the increasing occurrence of "milky flesh syndrome" may reflect shifts in food availability, ocean productivity, and ecosystem condition.

While the causes are still being investigated, these observations reinforce evidence from seabirds and marine mammals that changes in food web structure and productivity are affecting multiple parts of the Gulf ecosystem. Maintaining healthy food webs will be important if the Gulf is to continue supporting abundant and resilient marine life.

Indicator Group 5

Aquaculture and future food systems

Growing a different kind of harvest

What we're seeing

Aquaculture occupies a growing footprint within the Gulf and is expected to play an increasingly important role in future food production.

Shellfish farming is already well established across parts of the Gulf, particularly in the Firth of Thames and Coromandel. At the same time, new forms of aquaculture, including finfish farming and multi-species systems, are beginning to emerge alongside traditional marine farming operations.

As pressure on wild fisheries continues and demand for seafood grows, aquaculture is increasingly being positioned as part of the Gulf's future food system.

Why it matters

Aquaculture provides an alternative pathway for seafood production at a time when many wild fish and shellfish populations remain under pressure.

The Gulf is one of New Zealand's most significant shellfish aquaculture areas, with more than 40% of marine farming space under iwi-held consents.[148] Revenue generated through these operations supports health, education, employment, and wider social initiatives across Hauraki communities.

When well-sited and carefully managed, shellfish aquaculture can also provide environmental benefits. Mussels filter large volumes of seawater, removing particulate matter and nutrients from the water column while also creating habitat for wild species. This restorative potential is particularly relevant in the Firth of Thames, where water quality and nutrient enrichment remain significant concerns.

At the same time, aquaculture expansion introduces new environmental pressures and management challenges. The Firth of Thames already experiences sustained stress from sediment and nutrient inputs flowing from surrounding catchments. Increasing the intensity or scale of aquaculture within the system has the potential to add further pressure if not carefully managed.

The consent granted in 2023 for a large finfish farm within the Coromandel Marine Farming Zone[180] reflects this growing tension between economic opportunity, food production, and environmental limits. The project, led by Pare Hauraki Kaimoana on behalf of the 12 iwi of Hauraki, represents a significant shift in the scale and economic potential of aquaculture within the Gulf.

At full development, the 300-hectare multitrophic farm is projected to produce up to 8,000 tonnes of kingfish annually alongside mussels, sea cucumbers, sponges, and seaweed. While the project is expected to generate substantial economic returns and employment opportunities, it also has the potential to increase nitrogen inputs into the Firth of Thames.

This highlights a central challenge for the Gulf: aquaculture depends on healthy marine ecosystems and good water quality, yet future expansion must occur within a system that is already under pressure from cumulative land-based and marine impacts.

The consent framework attempts to address this through staged development, environmental monitoring requirements, and thresholds that must be met before expansion can proceed beyond initial stages.[180]

Clevedon coast oyster farm - Kauri Bay, Manukau, Auckland region, New Zealand

What the data shows

The Coromandel currently produces around 23% of New Zealand's Pacific oysters and 26% of New Zealand's green-lipped mussels annually[181], with the Gulf contributing approximately 25,000 tonnes New Zealand's total mussel output.[182] Together, these industries contribute an estimated $73 million in export revenue each year, alongside approximately $30 million in domestic sales.

Aquaculture activity within the Gulf is continuing to expand. Between 2022 and 2024, the consented shellfish farming area increased by around 25%, reaching almost 3,000 hectares.[181]

The Waikato Regional Aquaculture Strategy, Whakatupu Ngātahi (2024), sets a goal of doubling the region's aquaculture export value to $180 million by 2044. The strategy identifies the Coromandel as a key production area and acknowledges the Firth of Thames as important to existing operations, though also notes the need to address water quality from land-based sources.[147]

In 2025, Waikato Regional Council formally classified the Firth of Thames as a degraded water body through decisions on the Proposed Regional Coastal Plan.[10] The plan identifies land-based inputs as the primary driver of degradation and introduces stronger protections intended to limit further environmental decline.

