Ngā mahere whakaurutau mō te takutai

Shoreline Adaptation Plan

Pākiri to Mathesons Bay / Te Kohuroa

Volume 2: Introduction to the SAP area

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As set out in ***Volume 1: Understanding the Shoreline Adaptation Plans***, adaptation planning is an ongoing process, with SAPs being a collective first step towards an adaptive approach for the future of our coast for current Aucklanders and the generations to come. Reflecting on this, SAPs operate as living documents, with a strong commitment to continue working in partnership with project partners to inform and guide the implementation of each SAP area plan and further adaptation planning actions. As a living document, future revisions can be made to include additional context as/ when requested (e.g. as per cultural context holding statements illustrated in section 3.0).

Mātauranga Protection Statement (Disclaimer)

Auckland Council acknowledges that all cultural information within this document is the intellectual property of iwi who have contributed to the development and co-authoring of this Shoreline Adaptation Plan (SAP). To ensure the protection of Mātauranga Māori, cultural information must not be recirculated to other workstreams without direct consultation with and approval by iwi, to whom this information belongs and how it can be used.

To ensure that cultural values and associations are recognised and provided for in any works programme, it is fundamental that this partnership and co-management approach with the iwi of Tāmaki Makaurau is applied to each specific coastal stretch when implementing the direction set out in this SAP. Failure to do so has the potential to result in significant adverse cultural impacts.

Early and meaningful engagement with the relevant iwi groups on projects under this SAP is an essential requirement. This will ensure that Auckland Council and Auckland Council-owned organisations meet their obligations to Ngā Mana Whenua o Tāmaki Makaurau and Te Tiriti o Waitangi. Iwi must be given the opportunity to act in their role as Kaitiaki when implementing projects under this SAP.

Figures

Tables

Quick Reference

The Shoreline Adaptation Plan (SAP) programme is presented across three volumes of reporting:

- **Volume 1:** Understanding the Shoreline Adaptation Plans - programme and regional scale context
- **Volume 2:** Shoreline Adaptation Plan area specific overview – subregional scale (across 20 SAP areas)
- **Volume 3:** Unit (and stretch) context and adaptation strategies set for each section of Auckland's 3,200 km of coastline.

Glossary

Key terminology and infographics commonly used within this volume and all of the shoreline adaptation plan documents are outlined below.

Term	Definition
Adaptive planning	• Adaptive planning encompasses the hazard assessments, the values and objectives and the vulnerability and risk assessments that feed into the dynamic adaptive pathways planning approach, and the measures to implement them through the Resource Management Act 1991, Long-Term Plans, asset plans and other Auckland Council plans, along with the monitoring framework for review and adjustment (Ministry for the Environment, 2024).
Annual Exceedance Probability (AEP)	• The probability of an event occurring in any given year, e.g. the 1% AEP has a 1% chance of being met or exceeded in any given year.
Biodiversity Focus Area (BFA)	• Prioritised areas of ecological significance that guide a delivery of conservation activity and were identified as they protect a representative range of all indigenous species and ecosystems within the region.
Catchment flooding	• Flooding which occurs when the amount of rainfall exceeds the capacity of an urban stormwater network or the ground to absorb it.
Climate hazard	• The potential occurrence of climate-related physical events or trends that may cause damage and/or loss.
Coastal erosion	• The removal of the material forming the land due to natural processes, resulting in the coastline moving inland over time.
Coastal inundation	• The flooding of low-lying coastal land that is normally dry, due to elevated sea levels.
Council-controlled organisation (CCO)	• Organisations in which Auckland Council has the responsibility to appoint at least 50% of the board of directors or trustees. Auckland Council has four substantive CCOs: Auckland Transport, Tātaki Auckland Unlimited, Eke Panuku Development Auckland, and Watercare.
Council	• Auckland Council
Cultural Heritage Inventory (CHI)	• An Auckland Council database which contains records for archaeological sites, historic buildings, historic botanical sites, shipwrecks, and other places of heritage interest in the Auckland region.
Dynamic Adaptive Pathways Planning (DAPP)	• A decision-making approach to analyse the flexibility of options and pathways under conditions of uncertainty using scenarios for stress testing options and monitoring of signals and triggers for anticipatory planning (MfE).
Exposure	• The nature and degree to which a system is exposed to significant climate variations.
Hazardscape	• The net result of natural and man-made hazards and the risks they pose to an area.

Term	Definition
Indigenous biodiversity	• A living organism that occurs naturally in Aotearoa, and the ecological complexes of which they are part of – this includes all forms of indigenous flora, fauna, fungi, and their associated habitats.
Nature-based solution	• A collection of approaches to address societal issues, including climate change, through the protection, management, and restoration of ecosystems.
SAP	• Shoreline Adaptation Plan
SAP area	• An identified area for the purposes of the SAP development of Shoreline Adaptation Plans. There are 20 SAPs for the Auckland region.
SAP stretch	• Each SAP unit is typically broken down into smaller stretches considering coastal processes, Auckland Council-owned land and asset location, pubic-land boundaries, and infrastructure considerations.
SAP unit	• The SAP area is divided into smaller SAP units to enable a more detailed and comparative view of how risk is attributed across the subject area.
Sea-level rise	• The increase in the level of the ocean, caused by the melting of glaciers and ice sheets and thermal expansion of water as it warms.
Significant Ecological Area	• Significant Ecological Areas (SEAs) have been identified by the Auckland Unitary Plan (AUP: OP) for terrestrial areas, and parts of the coastal marine area. **Marine Significant Ecological Area (SEA-M):** • Identified areas of important indigenous vegetation or habitats of indigenous fauna located in the coastal marine area, and are afforded protection under the AUP:OP. **Terrestrial Significant Ecological Area (SEA-T):** • Identified areas of important indigenous vegetation or habitats of indigenous fauna located on land or in freshwater environments and are afforded protection from the adverse effects of subdivision, use and development.
Site and place of significance to Mana Whenua	• Sites and Places of Significance to Mana Whenua applies to sites and places in the Tāmaki Makaurau/ Auckland region that are protected for their significance to mana whenua. It acknowledges that sites and places have tangible and intangible cultural values in association with historic events, occupation, and cultural activities.
Statutory Acknowledgement Areas (SAA)	• A statutory acknowledgement is an acknowledgement by the Crown that recognises the mana of a tangata whenua group in relation to specified areas - particularly the cultural, spiritual, historical, and traditional associations with an area.
Social Infrastructure	• Facilities and assets that support social activities, interactions, and wellbeing within a community.

Shoreline Adaptation Plan Areas

Tāmaki Makaurau, Auckland, is a coastal city, bounded to the east and west by the South Pacific Ocean and the Tasman Sea. The region has around 3,200 km of dynamic coastline and encompasses three major harbours: the Kaipara, Manukau and Waitemata. Due to its location, much of the city's urban development and supporting infrastructure is concentrated in coastal areas and exposed to coastal processes such as erosion and inundation. These natural processes are considered hazards when they impact on things or locations of value. Climate change related to greenhouse gas emissions is contributing to rising sea levels, which have a range of impacts including increasing the frequency and magnitude of coastal hazard events. Auckland Council began developing a series of Shoreline Adaptation Plans (SAPs) in 2021. These area-based plans form the first step for the SAP programme in achieving a resilient future for Auckland's coasts. A more detailed discussion on the Shoreline Adaptation Plan Program can be found in *Volume 1: Understanding Shoreline Adaptation Plans*. Twenty SAPs make up Auckland's ~3200 km of coast as follows:

- Aotea Great Barrier and the Hauraki Gulf Islands
- Āwhitu
- Beachlands and East
- Central Auckland
- Highbrook to Whitford
- Kaipara Harbour Moana
- Manukau Harbour East
- Manukau Harbour North
- Manukau Harbour South
- Orakei to Tahuna Torea
- Pahurehure Inlet
- Pākiri to Matheson Bay
- Snells Beach to Orewa
- Tamaki Estuary
- Ti Point to Sandspit
- Waiheke Island
- Waimanawa Little Shoal Bay mini SAP
- Waitemata Harbour West
- Weiti Estuary to Devonport Peninsula
- Whangaparāoa
- Whatipu to South Head

