AT A GLANCE State of our Seabirds 2021

Seabird ecology, research and conservation for the wider Hauraki Gulf / Tīkapa Moana / Te Moananui-ā-Toi region

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Te Ora o ā Tātou Manu Moana 2021

Te mātai hauropi o te manu moana, te rangahau me te mahi whāomoomo ki te rohe whānui o Tīkapa Moana me Te Moananui-a-Toi.

Kei wareware hoki ki te tūmatangaingai Te mana hoki o te Takareko, o te Mumuhau Ko ngā manu kōrero, ngā manu arataki I taru tere mai ngā mātua tūpuna

Lest we forget to ignite The force of Takareko and Mumuhau Supernatural birds that guided The ancestors swiftly to these shores - Waiata by Dr Korohere Ngapo, Pare Hauraki



Our ocean's Sentinels

Seabirds themselves reflect the health of our oceans and pass this knowledge on to those of us who watch over them. Their health and resilience relies on the health of the oceans, but they also play a pivotal role in nurturing and maintaining this. By simply existing, seabirds link the oceans to the land and in doing so enable the land to feed the oceans. Theirs is a vital role, and when we listen, they can tell us when these interconnected relationships are degrading or are broken. They are sentinels to changes in the environment, and can act as indicators of those changes, if we do our duty and pay attention.

Ngā hēteri o te moana

FOREWORD

He au here Toroa whai mai ra ki au

– Pātere o Ngātiwai¹

The Hauraki Gulf, Tīkapa Moana, Te Moananui-ā-Toi is a place of striking seabird diversity. With its combination of multiple predator-free breeding sites on islands, and productive waters close to seabird colonies, the Hauraki Gulf region is a globally significant seabird biodiversity hotspot. This is remarkable given its proximity to the country's largest city.

However, as this important report demonstrates, far too many of our seabirds remain under threat or, in the case of tara-iti / New Zealand fairy tern, at dire risk of extinction.

It is not hard to see why. For some species, their threats come from the land: from predators like rats, stoats, wild cats, and pigs; through loss of habitat and encroaching urban development; and sadly, the behaviours of some who disrespect our indigenous wildlife. But it is at sea where conditions are perhaps changing fastest, with once productive feeding grounds under serious pressure from commercial and recreational fishing. While some gains have been made to reduce the threat of seabirds being caught as by-catch while foraging, the depletion of food in the nearby marine environment is having a significant impact. With all of this, and the increasing impacts of climate change, our seabirds are telling us that a perfect storm is brewing.

This State of Our Seabirds 2021 report lifts the lid on those pressures and offers us more insight and knowledge than ever before of the true state of our manu o te moana. Contributors to this report include experts working across a wide range of research and conservation projects, among them three Hauraki Gulf Forum Holdaway Award recipients and young researchers in the early stages of their careers.

Crucially, the report points to clear steps we need to urgently take to change the perilous trajectory and to help our seabird populations recover and then thrive. This can only happen through the holistic restoration of Hauraki Gulf food webs coupled with marine protection measures that recognise highly mobile marine species such as seabirds, along with marine mammals and pelagic fish.

One thing that is often underappreciated about our seabirds is their crucial importance to the overall health of our forests. Their nutrients power coastal vegetation and the near-shore marine environment, as we see around our least disturbed islands. Without them, that land/sea interface starts to break down. It is incumbent on all of us to do everything we can to ensure our seabirds have safe places to call home in the Marine Park and that they have plentiful feeding grounds.



Nicola MacDonald (Co-Chair) Tangata Whenua



¹*This pātere denotes the freedom one finds within oneself through being with nature and* illustrates the long-range flight and beauty of the albatross that follows the currents on the sea in search of new horizons. Interpretation by Nicola MacDonald, Ngātiwai, Ngāti Rehua.

"The current on the horizon links me to the albatross, and says follow me"

Pippa Coom (Co-Chair) Auckland Council



HE WHAKARĀPOPOTO He taonga te pātaka kai o Tīkapa Moana i Te Moananui-a-Toi.