Together, these trends point to aquaculture becoming an increasingly important part of the Gulf's future food system, while also highlighting the need to carefully balance economic development, ecosystem health, and long-term environmental resilience.

Key signals

Pressures

- Fishing pressure has reduced from historical highs, but remains concentrated on key inshore species.
- Fishing methods also shape the productivity and resilience of the Gulf.
- Sedimentation, habitat degradation, and climate-related pressures continue to affect species and ecosystems across the Gulf.

State

- Some species are rebuilding, while others remain depleted, collapsed, or closed to harvest
- Local ecological conditions do not always align with broader regional stock assessments.

Effects

- Ecosystem stress signals - including kina barrens, changing food web dynamics, and reduced fish condition - are becoming increasingly visible.
- Species such as tarakihi remain under target levels.
- Sedimentation and habitat degradation are reducing the ability of species and ecosystems to recover, with depleted shellfish beds, altered reef habitats, and declining water quality combining to slow ecological rebuilding.

Response

- Early signs of recovery are emerging where protection, restoration, and ecosystem-based management are in place.
- A move from single species management to ecosystem based fisheries management is forming.
- Aquaculture is becoming a more important part of the Gulf's future food system, while also introducing new environmental management challenges.

Bringing it all together

The food basket of the Gulf remains under pressure.

Some species are beginning to recover, while others remain depleted, closed to harvest, or ecologically diminished. Across the system, the signals point to a Gulf that is still productive and capable of supporting abundant life, but where pressure is still sustained, ecological balance has been altered, recovery remains uneven.

The condition of pātaka kai cannot be separated from the condition of the wider environment. Sedimentation, habitat degradation, water quality decline, climate variability, and fishing pressure all influence what the Gulf is able to provide.