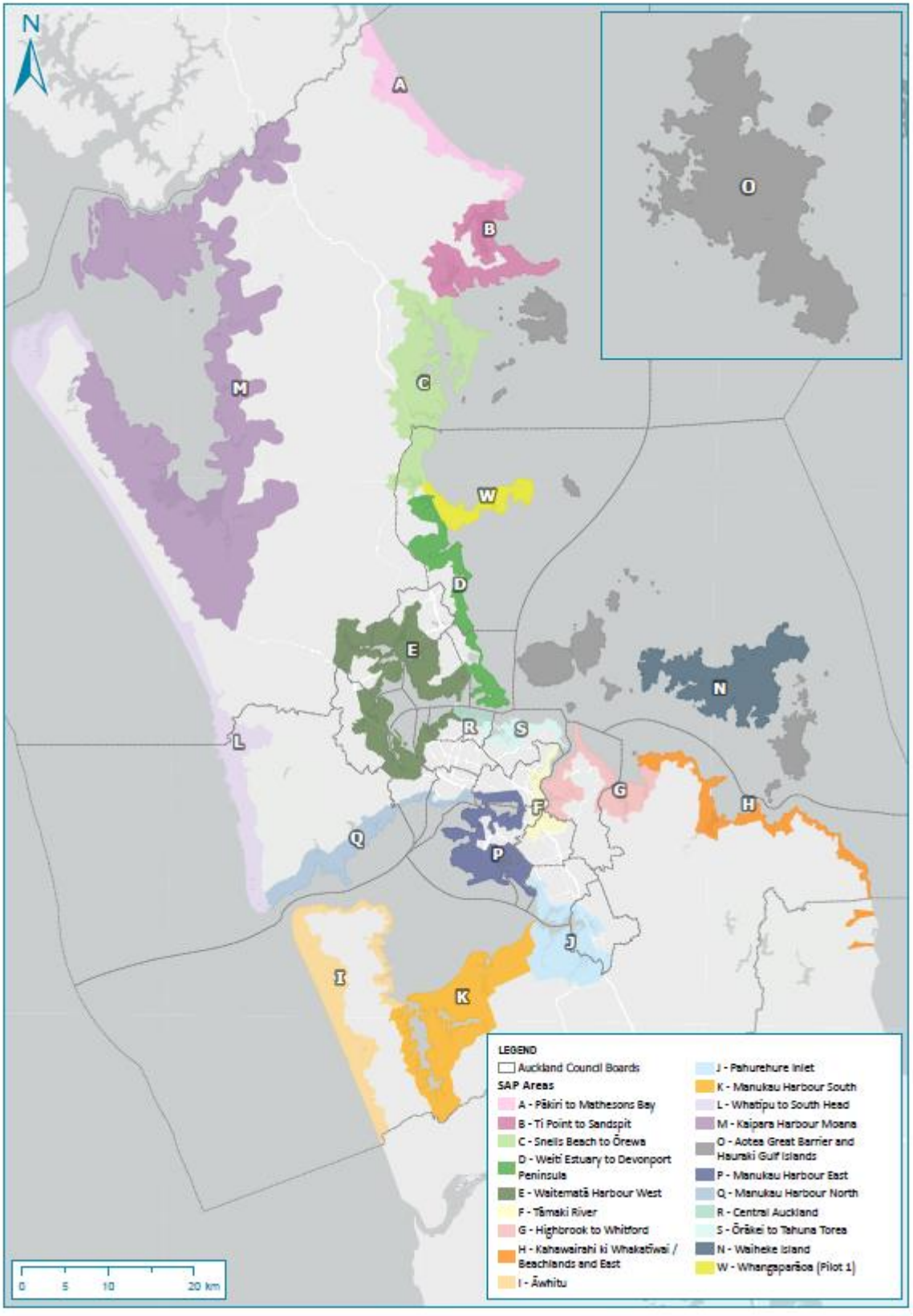


Figure 1-1: Shoreline Adaptation Plans (regional)

SAP areas, units & stretches

Within each SAP area, the coastline has been broken up into coastal stretches based on coastal processes, Auckland Council-owned land and asset location, public land boundaries, and infrastructure considerations. Coastal stretches have been grouped into broader coastal unit areas. It is important to note here that coastal units and stretches do not strictly reflect the historical cultural boundaries which often extend over multiple units or coastal stretches. The figure below outlines the delineation of scale between each SAP area, its sub-units and stretches:

Climate change scenarios (timeframes for change)

For the SAPs, the following scenarios are used to evaluate how exposure to coastal inundation, erosion and instability and sea-level rise may impact coastal land and assets.

Table 1-1: Shoreline Adaptation Plan climate change scenarios

	Sea-level Rise	Coastal Inundation	Coastal Erosion	Catchment flooding
Low climate change	• Present day (relative) sea level • Up to 0.5 m	• 1% AEP storm surge event	• Erosion & instability susceptibility line '2050' • (RCP 4.5) • includes consideration of 0.28 m of sea-level rise)	1% AEP rain fall event + climate change projections for rainfall
Moderate climate change	• 0.5 m • Up to 1 m	• 1% AEP storm surge event plus 0.5 m of sea-level rise	• Erosion & instability susceptibility line '2080 RCP 4.5 and 8.5' • Includes consideration of 0.55 m of sea-level rise	
High climate change	• 1.0 m • Up to 2 m	1% AEP storm surge event plus 1.0 m, 1.5 and 2 m of sea-level rise	• ASCIE 2130 (RCP8.5 and 8.5H+) • Includes consideration of 1.18 m and up to 1.52 m of sea-level rise	

Auckland Council's adaptation strategies

High-level adaptation strategies are developed for each coastal stretch under a low, moderate and high climate change scenario (inclusive of sea-level rise projections), with an indication of how these choices reflect the escalating risk, considerations of infrastructure providers, and the values and objectives of local iwi and the local community. Importantly, strategies outlined within each unit and subsequent coastal stretch apply only to the area of Auckland Council-owned land and assets along the coastal margin.

These recommended strategies do not apply to offshore activities (such as marine farms) or private property. Each high-level strategy provides flexibility for how it is applied to different assets. The value of the strategic approach is to ensure general continuity across asset management, acknowledging hazard risks and impacts of management of one asset class may impact on or have implications for others. Coastal adaptation strategies applied to each coastal stretch are described in further detail below:

No Action

- There are limited risks identified to Auckland Council land and assets as a result of coastal hazards and climate change.
- Natural coastal processes may be complementary to the natural coastal environment or its values.

Maintain

- Better decision-making today for Auckland Council land and assets.
- Actions manage risk, build resilience and support best practice coastal management outcomes.

Protect

- Uses and assets are maintained in their current location.
- Protection measures (mitigations) are required to manage risk, and nature-based solutions and hard protection may be utilised.

Adaptation Priority Area

- Auckland Council land and assets are exposed to hazard risk including the impacts of climate change.
- The value and importance of assets, complexity of the hazardscape and social, cultural or ecological values are present which requires further adaptation planning to determine a management response.

1 SAP Area introduction

The Pākiri to Mathesons Bay / Te Kohuroa SAP area is located on the Auckland north-east coast, fronting the Hauraki Gulf / Tīkapa Moana and, except for a few uninhabited islands, is the northernmost of Auckland's SAP areas. The total length of coastline is approximately 47 km. The SAP area extends from the border with Northland on Te Ārai Beach (just south of the Mangawhai Sand Dunes) to Te Kohuroa / Mathesons Bay at the southern end of the township of Leigh. Much of this SAP area is rural – comprised of farmland, 'lifestyle-block' style residences, golf courses, and two Regional Parks (Te Ārai Regional Park and Pākiri Regional Park) which are located along the long sandy beaches of Units 1-3.

South-east of these long beaches is Te Hāwere-a-Maki / Goat Island and its surrounding marine reserve. This area is a popular visitor attraction and site of the University of Auckland's Goat Island Marine Discovery Centre and Laboratory. Past this is Cape Rodney, which marks the easternmost point in this SAP area. South of this is Ōmaha Marae, on the northern coast of Ōmaha Cove, overlooking the township of Leigh.

Development of these SAP strategies is a starting point for dynamic adaptation planning for the Auckland region and also acknowledges Te tiro ā Māori ki tōna ake ao, a Māori worldview. This reflects the consideration of intergenerational time horizons as a fundamental part of addressing the impacts of climate change and sea-level rise. It also acknowledges the need to consider the tangible and intangible, the inter-relationship of all living and non-living things and the vital connection between people and te taiao (the natural environment) in which they live. The adaptive strategies (Section 5) which guide how coastal land and assets owned by Auckland Council will be sustainably managed have been informed by:

- Technical inputs including hazard risk, coastal hazard and climate change projections, ecological and policy framing (Section 2)
- Local iwi, acknowledging the cultural values and associations of iwi which centred on supporting local iwi objectives and aspirations (Section 3)
- The objectives of the local community, identified through community engagement and analysis of social context, set out in Section 3 (community feedback and social context)
- Advice from infrastructure and assets owners/managers (Auckland Council asset owners, Auckland Transport, Eke Panuku and Watercare Services).

Over the next 100 years, the coastline will be changed by coastal erosion, instability and sea-level rise. Coastal inundation and sea-level rise will be most noticeable along beaches and in lower-lying areas. Inundation poses a high risk to Auckland Council Reserve land, particularly at Te Kohuroa / Mathesons Bay (Unit 5) and along Te Ārai and Pākiri Beaches (Units 1, 2, 3). For these areas, as well as along the Pākiri River, coastal flooding poses a risk in the short term and the extent of exposure is expected to increase over the medium to long term. Other Auckland Council assets exposed to these inundation hazards include roading, which is highly exposed around the Pākiri River area, as well as several walkways and toilet blocks located on reserve land. Coastal erosion is expected along most of the coastline with sandy areas such as Te Ārai Beach (Unit 1) and Pākiri Beach (Units 2-3) particularly susceptible. Much of this area is Auckland Council reserve land, with the built assets exposed to this erosion risk mostly limited to carparks, walkways, and toilet blocks. Erosion is also a hazard around

Pākiri Regional Park (Unit 3), Cape Rodney (Unit 4), and around the settlement of Leigh (Unit 5). The steep coastal cliffs along these coastline areas are susceptible to instability and erosion. This poses a risk to Auckland Council reserve land, as well as walkways located within these reserves.

Reflecting on the above, for many stretches, a **no action** approach is recommended across low change, moderate, and high change scenarios to reflect private property and/ or areas of the coast with limited Council-owned land or assets exposed to coastal hazard risks.

A **maintain** approach can be applied to most of the coastline, particularly under the low change scenario, supporting current interventions at the coast, such as existing protection structures and accessways and the Te Arai Drainage District. Maintain provides for the maintenance of activities and assets, utilising design and location (localised realignment) to manage risks from coastal hazards to ensure the safe and continued function of existing assets and uses.