Ko te mauri te iho o te toiora o ngā mea katoa. Koia te orokohanga o te ao mataora, o ngā matū hoki. He mauri tō ngā mea katoa o te ao. Ka rongo tātou i te mauri, ā, ka rongo hoki te mauri i te pānga o tātou te tangata, otirā, ko te ao tukupū te whakatinanatanga o ērā āhuatanga katoa. He mauri tō ngā mea katoa. Ka whakahekea te mauri, heoi anō, ka taea hoki te whakarauora mai anō. Kei te rongo tātou katoa i te pānga o te mauri. He rite te mauri ki te hau- kāore e āta kitea ana, engari ka rangona ngā piki me ngā heke.

Ko ngā manu moana te mauri o Tīkapa Moana e tūhono ana i ngā wai me te whenua – e rere ana i runga i ngā hau.

Ka ora ana ngā manu moana, ka ora te Moana, ka ora anō ko tātou. Ka mārama ana tātou ki te noho o ngā manu ki runga i whenua me te moana, ka āhei tātou ki te arotake i ngā huringa o te taiao o Tīkapa Moana.

Ka kitekite noa tātou i ētahi o ngā manu moana o te rohe i ia rā, ko ētahi anō ka kitea i ngā mahi moana anake. Otirā, kei Tīkapa Moana ētahi manu moana kāore e tino kitea e te nuinga o tātou. Kāore hoki e āta mōhiotia ana. E rua tekau mā whitu ngā momo manu moana e whakawhānau pīpī ana ki te rohe whānui o Tīkapa Moana.

Ko ngā manu moana te whakatinanatanga o te mauri o te Moana – e tūhono ana i ngā wai ki te whenua – e rere ana i runga i te hau. Ka kite ana tātou i te ao mā ngā karu o te manu moana, ka puta mai he ara hou, he mahi rangatira hoki – kātahi ka āta kitea ngā hononga whakahirahira. Ahakoa kua whakahekea te mauri, ka taea te whakarauora anō. Nā ngā manu rangatira nei ngā iwi tuatahi i ārahi i Te Moananui-a-Kiwa ki tēnei whenua, ki Aotearoa, ā, mā ngā manu anō tātou e ārahi i roto i te whakarauoratanga nui mai o Tīkapa Moana, o tō tātou oranga anō – i ā tātou ake mahi tonu.



Pakahā / fluttering shearwaters with Te Hauturu-o-Toi / Little Barrier Island beyond. Photo by Edin Whitehead.

SUMMARY

Ko te pātaka kai o Tīkapa Moana Te Moananui-ā-Toi, he Taonga / The food cupboard of Tikapa is special.

Mauri is the life force in all things, the genesis of the living and non-living, all elements in the world have Mauri – Mauri impacts on us and we impact on it in the manifestation of the universe as it is observed. Everything has its own Mauri. Mauri can be diminished and it can be restored. We can all sense and see the effects of Mauri. Like the wind, we can't see the wind but we can see its impact as it rises and falls.

Seabirds embody the spirit of Mauri of our Hauraki Gulf, seamlessly linking its waters and the land, riding the winds. Their health and well-being reflect the Gulf's health and our interconnected wellbeing. Our understanding of their lives both on land and at sea allows us to evaluate changes in the Gulf's environment.

Some of the region's seabirds we see in our daily lives, others are familiar from time spent on the water. But there are seabirds that inhabit our Gulf many of us don't get to see, or even know they exist. Twenty-seven seabird species breed within the wider Hauraki Gulf region.

The report

This report complements the Hauraki Gulf Forum's three-yearly state of the environment reporting required under the Hauraki Gulf Marine Park Act (2000). The **State of Our Gulf 2020** State of the Environment Report painted a bleak picture, with headlines such as 'Crayfish in peril', 'Tarakihi just hanging in there' and 'Proliferation of kina barrens'. The ailing health of Auckland and Waikato's big blue backyard (the Hauraki Gulf Marine Park) was laid bare.

Contributions for this State of Our Seabirds 2021 report have been invited from multiple authors to cover topics chosen to provide as comprehensive an overview of the current state of the region's seabirds as possible, highlighting recent research and the efforts to protect them.

This is a report in four parts:

- 1. Seabirds and their world.
- 2. A living laboratory.
- 3. What the seabirds are telling us.
- **4.** What are we doing? How well are we doing? Looking to the future.