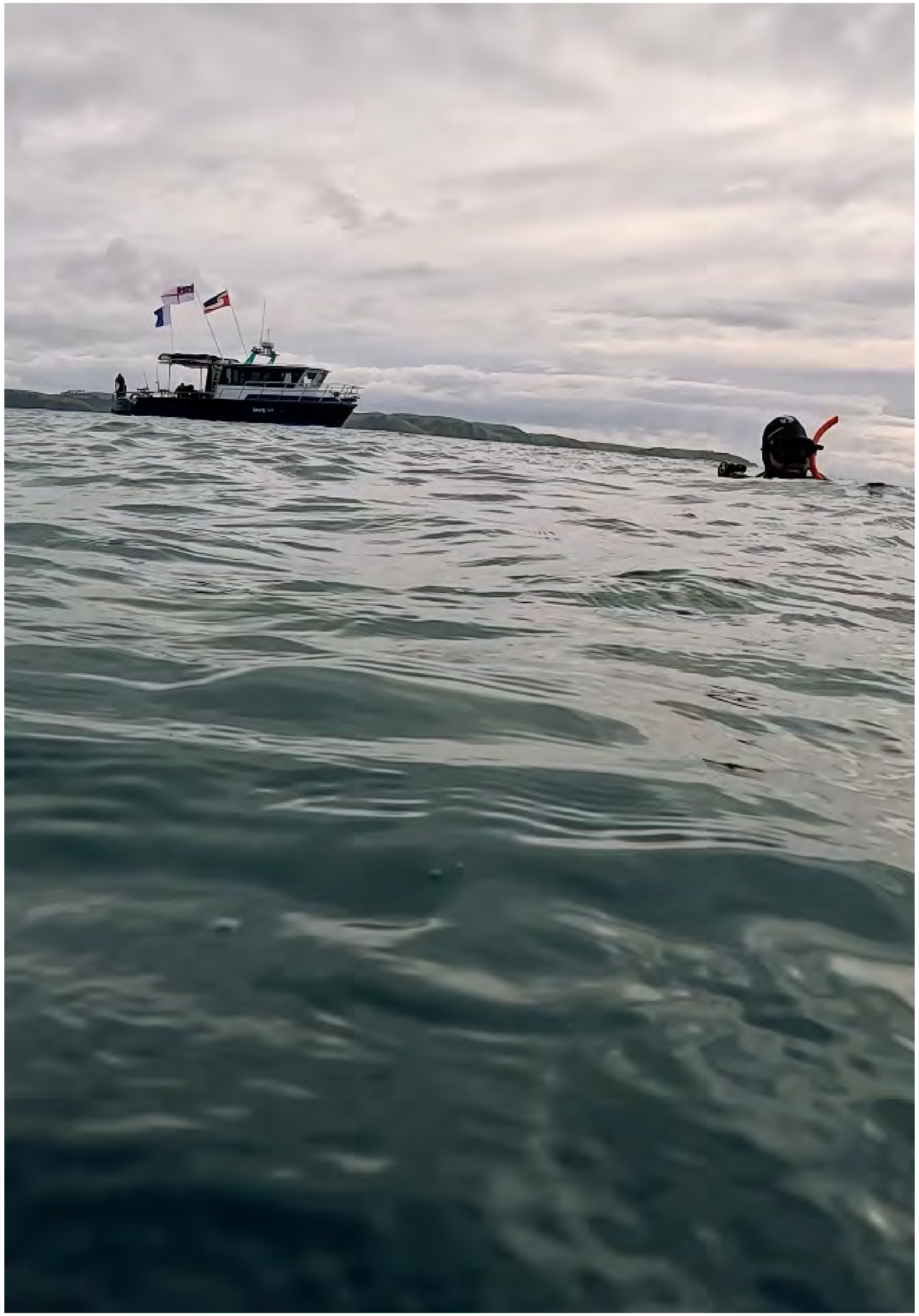
The 2023 Hauraki Gulf Fisheries Plan marked a shift toward ecosystem-based management, recognising that rebuilding stock biomass alone does not restore ecological function. Localised management models, including the Ahu Moana framework being developed for broader rollout beyond its current pilots, are testing new ways for mana whenua and communities to shape the rules governing their own coastlines.

A review of intertidal shellfish harvesting across the Gulf, a kelp restoration plan, and iwi-led rāhui closures represent further steps. Whether these interventions are sufficient, and timely enough, remains the central question.

From a te ao Māori perspective, this reflects a system where the ability to consistently gather healthy kaimoana and maintain customary relationships with the moana is becoming less certain in some areas.

Taken together, these indicators describe a system in a state of mauri heke, under pressure, but still capable of recovery where sustained protection, restoration, and coordinated management are maintained.

Mauri heke
Under pressure



Ngā take mātua, hei anga whakamua

Key insights and looking ahead

What is shaping the system, how it is responding, and what it provides

The pressures entering Te Tīkapa Moana are persistent and, in many places, still growing. Sediment, nutrients, and contaminants continue to move through catchments into rivers, estuaries, and the moana. The legacy of land use change and historical modification runs deep, and in many places the Gulf is still responding to damage that began generations ago. Water quality remains variable, often declining sharply after heavy rainfall. In sheltered harbours and the inner Gulf, these pressures are most concentrated and most visible.

At the same time, something else is visible. Across catchments and coastlines, communities, hapū, and councils are working to reduce what flows in. Riparian planting and wetland restoration are expanding. Investment in stormwater and wastewater infrastructure is increasing. This understanding is now more consistently reflected in how management decisions are made.

The response of the system tells a mixed story. On islands where predators have been removed and ecosystems actively managed, native species are returning and ecosystems are rebuilding. Tīeke are back on Rakitū after more than fifty years. Kiwi are returning to Waiheke. Hihi are breeding in record numbers on Tiritiri Matangi and being translocated to the mainland. These results reflect decades of sustained effort by hapū, iwi, volunteers, and agencies, and show clearly what is achievable when pressure is reduced and care is maintained.