Adaptation priority is identified under moderate to high climate change scenarios for low-lying and/ or areas prone to coastal instability and erosion, specifically areas along the shoreline of Pakiri River, Leigh and Mathesons Bay. These areas are where coastal erosion and coastal inundation with sea-level rise and catchment flooding risks need strategic plans to reduce maintenance and renewal costs by moving/ redesigning Council assets and infrastructure out of exposed areas to accommodate natural coastal processes, building a more resilient shoreline and supporting ecological and cultural outcomes. Acknowledging that increasing risk from coastal hazards will impact the long-term feasibility of maintaining all uses within a specific area, adaptation priority signals the need for proactive management of land uses and assets, working to support highly valued coastal access, alongside coastal character and the recreational enjoyment of the coast. The strategy acknowledges the risk to low lying, highly valued coastal reserves where increased inundation may impact uses, assets, infrastructure and the function of roading connections within local areas under a high climate-change scenario.

A **protect** approach is recommended in a limited number of stretches, typically where there is critical infrastructure which will need to be maintained in its current location to allow for its continued use, necessitating defence of the coastal edge. This approach is typically used in areas where critical assets and/or marine facilities are located on or near the coast, i.e. the coastal margins of Leigh Wharf.

A range of adaptation strategies are recommended across this SAP area, discussed in further detail in Volume 3 and summarised in this report.

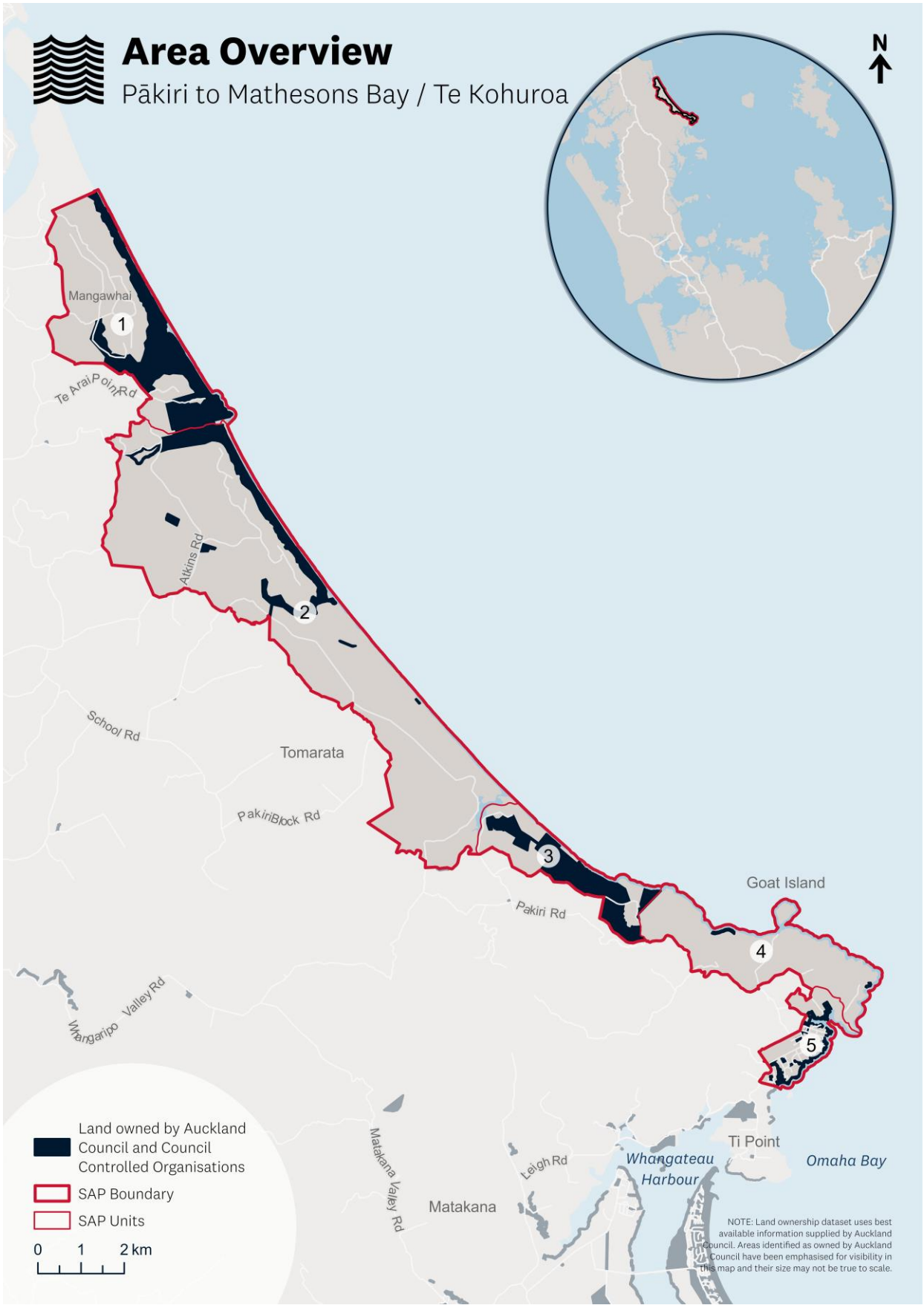


Figure 1-1: Area overview

2 What's happening

This SAP report considers natural hazards relating to coastal inundation, coastal erosion and coastal land instability, catchment flooding and climate-change induced sea-level rise. Other hazards, including inland land instability, drought and wildfires, are not within the scope of this assessment. In addition, risks from low probability but high potential impact events (such as volcanic, tsunami, and earthquake events) are not included. Such hazards are managed through measures put in place by emergency management groups including Auckland Emergency Management (Civil Defence).

For further discussion regarding coastal hazards and climate change, as considered within the scope of the SAPs, refer to *Volume 1: Understanding the Shoreline Adaptation Plans*.

Coastal context

The Pākiri to Mathesons Bay / Te Kohuroa coastline is approximately 47 km long and, due to its location in the outer Hauraki Gulf, is subject to high wave energies from the Pacific Ocean. The northern half of this coastline is characterised by the dynamic, white sand beaches of Te Ārai and Pākiri; these beaches are separated by the rocky headland of Te Ārai Point. Te Ārai and Pākiri beaches are backed by large dune systems which, while relatively intact, have historically been impacted by forestry activities and subsequent dune disturbance and restoration works.

Figure 2-1: Te Arai Beach and sand dunes (source: Auckland Council)

Beaches and dune systems go through cycles of coastal erosion and accretion in response to wave climate, with influence from weather patterns such as El Niño or La Niña events. There is no strong net longshore sediment transport direction evident along these beaches. The Pākiri embayment is a relatively closed sand system, with limited new sediment input. There are multiple highly dynamic stream mouths discharging onto these beaches.

Figure 2-2: South Pākiri Beach transition from dunes to rocky foreshore (Source: Auckland Council, 2011)

The Cape Rodney and Leigh coastline has rocky cliffs, intertidal shore platforms, and smaller, steeper pocket beaches of coarser grained sand. Ōmaha Cove (Leigh Harbour) is a relatively small, sheltered harbour characterised by muddy to sandy sediments. Te Kohuroa / Mathesons Bay is characterised by a dynamic larger pocket beach. There are also several small rocky islands present just offshore, including the larger Te Hāwere-a-Maki / Goat Island at Cape Rodney.

As a north-easterly facing coastline, the shore is sheltered from Auckland's prevailing south-westerly winds. This coastline is open to extensive fetch exposures from the north to southeast angles, resulting in this coastline being frequently exposed to moderate to high wave energies, with large wave events resulting in significant wave heights of 3 m or larger. This includes longer period swell events generated from some distance away, to more localised shorter period storm waves generated by strong onshore winds. These events can cause episodic erosion of the dune face.

In contrast, Ōmaha Cove is sheltered from the open exposure wave energies. Te Kohuroa / Mathesons Bay is also significantly sheltered; however, it is exposed to low to moderate wave energies during large events from the east to southeast angles (Auckland Council, 2024b).

Sand extraction from the Managawhai – Pākiri seabed

Whilst outside of the scope of the SAP Programme, a key consideration for context within this SAP area is the sand extraction consent from the Te Arai – Pakiri seabed.

The Te Arai – Pākiri beach system is dynamic and experiences periods of erosion and accretion across different timescales, including in response to storms, seasons, and interannual climate oscillations. The dynamic nature of the beach masks easy detection of long-term trends, including potential effects from sand extraction activities[1]. An estimated 5.45 million m^3 of sand has been extracted from Mangawhai – Pākiri since the 1940s.

Sand extraction at Mangawhai – Pākiri is and has long been a contentious issue, particularly regarding the potential effects of the activity on coastal processes and the beach system. In refusing the appeal on the Commissioner's 2024 decision to decline the application for an offshore consent,

[1] Joint Witness Statement – Coastal processes, 26.5.23, at Section 2

the Environment Court noted that further work will need to be conducted to demonstrate that sand could be sustainably extracted from the embayment.