New Zealand storm petrel on forest floor, Te Hauturu-o-Toi / Little Barrier Island. Photo by Edin Whitehead.

Seabirds and their world

Our region ranks highly compared to similar sites of international seabird importance in terms of species diversity and endemicity (e.g., New Zealand's subantarctic islands). The wider Hauraki Gulf region and many of its islands are recognised as globally important. Five species are endemic to the region meaning they breed nowhere else in the world – tākoketai / black petrel, tītī / Pycroft's petrel, rako / Buller's shearwater, New Zealand storm petrel and tara-iti / New Zealand fairy tern. This regional species endemism equals that of entire countries, those second to Aotearoa New Zealand ^[1]. The region also includes significant populations of other species – ōi / grey-faced petrel, tītī / Cook's petrel, pakahā / fluttering shearwater, tākapu / Australasian gannet, toanui / flesh-footed shearwater, northern little shearwater and takahikare-moana / white-faced storm petrel.

Ngā Poito o te Kupenga o Toi te Huatahi / the floats of the fishing net of Toi te Huatahi makes reference to the many islands of the region^[2] that are seabird breeding grounds. Seabirds, when foraging, range widely across regional boundaries. Seabirds that breed on the Poor Knights, Taranga / Hen and the Marotere / Chickens Islands are commonly seen foraging within the wider Hauraki Gulf region. The region is also visited by seabirds from further afield. It is because seabirds forage across regional boundaries that seabird conservation and the research that underpins it needs inter-regional collaboration.

The Gulf's seabird diversity is mirrored by the numerous ways they utilise the region's dynamic marine environment, from estuaries and harbours to coastal waters, deeper shelf waters, to the edge of the continental shelf and deep pelagic waters far from land. Oceanic influences regulate east Northland and Gulf waters, a system of rich nutrient flows across the continental shelf and through its myriad of islands. This is where our seabirds find their food.

The islands where seabirds breed benefit from the marine nutrients they bring to land and are home to precious terrestrial fauna – land birds, reptiles and invertebrates. Seabirds are the start of a cyclical process whereby they gather food at sea, their presence feeds the land, and the land in turn feeds the nearshore marine environment, the sea.

A living laboratory

There is the need to provide a greater focus on how Te Moananui-ā-Toi / Tīkapa Moana / Hauraki Gulf is viewed through a Te Ao Māori lens. There is a mosaic of checks and balances that determine how the world is seen through Māori eyes and how that world is shaped in addressing these. There is a mingling of the spiritual and existential that calls for careful nurturing of all things animate and inanimate.

With checks and balances in mind, what makes the Gulf a hotspot for working with seabirds to study marine ecosystem changes? There is a diversity of seabird species with accessible predator-free breeding colonies so research can be directed onto seabirds' responses to changes in the marine environment. There's a concentration of research expertise, and tangata whenua, public and institutional support. There are also overlaps with a range of pressures, from both commercial and recreational fisheries and their impacts both direct and indirect; from sedimentation and an overload of nutrients; from pollution (plastics, artificial light at night); and climate change. All this adds up to a perfect system in which to utilise seabirds as indicators of change in the marine environment at different spatial and temporal scales.

In these kinds of reports, seldom do we get an insight into the people involved, but personal statements from two researchers who've dedicated years to long-term seabird studies highlight the value of taking the long view, and the challenges and rewards that come with this work. While some long-term studies in Aotearoa New Zealand have the benefit of institutional support, it comes back to the dedication of individuals' inquiring minds and tenacity around fieldwork to keep these vital studies running.

With seabird science we see a balancing of the innovative, cutting edge and traditional methods. And an acceptance of the privilege to be working in this very special environment.

What are the seabirds telling us?

The overall picture for Hauraki Gulf seabirds is concerning. Historically there have been huge losses of seabirds from the Gulf, although recent protection of breeding habitat on islands has arrested declines and promoted population increase for some, primarily pelagic migratory species, albeit at levels far below their former abundance. So there have been gains, and one is spectacular. The discovery of a species previously thought to be extinct, the New Zealand storm petrel, breeding on Te Hauturu-o-Toi / Little Barrier Island, a mere 50 kms from downtown Tāmaki Makaurau / Auckland is certainly that.