In the broader marine environment, the picture is more difficult. Marine habitats remain under pressure. Reef systems are recovering in some areas as predator populations slowly rebuild, but kina barrens still cover nearly half of monitored reef sites. Seagrass, shellfish beds, and soft sediment habitats remain degraded or variable across much of the Gulf. Marine pests including exotic Caulerpa have continued to spread and are now established in multiple locations.

The pātaka kai that sustained generations is under significant pressure. Kōura remain depleted, tipa are largely absent, tuangi are recovering unevenly, and tāmure are rebuilding in some areas but still scarce in the inshore environments where gathering has always mattered most.

For mana whenua, this is felt not only through population data but through the diminished ability to gather kaimoana and the break in the relationships that sustained that practice across generations.

Across all three pou, these threads are connected. Pressures shape the condition of the system, the condition of the system influences what it can provide, and those effects are experienced by ecosystems, species, and people. Recovery in one part of the system can support recovery elsewhere. The overall mauri of Te Tīkapa Moana is mauri heke, a system still showing signs of decline, with recovery emerging where protection and active management are sustained.

What this means

The evidence points to a system that can recover, but will not recover on its own. The pressures are cumulative and connected, and the response needs to be too. Reducing land-based inputs, rebuilding fish populations, restoring habitats, and supporting the return of mauri all depend on sustained action across the whole system.

Recovery takes time. In some catchments, the Gulf is still responding to pressures that accumulated over decades. Improvements in water quality, species abundance, and habitat condition often lag behind the actions that enable them.

This is not a reason for reduced effort. It is a reason for sustained effort, across more of the system, over a longer horizon.

Where effort is needed

The clearest priority is managing the whole system. Land, freshwater, and marine environments are connected, and the pressures entering the Gulf reflect what is happening across catchments. Greater coordination between agencies, councils, iwi, and communities, and a sustained focus on reducing what flows into the system, will be essential.

Alongside this, the restoration and recovery work that is already demonstrating results needs to expand. The gains on predator-free islands show what is possible. Rāhui, marine protection, and active habitat restoration are all building evidence of recovery. Scaling these efforts and connecting them across the system is the challenge for the years ahead.

Fishing pressure, seabed disturbance, and harvest management remain central to restoring the food basket. Recent management changes, including the 2023 Hauraki Gulf Fisheries Plan and the Gulf / Tīkapa Moana Marine Protection Act 2025, have shifted the management settings. The question now is whether the system is given the time and space to respond.

Looking ahead

The trajectory of the Gulf is not fixed. Understanding of how this system works is stronger than it has ever been. Whether that understanding translates into consistent, sustained action is the question that matters most.

It means maintaining a long-term view, working across boundaries, and continuing to learn from monitoring, science, and the lived knowledge of those who know this moana most intimately.

View of Port Jackson, Coromandel Peninsula, New Zealand

The Gulf remains under pressure, but there are now clearer and more coordinated efforts to respond.

He kōrero pūmanawa

Closing reflections

In preparation of this report we have journeyed maunga ki te moana.

Along the way, people spoke about their relationship to the ngahere that harness the catchments, about shielding the fundamental intertidal micro-communities living along rocky coastlines, suffering in the warming waters, sedentary and vulnerable. They also spoke of the many motu where birdlife is welcomed back after decades of absence.

This report is a celebration of human observance and connection with te taiao o te Tīkapa Moana, Te Moananui-ā-Toi.

Their voices are a tiny fraction of those caring for the Gulf. People who guard and restore it with a determination that only those who know it well can.

They spoke of how inseparable seabirds like the tākoketai / taiko are from the ngahere, just as the tāmure and the kōura are from the reefs. It is deeper than just a system. It is whakapapa.