Key matters identified by the most-up-to-date assessments of the effects of sand extraction activities on physical coastal processes, by parties to the latest applications, were that:

- *The area north of Te Arai Point is at best stable and the area south of Te Arai Point is eroding, with that tendency for erosion increasing the further south down Pakiri beach.*
- *The experts agree that the effects of extraction of sand from the Pākiri embayment is highest for the inshore area and reduces with distance offshore.*

2.1 Natural hazards & climate change

Natural processes, such as coastal inundation and erosion, become hazards when they have the potential to negatively impact things of value. Tāmaki Makaurau / Auckland is frequently affected by natural hazard events and is likely to experience more frequent and severe events in the future due to climate change. Sea-level rise will increase the zone of exposure. For shoreline areas with assets and infrastructure, or cultural heritage sites near the coastal edge (including recreational and environmental areas), the impacts of coastal hazards may be significant.

Scenarios for change, or scenario-based climate projections (inclusive of sea-level rise) have been used to evaluate how the risk of coastal inundation, erosion and instability may impact the Pākiri to Mathesons Bay / Te Kohuroa SAP area, noting that projected conditions may occur sooner or later depending upon climate emissions.

A fulsome discussion around low, moderate and high scenarios for (climate) change and how each is considered to inform the selection of coastal adaptation pathways can be found in *Volume 1: Understanding the Shoreline Adaptation Plans.*

Coastal inundation (including sea-level rise)

Auckland Council's best available information on extreme sea-water levels in the Auckland region is presented in the report *Auckland's exposure to coastal inundation by storm-tides and waves.* The modelled spatial extent of potential inundation is published on Auckland Council's web-based portal GeoMaps[5] (Natural Hazards Theme). A range of scenarios are mapped on this platform, spanning from the 5-year Average Recurrence Interval (ARI), corresponding to the 18% Annual Exceedance Probability (AEP), to the 100-year ARI event (1% AEP) to demonstrate Auckland's exposure to a range of present-day extreme event.

Much of this area of coastline is characterised by large dune systems in the northern section and rocky cliffs with intertidal shore platforms in the southern section. There are multiple stream and river mouths discharging onto the beach through the dunes that are sources of coastal inundation.

Erosion of reserve and rock armouring damage, Mathesons Bay, post Cyclone Gabrielle February 2023.

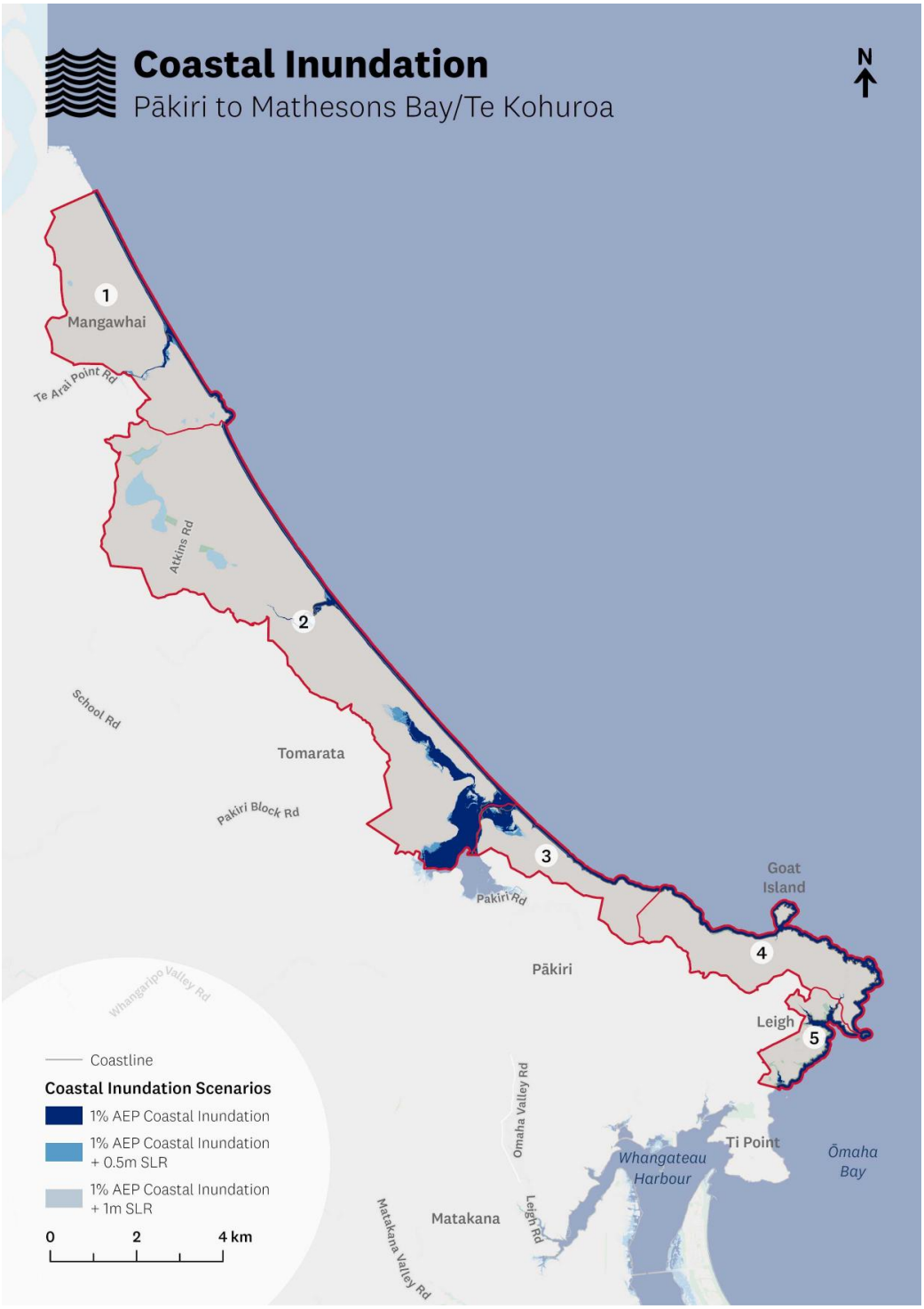


Figure 2-3: Coastal Inundation (CI) for 1% AEP storm surge for present day and with 0.5 m, 1 m and 2 m sea-level rise.

Coastal erosion (including sea-level rise)

Areas with higher exposure to erosive forces are more at risk to coastal instability and erosion, where waves interact directly with cliff faces (e.g. no beach) or where cliffs are steep with little vegetation cover. As sea-level rise occurs, waves will interact with a larger portion of the cliff and slope instability and erosion along the coast are expected to increase.

The ASCIE lines indicate the area susceptible to coastal instability and erosion along the coastline between Te Ārai and Pākiri is largely consistent with long-term predicted erosion of approximately 170 m by 2130 under the RCP 8.5H+ climate change scenario. This reflects the relatively constant, open coast, dune coastline of the area, with limited geomorphic interruptions. At Pākiri, erosion rates become more variable (up to approximately 400 m from Mean High Water Spring (MHWS)[2]) noting the change in topography and driving processes influencing coastal erosion and instability. As the coast's orientation rotates south easterly at Ōmaha Cove and Leigh, predicted erosion rates reduce to approximately 60 m in the long term (Auckland Council, 2024b).

Projected coastal erosion for Pākiri to Mathesons Bay is shown in Error! Reference source not found..

[2] MHWS describes the highest level that spring tides reach, on average over a long timescale (18-20 years) this usually coincides with the highest visible line of seaweed, driftwood and other marine debris on a shore.