But many populations of resident seabirds remain in a poor state because of our devastation of the Gulf's food webs through overfishing and habitat damage. Tara-iti / New Zealand fairy terns are but a few wing beats from extinction with only 39 individual birds, maintained only through intensive management from a dedicated team. The Hauraki parekareka / spotted shags are not far behind, hanging on in three small colonies. Some inshore specialists (terns, gulls and shags) are seeing declines, and/or redistribution of nesting sites as species such as tākapu / Australasian gannet adapt to changes in prey distribution. Tākoketai / black petrel and toanui / flesh-footed shearwater are two species that are highly by-caught in fisheries, the latter by both recreational and commercial fisheries.

To get a measure on this roller coaster of highs and lows we turn to the birds to tell us what is going on in their lives, how they are adapting to changes in their environments. The people doing this work balance their time in the field, making observations, getting to know their subjects and the environment they inhabit, deploying tracking devices and downloading data, collecting samples, collating data and running analyses, drawing interpretations and conclusions.

What are we doing? How well are we doing? Looking to the future.

Threats to seabirds include, invasive species (mainly predators), fisheries (both direct and indirect effects), pollution, disease, climate change (including an increase in storm events and toxic algal blooms, and prey shifting), and direct human effects such as disturbance on land and in the water ^[1].

Above all else we must hold on to the gains we have made and enhance these where possible. The roll out of pest eradications across the outer Gulf has seen islands revitalised. Not only for seabirds, but also other fauna and flora – the land birds, reptiles, invertebrates and vegetation. These precious island refuges must be protected against reinvasion.

Across the region there are an increasing number of community groups factoring seabirds into their restoration plans, recognising the ecological gains that can be made. While restoring ecosystem resilience is a gradual process, the lessons we learn from islands with seabirds untouched by introduced predators, and those now recovering after predator removal, highlight the importance of this restoration approach.

In 2013 the Hauraki Gulf Forum commissioned and published **Seabirds of the Hauraki Gulf**, a strategic plan. A check against the plan's recommendations ticks off research and conservation achievements in the eight years since. But reviewing that plan also highlights the need for a more cohesive, wellresourced strategic approach for the future.

Revitalising the Gulf – the Government's response to the Sea Change Plan makes headway in some areas of marine conservation, for example, protection of benthic habitats around reefs and islands, and some potential restrictions on bottom trawling. Seabirds are rarely incorporated in marine spatial planning, despite their visual and abundant presence across Gulf ecosystems, at times overwhelmingly dominant. That is, aside from recognising fisheries by-catch for select few species and recommending more research.

Conservation issues are exacerbated for seabirds and other large marine predators that have transboundary ranges, in particular migratory species that move between habitats. The lack of at-sea protection measures for seabirds in the Hauraki Gulf must be addressed, given that many populations are at risk due to high human-induced mortality. While ongoing monitoring of seabirds in the Gulf is necessary to identify critical foraging habitats in time and space, we have enough knowledge to manage commercial and recreational activities within some spaces appropriately.

This report – *State of our Seabirds 2021* – champions the potential of seabirds as sentinels for change in the marine environment. For example, an integrative approach to seabird biology can help realise the immense potential these species have as indicators of ocean change. It will increase the efficacy of conservation efforts in a rapidly changing world where conservation programmes are often fiscally constrained. To be effective, we need to be ahead of the game and get to a stage where we can forecast change and monitor an early warning system. Seabirds are attuned to the natural world on a global scale, a world that we are rapidly losing touch with.

We need to be able to measure progress in our understanding of the region's seabirds and Te Moananui-ā-Toi / Tīkapa Moana / Hauraki Gulf through their eyes. This report closes on a set of measures or indicators to be evaluated in five and ten years.

Seabirds embody the spirit of Mauri of our Gulf, seamlessly linking its waters and the land, riding the winds. By seeing our world through their eyes, we have the opportunity, and privilege, to bring these connections to the fore. As Mauri can be diminished, it can be restored. As our seabird taonga guided the first peoples across the Pacific to this land, Aotearoa, they can help guide us to a future where the Gulf's health and our interconnected wellbeing are greatly enhanced by our actions.