By managing the Marine Park as separate elements, we have lost and are losing core parts through the gaps. Rimurimu / seaweed. Kūtai / mussels. Tipa / scallops. This is how it has been, and that fragmented approach has made it difficult and expensive to mend.

This is the eighth State of our Gulf report the Forum has produced. The first was published in 2004. Each one since has presented layers of data and supporting evidence, through mātauranga Māori and western science alike, bearing witness to the same direction of travel. We are not short of information. We are short of pace and scale of action.

In this report we have brought the human experience to the surface. It is unapologetic in its presentation of views from mana whenua and communities, seeking to add weight to evidence already offered over the years. Fisheries closures and new management tools, marine protection (the first in a generation), and increasing use of rāhui signal that change is occurring. This report calls for more ambitious and determined decisions and actions from all who have responsibility to restore this place.

We are presenting, throughout this report, that recovery is possible. Where pressures have been reduced and long-term management has been maintained, ecosystems and wildlife have responded. The islands demonstrate this clearly. Mauri can replenish. It is not a fixed state.

The conditions for recovery must now be created and maintained at scale. Restoration on islands cannot substitute for restoring the broader marine environment, and reducing pressure in one area cannot compensate for degradation in another. Recovery across the Gulf requires a response that is just as connected as the system itself.

Kaua e rangirua te hāpai o te hoe, e kore tātou waka e ū ki uta.

We will only reach the shore if we paddle together as one.

For tangata whenua, the obligation to care for Tīkapa Moana, Te Moananui-ā-Toi is not contingent on conditions being right or resources being available. It is grounded in whakapapa and expressed through kaitiakitanga across every generation. This has always been here. It is the kind of intergenerational resolve that a wider response to the Gulf's condition needs to reflect.

It is energising to see a national public conversation emerging on the impact of bottom trawling - discourse that is echoed globally. It supports a long-standing goal of the Forum for the removal of damaging fishing practices in the Gulf. Nearly 40% of Marine Park coastline now sits beside kina barrens, a direct consequence of the long-term removal of reef predators. Restoring the seafloor is not a distant ambition. It is an active, measurable goal.

When fisheries are closed due to the depletion of catch, this can only be seen as rock-bottom. Both Gulf scallop fisheries have been closed since 2022–23. Kōura remain at less than 10% of the biomass seen on neighbouring marine reserve reefs. It shouldn't take collapse to change the settings, but it has set alarm bells ringing for everyone.

The Hauraki Gulf Tīkapa Moana Marine Protection Act 2025 brought high protection to around 6% of the Gulf. The Forum's goal is 30% by 2030. Reaching it will require the tools in that Act to be fully developed and applied, and the momentum of recent years to be sustained and accelerated. The recent movement is the most significant since the Marine Park was designated and the Forum got started in 2000. But 6% is not 30%.

The mauri of Te Tīkapa Moana remains mauri heke, a catchment under pressure. The last report described this same trajectory. This report confirms it has continued.

What happens next will be shaped by the choices made now, and whether the next report can finally describe a turn, not a continuation of decline.

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Hauraki Gulf Forum
Tīkapa Moana
Te Moananui-ā-Toi

Under the Hauraki Gulf Marine Park Act 2000 the Hauraki Gulf Forum is required to prepare and publish, once every three years, a report on the state of the environment in the Hauraki Gulf, including information on progress towards integrated management and responses to prioritised strategic issues.

The Hauraki Gulf Forum is a statutory body charged with the promotion and facilitation of integrated management and the protection and enhancement of the Hauraki Gulf / Tīkapa Moana. The Forum has representation on behalf of the Ministers of Conservation, Oceans & Fisheries and Māori Development, elected representatives from Auckland Council (including the Aotea Great Barrier and Waiheke local boards), Waikato Regional Council and the Waikato, Hauraki, Thames-Coromandel and Matamata-Piako district councils, plus six representatives of the tangata whenua of the Hauraki Gulf and its islands.