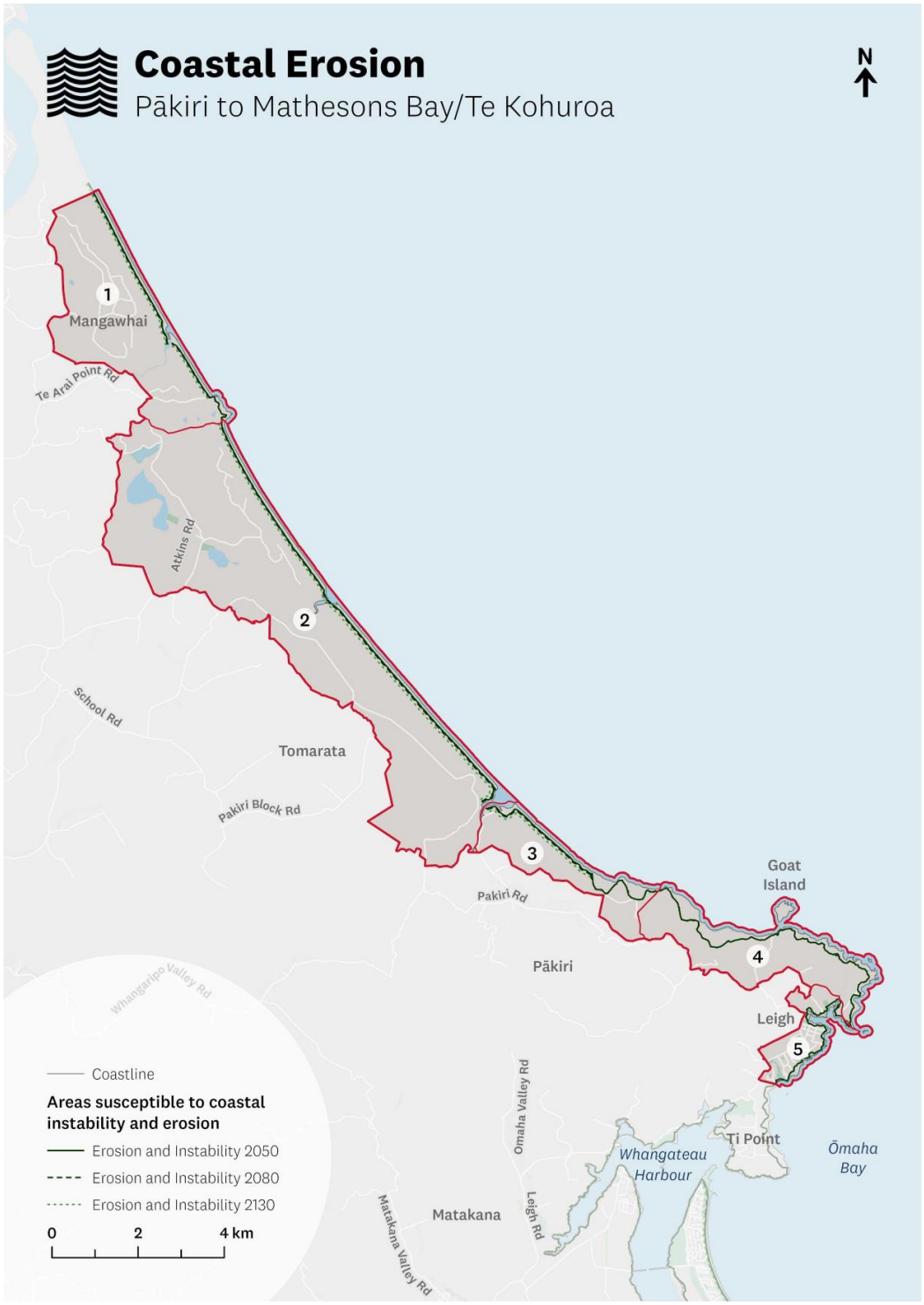


Figure 2-4: Coastal Instability and erosion susceptibility for 2050, 2080 and 2130 considering RCP4.5 and RCP8.5 emission scenarios

Catchment flooding and climate change

Flooding, as a result of extreme rainfall when the drainage capacity of the natural and/or built environment systems cannot cope, is a natural occurrence and is Auckland's most commonly occurring natural hazard. The flooding event with the highest probabilistic risk is a 1 % AEP event (1%

probability of occurring in any given year), because an event of such intensity is likely to result in more severe consequences than flooding events that are more common but of lesser intensity.

Auckland Council's web-based portal GeoMaps (Natural hazard theme) displays the spatial extent of potential flooding. The maps, developed at catchment scale, indicate areas – flood plains, flood prone areas, flood-sensitive areas, and overland flow paths – which may be affected by a rainfall event that has a 1% AEP, assuming maximum probable development in the catchment (as per the AUP:OP) and future climate change.

The maps demonstrate that flood plains in this SAP area are typically located in the back dune along the Te Arai to Pākiri coast, with a significant flood extent along the floodplains of the Pākiri River.

Other hazards

Auckland is affected by several other natural hazards that are not considered within this shoreline plan including wildfire, volcanic activity, tsunami, earthquakes, severe wind (such as cyclones) and tornadoes. Refer to *Volume 1: Understanding the Shoreline Adaptation Plans* for a more detailed discussion of other hazards impacting Auckland.

Noting the extensive area of open coast of the Pākiri to Mathesons Bay / Te Kohuroa SAP area, the potential for tsunami is another key natural hazard within the wider context of this SAP area. Tsunami evacuation zones for the area can be found on Auckland Emergency Management Hazard Viewer[3]. It shows that all the coastline is covered by the immediate shore and marine threat zone with the yellow zone extending significantly inland at Pākiri River.

Emergency Response and Readiness Planning in collaboration with all 21 local boards across the region has supported the development of local board specific plans. For the Pākiri to Mathesons Bay SAP area, the relevant plans can be located here.

[3] https://www.aucklandemergencymanagement.govt.nz/hazards/tsunami/

2.2 Current coastal management practices

An overview of existing current coastal management across the Pākiri to Mathesons Bay SAP area is summarised in the table below and discussed in greater detail in *Volume 3: Adaptation Strategies for the Pākiri to Mathesons Bay / Te Kohuroa SAP.*

Flood control or management

- The stream mouth at Te Arai Beach can occasionally block or narrow where it discharges onto the beach face. It is understood that this has been manually opened in the past, to reduce potential inundation upstream or ponding at the mouth.
- Pākiri River mouth occasionally blocks or narrows, resulting in a lagoon forming above high tide. This can result in flooding or inundation, and amenity issues associated with reduced beach access and odour. The Healthy Waters Department will mechanically open (under an existing resource consent) the river mouth if deemed necessary (last occurred February 2024).
- The stream that discharges across the beach face in the middle of Mathesons Bay periodically blocks or constricts at the mouth. This results in elevated water levels immediately upstream. The Healthy Waters Unit mechanically opens the stream mouth when required.

Coastal protection

- Concrete seawall at Ōmaha Cove. Its condition is periodically monitored for any required maintenance works.
- Rock rip-rap armours the eastern end of Mathesons Bay, and gabion basket armouring extends along the backshore at the western end, extending from the true right bank of the stream that discharges across the beach face. Further rock armouring is present at the bay's western end along the road embankment and where a smaller stream discharges onto the beach face.
- Following the coastal storm events of 2023, the rock revetment at the western end of Mathesons Bay was damaged. Significant maintenance works on this rock revetment were undertaken in 2025.

Nature-based options

- Dune restoration work and planting has occurred along the Pākiri Beach and Te Arai sand dunes. In association with the acquisition of reserve land at both Te Arai and Pākiri during the residential development process, dune restoration involved the removal of pest and non-native vegetation. Defined pedestrian accessways through the dunes from the main carpark prevent damage to the dunes.
- Due to instability of the cliff at the Leigh Recreation Reserve / Goat Island Marine Reserve access point, planting on the upper cliff face and behind the cliff crest has occurred along with minor landward realignment of the cliff edge fencing.
- Previously dune planting was established along the unarmoured section of reserve at Mathesons Bay. This was completely eroded during the 2022/2023 storm events. Once the beach recovers, re-establishment of dune planting may be considered, as a soft solution buffer.

2.3 Risk assessment

The SAP coastal risk assessment provides a regionally consistent method to quantify risk to Auckland Council land and assets over three climate change scenarios. This risk assessment demonstrates how the risk to these assets will increase over time with projected sea-level rise. To read more about the risk assessment please refer to *Volume 1: Understanding the Shoreline Adaptation Plans.*

The risk assessment results are summarised below, noting that these risk results were considered consistent for the topography, geology, and land use within the SAP area. The table below lists the asset groupings for the risk assessment and a description of what they include.

Table 2-1: Risk assessment asset groupings and descriptions

Grouping	Description
Council-owned land	• Park and reserve land area.
Council community facilities	• Carparks, accessways, paths and tracks, ramps, seawalls, wharves and jetties, community buildings and park amenities.
Transport infrastructure	• Roads, bridges, ferry terminals and train stations.
Water assets and infrastructure	• Publicly-owned three waters infrastructure.

		Council -owned land			Council-community facilities		
Unit	**Hazard**	**Short-term**	**Medium-term**	**Long-term**	**Short-term**	**Medium-term**	**Long-term**
1	Erosion	Very high	Very high	Very high	High	High	High
	Inundation	High	High	High	Very low	Very low	Very low
2	Erosion	Very low	Very low	Low	Very low	Very low	Very low
	Inundation	Very low	Very low	Very low	Very low	Very low	Very low
3	Erosion	High	High	High	Low	Low	Low
	Inundation	High	High	High	Moderate	Moderate	Moderate
4	Erosion	Moderate	Moderate	Moderate	Very low	Very low	Very low
	Inundation	Low	Low	Low	Very low	Very low	Very low
5	Erosion	High	High	High	Moderate	High	High
	Inundation	Moderate	Moderate	Moderate	High	High	High

		Transport infrastructure			Water infrastructure		
Unit	**Hazard**	**Short-term**	**Medium-term**	**Long-term**	**Short-term**	**Medium-term**	**Long-term**
1	Erosion	Very low	Very low	Very low	Very low	Very low	Very low
	Inundation	Very low	Very low	Very low	Very low	Very low	Very low
2	Erosion	Very low	Very low	Very low	Very low	Very low	Very low
	Inundation	High	High	High	Very low	Very low	Very low
3	Erosion	Moderate	Moderate	Moderate	Low	Low	Low
	Inundation	High	High	High	Low	Low	Low
4	Erosion	Low	Low	Low	Very low	Very low	Very low
	Inundation	Low	Low	Low	Very low	Very low	Very low
5	Erosion	Moderate	Moderate	Moderate	Low	Low	Moderate
	Inundation	Low	Low	Moderate	Low	Low	Low

Figure 2-5: Risk to Council-owned land, community facilities, transport infrastructure and water infrastructure risk ratings per unit

3

What matters most?

3.1 Auckland Council land and assets: overview

Auckland's SAPs focus on coastal land and assets owned by Auckland Council. These include, but are not limited to, coastal reserves, defence structures, public facilities, roads, and water infrastructure. This also encompasses infrastructure located within coastal areas, whether situated on, beneath, or adjacent to Auckland Council land or on private land.

While the SAPs consider third-party infrastructure near the coast, as well as culturally and ecologically significant areas, they are not specifically aimed at managing these assets or values. However, the strategies and associated guidance may reference these connections where relevant, particularly at the level of individual shoreline units or stretches.

The SAPs were developed with input from key stakeholder partners including Auckland Transport, Watercare Services, and Eke Panuku. Council-owned land is primarily identified through Auckland Council's GIS data; in some areas there are landholdings and facilities which involve numerous asset owners and third-party infrastructure providers with different ownership, management, or interests.

The Pākiri to Mathesons Bay / Te Kohuroa area is large and has a dispersed population, with most residents concentrated within Leigh. Correspondingly, there are large tracts with few Auckland Council assets. Key Auckland Council landholdings are Te Ārai Regional Park and Pākiri Regional Park. There are several rural roads which provide essential connections to communities through the SAP area.

Auckland Council assets within Units 1 – 4 are largely located within the regional parks, with infrastructure such as toilets, small buildings, parking areas and paths. Within Leigh (Unit 5), there are several civic buildings and club facilities located inland and a well-used wharf in Ōmaha Cove. Leigh also contains several reserves and walking paths, including along its coastal edge.

There is little public water or wastewater infrastructure within this SAP area. Pump stations have been identified within Te Ārai and Pākiri Regional Parks and another is located nearby on Greenwood Road, but no other assets related to water and wastewater treatment and transmission have been identified. Stormwater is managed in Unit 1 through the Te Ārai Drainage District; an Auckland Council responsibility inherited from the legacy Rodney District Council (Auckland Council, 2017b).

The figure overleaf shows the general location of Auckland Council land and assets located within the Pākiri to Mathesons Bay / Te Kohuroa SAP area. These are identified in each unit and stretch as relevant to the shoreline adaptation strategies in Volume 3.

Auckland Council Land and Assets

Pākiri to Mathesons Bay/Te Kohuroa

Auckland Council land and parks

There are approximately 24 reserves/parks located within the Pākiri to Mathesons Bay / Te Kohuroa area, including numerous small esplanade reserves and two Regional Parks – Te Ārai Regional Park and Pākiri Regional Park (Auckland Council, 2022), both of which are more remote and less frequently visited than many other regional parks (Auckland Council, 2022). They provide for the protection of threatened species, coastal ecosystems, and rich cultural heritage, and are discussed more in their respective unit descriptions. Leigh Recreation Reserve is the location of the regionally popular Te Hāwere-a-Maki / Goat Island Scientific Reserve and Marine Reserve. Managed by the DOC, this area is significant to Ngāti Manuhiri and the site of New Zealand's first marine reserve (Department of Conservation, n.d.). The waters here are renowned for snorkelling and diving. The University of Auckland's Leigh Marine Laboratory is also located here (University of Auckland, n.d.).

Key coastal reserves and parks in this SAP are identified below (non- exhaustive list):

- Cumberland Street Reserve
- Harbour View Road Coastal Reserve
- Kendale Reserve
- Lax Reserve; Leigh Hall Grounds; Leigh Cemetery
- Leigh Domain Recreation Reserve
- Leigh Harbour Cove Walkway
- Leigh Library and Grounds
- Leigh Village Reserve
- Leigh Wharf Reserve
- Matheson Bay Reserve
- Omaha Blk Access Road Espl Reserve
- Pākiri Regional Park
- Reserve behind 227 Leigh Road-Temp
- Slipper Lake Reserve
- Spray Crescent Reserve
- Te Arai Forestry South
- Te Ārai Regional Park
- Tomarata Dune Lakes Reserve
- Totara Road Esplanade Leigh
- Wonderview Rd/Cotterell St Esplanade

Key themes in relation to the management of parks and reserves in this SAP include the acknowledgement that coastal areas are at risk of inundation and erosion with adaptive actions already being undertaken in some areas. Additionally, new greenways have been proposed though several reserves as part of a wider Pūhoi to Pākiri programme, including coastal ones with acknowledged hazards (Rodney Local Board, 2023b).

In addition to the non-exhaustive list of parks and reserves listed above, the Pākiri to Mathesons Bay / Te Kohuroa area contains several distinct coastal environments. This includes the following long sandy beaches, smaller bays and coves (likewise, a non-exhaustive list):

- Forestry Beach
- Ōmaha Cove
- Te Ārai Beach
- Pākiri Beach
- Pākiri River/Estuary
- Te Rere Bay
- Te Hāwere-a-Maki / Goat Island and Leigh Recreation Reserve area
- Te Kohuroa / Mathesons Bay

Te Ārai Beach and Pākiri Beach dominate most of the coastline of this SAP area and are regionally significant beaches. They are known for their natural beauty and provide opportunities for swimming, surfing, hiking, fishing and more. These beaches are remote, large, and lack supporting amenities (such as shops), but are valued and used by the community and visitors year-round. Pākiri Beach has

higher visitor numbers than Te Ārai, and a holiday park is located by the mouth of the Pākiri River (Auckland Council, 2022). Te Kohuroa / Mathesons Bay is located within Leigh and is an important beach to the local community and is well used by families and several groups/clubs. It is in a sheltered bay and provides opportunities for swimming, diving, kayaking, and other similar activities.

Water Infrastructure

There is little public water or wastewater infrastructure within this SAP area. Pump stations have been identified within Te Ārai and Pākiri Regional Parks and another is located nearby on M. Greenwood Road, but no other assets related to water and wastewater treatment and transmission have been identified.

Rodney drainage districts

Auckland Council manages stormwater assets located on private land in the Te Ārai area (Unit 1) of the Pakiri to Mathesons Bay SAP through the Te Ārai Drainage District. This has been inherited from the former Rodney District Council along with further drainage districts in the Kaipara. These drainage districts are the only remaining areas of rural Auckland where Auckland Council provides ongoing stormwater management services to private landowners. Historically, this was funded from a targeted rate paid by local landowners and replaced by a general rate in the 1990s. Funding through general rates has continued to maintain these assets and typically includes weed spraying, mechanical clearing and general repairs to drains, culverts and floodgates.

Figure 3-1: Drainage district at Te Arai (Source: Auckland Council, 2024)

Recently, Auckland Council has been undertaking further consultation with the local community and Rodney Local Board to include greater community involvement with maintenance works including a joint system of community grants and Auckland Council contractors for maintenance and operations in Te Arai. Further discussions with the local community on the future service level needs, the impacts of climate change, future costs and ensuring obligations to mana whenua continue to be met is anticipated.

Facilities and structures

Auckland Council assets within Units 1 – 4 are largely located within the regional parks, with infrastructure such as toilets, small buildings, parking areas and paths. Within Leigh (Unit 5), there are several civic buildings and club facilities located inland and a well-used wharf on Ōmaha Cove. Leigh also contains several reserves and walking paths, including along its coastal edge.

Roads and access

Access to the coast in Units 1-4 of this SAP area is generally limited to a few locations where carparks are provided at the end of long unsealed roads, mostly spaced a few kilometres apart along the north -east coast beaches within this SAP. A sealed road through Leigh Reserve and car park (Auckland Council, 2024a) provides access to Te Hāwere-a-Maki / Goat Island and its surrounding marine reserve.

Most of the resident population of this SAP area is in Leigh (Unit 5), with its location allowing for easy access to and enjoyment of the coast. Access to the coast is available via the wharf, Matheson Bay Reserve or from one of several small walkways/stairs located at the end of residential cliff-top streets (Auckland Council, 2024a). No public transport services are provided within this SAP area (Auckland Transport, 2024).

Key road connections providing access to and along the coast are identified below (non- exhaustive list), there are no State Highways within this SAP area:

- Cape Rodney Road / Ōmaha Block Access Road
- Cotterell Street
- Forestry Beach Access Road
- Goat Island Road
- Grand View Road Hauraki Road
- Leigh Road
- Harbour View Road
- Matheson Bay Road
- M Greenwood Road
- Pacific Road Pākiri Road
- Pākiri River Road
- Rahuikiri Road
- Seatoun Avenue
- Spencer Road Totara Road
- Te Ārai Point Road
- Tenetahi Road
- Wonderview Road

Access to the coast

There are a range of walking paths throughout the SAP area, which are used for recreation as well as to facilitate access to the coast. Popular paths within the SAP area include Leigh Coastal Path, Leigh Harbour Cove Walkway (closed as a result of storm damage), and walkways within Te Ārai Regional Park. Several rocky shore platforms providing coastal access are located along the Leigh Coastal Path (generally connecting roads to the coast, through Auckland Council reserve land).

Additionally, Te Araroa, the walking track which spans the length of New Zealand, runs along Te Ārai Beach, Forestry Beach, and Pākiri Beach (Te Araroa Trust, 2021). The Rodney Local Board has also proposed a ‘greenways’ plan which would link walking trails throughout the Local Board area, including around, near, and to the coast from Leigh to Pākiri (Rodney Local Board, 2017). The Rodney Local Board also advocates for funding to improve unsealed roads in the area.

Harbour access

Noting the small size of this SAP area, there are limited coastal access points, with primary coastal access provided through the following boat ramps/ coastal infrastructure (non-exhaustive list), noting water access for small water craft and boat moorings which is not Council-owned may also be present within this SAP:

- Tomarata Lake boat ramp
- Hauraki Road boat ramp (Ōmaha Cove).

The figure overleaf (Social Context) shows the location of key beaches, parks, reserves and walking trails in this SAP area. More detailed social context is provided in each unit description.

Social Context

Pākiri to Mathesons Bay/Te Kohuroa

3.2 Te Ao Māori

The diverse coastlines, estuaries, catchments and harbours of Tāmaki Makaurau hold great spiritual and cultural value to the hapū and iwi of Tāmaki Makaurau who not only live within these areas but are also kaitiaki (guardians, protectors, stewards) of these spaces. We acknowledge the intrinsic ancestral connections that tangata whenua have to lands, water, wāhi tapu (sacred areas) and other taonga (treasures) around the coastlines of Tāmaki Makaurau. Engagement and collaboration with the iwi of Tāmaki Makaurau is integral to the development of the SAP area plans and SAP implementation. Auckland Council's commitment to growing and supporting partnerships with iwi was developed at the programme's inception in 2021 and will continue beyond the completion of these SAP area plans. Programme principles underpinning the development of each SAP area plan are discussed in greater detail in Volume 1: Understanding Shoreline Adaptation Plans, along with engagement processes underpinning Mana Whenua engagement regionally and locally.

Context and information

The cultural history and context of the area, especially the integration of mātauranga Māori and Te Ao Māori principles, has been crucial to the development of the Pākiri to Mathesons Bay / Te Kohuroa SAP. To inform engagement with iwi who have an association with the area which this SAP applies to, initial research has been undertaken using publicly available information, including that which is identified on the AUP:OP maps, within the Cultural Heritage Inventory, legacy parks planning documents and research from other publicly available iwi planning documents. Overarching matters considered within the scope of the Pākiri to Mathesons Bay / Te Kohuroa , along with the wider programme, are discussed in further detail in *Volume 1: Understanding the Shoreline Adaptation Plans*.

It is important to note that coastal units and stretches reflected in the Pākiri to Mathesons Bay / Te Kohuroa SAP have been developed to capture Auckland Council asset units and do not reflect the historical cultural boundaries which often extend over multiple units or coastal stretches. Therefore, while all attempts have been made to align with the identified coastal units, the cultural commentary provided throughout this SAP often extends across multiple areas. Where possible, the names of these stretches and units have also been updated to reflect the traditional names.

3.3 Working together- Local iwi engagement

For the Pākiri to Mathesons Bay / Te Kohuroa SAP, iwi groups were identified using several tools including treaty settlement documents, statutory acknowledgment areas and rohe overlays (identified using Auckland Council GeoMaps). Following identification, iwi were formally approached via a letter extending an invitation to engage on this particular SAP. Where no response was received following provision of the letters, email follow ups were provided.

Ongoing updates on the SAP programme are also provided through the Council's Mana Whenua Forum, with an overview on the upcoming SAP areas and the extension of an invitation to engage if other parties wished to be involved in the development of upcoming SAP area plans.

Following are those iwi who whakapapa to the area and/ or expressed an interest in this SAP area include but are not limited to:

- Te Uri o Hau
- Ngāti Manuhiri
- Ngāti Maru
- Ngāti Paoa
- Ngāi Tai ki Tāmaki
- Ngāti Wai
- Ngāti Whatua o Kaipara
- Ngāti Whātua Ōrākei
- Marutūāhu Collective (Ngāti Maru, Ngaati Whanaunga, Ngāti Paoa, Ngāti Tamaterā, Te Patukirikiri (of Kapetaua))

Throughout the SAP development process, Auckland Council has been engaging with iwi representatives to develop individual iwi authored 'Cultural Statements' and/or cultural commentary to inform the understanding of cultural values, interests and associations with the coastal environment and the adjoining whenDua. The Cultural Statements can guide the selection of adaptation approaches for each of the stretches set out within this SAP and are also to be held by iwi and used as they might require when addressing and commenting on other related kaupapa.

Importantly we recognise each iwi own and have control over their respective mātauranga and thus all cultural narrative (in this SAP and the supporting 'Cultural Statements') are safeguarded and subject to a disclaimer to protect the intellectual property of each iwi. The same applies for all cultural kōrero, values and mātauranga embedded within this report. Following publication of this report, each iwi has communicated that they will direct how their respective mātauranga and aspirations should be shared through ongoing and continuous engagement as project partners in the implementation of the SAPs. A partnership approach with iwi must be applied to coastal management within each specific coastal stretch and across the entire Tāmaki Makaurau coastline. Failure to do so has the potential to result in significant adverse cultural impacts and Auckland Council not fulfilling its obligations to iwi as Treaty partners.

Local iwi aspirations, values and principles

Holding statement:

> *All Auckland Council Shoreline Adaptation Plans are considered living documents, noting that the SAP team is committed to ensuring that the values, aspirations and outcomes sought by Ngā hapū me ngā iwi o Tāmaki Makaurau are represented in each plan and supported throughout implementation. The SAP team will continue to work with and support iwi to respond to the SAP programme and include linkages to this cultural narrative in further revisions of the SAP reports within the rohe of respective iwi authorities.*

Acknowledging the importance of protecting cultural narratives and sustaining ongoing, lasting relationships with iwi for the Pākiri to Mathesons Bay / Te Kohuroa SAP, the "Holding Statement" reflected above has been created. This serves as a reminder that this document, and any others which are developed as a result of this document, may be revised to incorporate additional cultural context provided by iwi when they choose to share it.

In addition, for each coastal stretch, iwi, as project partners, may share additional mātauranga through the ongoing engagement to occur as part of the implementation of the approaches set out in Section 4.0 and Volume 3. Reflected in the sections below, some iwi have chosen to share some high-level mātauranga ā iwi values that are fundamental to ensuring that coastal management is undertaken in a way that is respectful of the cultural associations of iwi and supports the cultural values present within each of these areas. Beyond those which are identified in the Auckland Unitary Plan, the specific location of sites of cultural significance may be protected by iwi and not shared. In addition, some of these sites, due to their proximity to the coast, may sit within private ownership which has resulted in iwi being excluded from these areas, with iwi unable to protect them and exercise the appropriate tikanga.

Where Auckland Council has an interest and/or assets within these areas, it is vitally important for direct engagement to be undertaken with iwi so that cultural impacts can be identified and avoided, Auckland Council is committed to the provision of ongoing engagement with iwi as project partners through the full extent of the SAP programme.

Except where otherwise stated below, to ensure that engagement with iwi in the Pākiri to Mathesons Bay / Te Kohuroa SAP is effective, meaningful and aligned with the principals of Te Tiriti o Waitangi / Treaty of Waitangi, the following guidelines set out below should be followed for each stage of the SAP programme.

SAP development phase	• Local iwi who whakapapa to the area and have a recognised interest need to be provided the opportunity to review and respond to the risks and adaptation approaches identified by Council in each of the relevant SAP Plans.
Programming Phase:	• Local iwi who whakapapa to the area and have a recognised interest wish to be engaged with to provide cultural input on how the SAP kaupapa will be programmed and prioritised.
Design and Consenting Phase:	• For any Tranche specific implementation of the proposed adaptation approaches, local iwi who whakapapa to the area and have a recognised interest wish to be involved in the concept and detailed design of any approach

Implementation Phase:	• A role in the consent design and post consent process to provide for and enable the kaitiaki responsibilities of local iwi who whakapapa to the area and have a recognised interest in the Pākiri to Mathesons Bay / Te Kohuroa SAP.

Te Uri o Hau

The SAP programme has worked with Te Uri o Hau on various SAP plans within their rohe with the aim of gathering the feedback of Te Uri o Hau on the SAP programme and the individual plans. This ongoing partnership has extended to the development of the Pākiri to Mathesons Bay / Te Kohuroa SAP, noting that Te Uri o Hau has expressed interest in specific aspects of the SAP that relate to their rohe.

Multiple hui have been undertaken and a cultural statement in response to the SAP programme is anticipated. The SAP team will continue to work collaboratively with Te Uri o Hau to input into the implementation of the SAPs for the Pākiri to Mathesons Bay / Te Kohuroa area and other SAPs of interest within their rohe.

Reflecting on the above, this section of the report serves as a "holding statement" for Te Uri o Hau until the cultural statement can be finalised.

Ngāti Manuhiri

The SAP programme has worked with Ngāti Manuhiri on various SAP plans within their rohe with the aim of gathering the feedback of Ngāti Manuhiri on the SAP programme and the individual plans. This ongoing partnership has extended to the development of the Pākiri to Mathesons Bay / Te Kohuroa SAP, noting that Ngāti Manuhiri has expressed interest in specific aspects of the SAP that relate to their rohe.

Over the course of the SAP programme, multiple hui have been undertaken and a cultural statement in response to the SAP programme is anticipated. The SAP team will continue to work collaboratively with Ngāti Manuhiri to input into the implementation of the SAPs for the Pākiri to Mathesons Bay / Te Kohuroa area and other SAPs of interest within their rohe.

Mātauranga shared by Ngāti Manuhiri to underpin coastal management on the SAP programme to date includes:

- Tino Rangātiratanga – Self-Determination
- Rangātiratanga - Leadership
- Toitutanga - Sustainability
- Whakahautanga - Restoration
- Tiakitanga - Stewardship
- Manaakitanga – Support.

These values are categorised into three major themes which reflect the Kia Ora Te Tātai outcome; *Whakapapa - Ancestry, Taiao-Environment, and Tangata Hononga - Connecting People*. For each

theme, Ngāti Manuhiri have provided objectives on how the Shoreline Adaptation Plan will give effect to these values in the Pākiri to Mathesons Bay / Te Kohuroa SAP.

Whakapapa (Ancestry)

Wāhi tapu are protected, celebrated, and enhanced through an integrated approach, by natural means first and foremost and in partnership with mana whenua. The celebration of mana whenua values includes the acknowledgement, respect and recognition of cultural and spiritual values of mana whenua. Wāhi Tapu and Taonga must be respected, treasured and valued. This may include archaeological sites, cultural landscapes and artefacts as well as sites of spiritual and historic significance to the trust. For example, wāhi tapu may include pā sites, battlefields, burial grounds, significant historic iwi sites, and waka landings.

Objectives

Mana whenua will not prioritise any wāhi tapu and confirm they all require protection and that all are crucial to mana whenua identity. Mana whenua should always be contacted/consulted where works will be conducted near or at wāhi tapu. An open toolbox must be provided to mana whenua proactively/in advance of any methodology being developed or risks being presented to these sites.

Some examples of valuing Whakapapa include:

- Wāhi Tapu are protected by natural means such as dunes and natives planting
- Respect for significant cultural landscapes and Wāhi Tapu
- Respect for rahui that are established in specific areas
- Continual engagement with mana whenua will support the celebration
- Protecting Marae pā and urupa sites.

Taiao (Environment)

The environment is protected, enhanced and celebrated through an integrated approach, by natural means first and foremost and in partnership with mana whenua. This includes proactive enhancement and/or conservation activities that will aim to naturalise and enhance the natural environment and ultimately contribute towards preserving the coastline. Guardianship and stewardship of the environment in terms of Kaitiakitanga. Restoration and enhancement of the mauri.

Objectives

- Proactively protecting and restoring nature's first line of defences for the coastline, (prioritising nature's ability to absorb the effects of climate change)
- Historical planting - mangroves and dunes with native planting all around the coastal area, consistent with what was historically present. A planting regime should be commenced in advance of any potential risks
- Proactively protect and enhance coastal dunes
- Proactively protect and enhance wetlands
- Proactively protect and enhance habitats and biodiversity.

Some examples of valuing Taiao include:

- Restoration planting of native plants along the coastline

- Removal of pest/exotic vegetation. Manual removal is preferred
- Prevention of damage to habitats from sedimentation issues (too much mud or silt deposition)
- Daylighting of streams with riparian planting.

Tangata Hononga (Connecting people)

Through involving the community, the people are connected and invested in their environment and therefore uplifted. The SAP recognises that people and the environment are holistically intertwined. Resource management should be implemented in a way that sustains and supports the ability of Manaakitanga, ongoing generosity and hospitality, and enables and supports mana whenua's role as Kaitiaki.

Objectives

Marine life and whenua cannot be separated. The SAP must be considered and implemented holistically with an integrated approach as the moana and the whenua cannot be separated.

- Recognising and providing for Kaitiaki opportunities for mana whenua in future
- Make room for water, enable natural processes where possible
- Naturalising where possible (e.g. daylighting of streams)
- Some examples of valuing Tangata Hononga include:
    - Mana whenua-led planting days with the community
    - Educating the community about mana whenua cultural values, Mātauranga Māori and climate change.

Ngāti Pāoa

The SAP team is currently working with Ngāti Pāoa on various SAP plans within their rohe, including through the development of the Waiheke and Orakei to Tahuna Torea, with the aim of gathering Ngāti Pāoa feedback on the SAP programme and the individual plans. This ongoing partnership has extended to the development of the Pākiri to Mathesons Bay / Te Kohuroa SAP, noting that Ngāti Pāoa has expressed interest in specific aspects of the Pākiri to Mathesons Bay / Te Kohuroa SAP that relate to their rohe.

Multiple hui have been undertaken and a cultural statement in response to the SAP programme is anticipated. The SAP team will continue to work collaboratively with Ngāti Pāoa to input into the implementation of the SAPs for the Pākiri to Mathesons Bay / Te Kohuroa Coast area and other SAPs of interest within their rohe.

Reflecting on the above, this section of the report serves as a "holding statement" for Ngāti Pāoa until the cultural statement can be finalised.

Partnership and Engagement with Ngāti Paoa

Noting the above, to ensure that engagement with Ngāti Paoa for the duration of the SAP programme is effective and meaningful and in accordance with the Te Tiriti o Waitangi / Treaty of Waitangi, the engagement expectations for each stage of the SAP programme are set out below.

- Initiate consultation early: prior to submitting any application for a plan change or resource consent application to ensure perspectives shape decision-making to build trust and address any concerns promptly.
- Ensuring council staff have read and understood the relevant Ngāti Paoa documents (treaty settlement now and when it becomes assented, future management plans) that apply to a project area or any area within the iwi's rohe and understanding co-management arrangements that facilitates joint-decision making.
- Continued offering of resources to support participation and ongoing training and workshops to understand technical aspects and cultural considerations.
- Co-development with Ngāti Paoa to develop detailed designs and mitigation measures incorporating traditional knowledge and values for any SAP approach identified within the rohe.

Ngāti Maru

The SAP programme is working with Ngāti Maru on various SAP plans within their rohe. This ongoing partnership has extended to the development of the Pākiri to Mathesons Bay / Te Kohuroa SAP, noting that many areas and sites across this area hold great significance to Ngāti Maru.

In Tamaki, Ngāti Maru along with other the Marutūāhu Tribes had many fortified pā, sites of significance and Wahi Tapu and a deep whakapapa connection and intermarriages with other early iwi of the district. For Ngāti Maru, occupation in the Tamaki area began many generations before the coming of the British Crown's occupation and settlements.

Noting that engagement is ongoing, this section of the Pākiri to Mathesons Bay / Te Kohuroa SAP will be updated with cultural narrative in future revisions, noting the Ngāti Maru Runanga are yet formalise their Treaty Settlement with the Crown.

Ngāi Tai ki Tāmaki

The cultural narrative shared below serves as a starting point, acknowledging the partnership development and the intention to ensure each SAP report remains a living document and may be updated to reflect further cultural context shared by Ngāi Tai ki Tāmaki.

Acknowledging the statement below is provided as a 'holding statement', the commentary outlines a starting point for the aspiration and processes for fostering meaningful engagement with Ngāi Tai ki Tāmaki as the SAP programme advances through its various implementation phases. Is also emphasises the importance of recognising Ngāi Tai ki Tāmaki interests and ensuring their active participation in the planning and execution of the SAP programme and highlighting that their role as kaitiaki of whenua, wai, and Taonga is respected and upheld.

The rohe boundaries of Ngāi Tai ki Tāmaki have a long and deeply rooted connection to their ancestral boundaries. Prior to the arrival of European explorers and their decision to adopt Tāmaki Makaurau as a hub of settlement and population growth, Ngāi Tai ki Tāmaki upheld their territorial responsibilities for hundreds of years, through the right of ahikā and the expression of manaakitanga to those who arrived on our shores. In some cases, these arrivals became their allies.

Ngāi Tai ki Tāmaki developed sophisticated agricultural practices, supported by domestic trade and well-established societal routes that extended through Tāmaki Makaurau and beyond. Enterprise was a cornerstone of Ngāi Tai identity, grounded in deep knowledge of maramataka, weather systems, and wave patterns.

Regarding the Council's SAP programme, and acknowledging that Ngāi Tai ki Tāmaki wish to protect all of our areas of interest ki uta, ki tai, Ngāi Tai ki Tāmaki kaitiaki responsibilities extend over the area to which this SAP applies.

The partnership between Ngāi Tai ki Tāmaki and Auckland Council within the SAP programme presents a valuable opportunity to ensure that environmental adaptations are culturally aligned, sustainable, and acknowledge the role of Ngāi Tai ki Tāmaki as Kaitiaki. Ngāi Tai ki Tāmaki have identified a set of aspirations and outcomes, with the intention that these are upheld and supported through the implementation of coastal adaptation strategies and SAPs as follows:

- Mātauranga is equally important in guiding coastal adaptation and management strategies and approaches. All coastal / shoreline management should be subject to cultural input and co-design from Ngāi Tai ki Tamaki.
- Ngāi Tai ki Tāmaki prefer the use of 'soft' engineering solutions wherever possible, recognising that interference with natural processes is not always necessary. Where appropriate, we advocate for nature-based approaches to coastal engineering—initiatives that support and enhance ecologically significant areas and vital ecological corridors
- Ngāi Tai ki Tamaki is supported to conduct its own monitoring of the effectiveness of environmental regulation in the protection of its cultural resources, biodiversity wāhi tapu and other taonga within their rohe.
- Kaitiakitanga is embraced and empowered as a commitment to rehabilitate and heal the natural systems that support us all.

Ngāti Whātua Ōrākei

Ngāti Whātua Ōrākei represents the descendants of Tuperiri, who are members of the Te Tāōū, Nga Oho, and Te Uringutu hapū. These hapū exercised customary rights predominantly within the Ngāti Whātua Ōrākei rohe. As mana whenua of central Tāmaki Makaurau, Ngāti Whātua Ōrākei are committed to playing a leading role in shaping the future of our city.

Multiple hui have been undertaken and a cultural statement in response to the SAP programme is anticipated. The SAP team will continue to work collaboratively with Ngāti Whātua Ōrākei to input into the implementation of the SAPs for the Pākiri to Mathesons Bay / Te Kohuroa area and other SAPs of interest within their rohe.

Reflecting on the above, this section of the report serves as a "holding statement" for Ngāti Whātua Ōrākei should they wish to add further cultural narrative in regard to this SAP.

Ngāti Whātua ō Kaipara

The Ngāti Whātua tribal area extends from the Otahuhu Portage/Tamaki Estuary in the south, northwards along both coasts to Whangarei in the east and Waipoua in the west. Ngāti Whātua operates a tribal framework in which the increasing environmental, cultural, economic rating and

societal issues within te rohe o Ngāti Whātua are managed. The South Kaipara takiwa captures the hapū of the five marae of the Southern Kaipara, Ngā marae e rima o Kaipara:

- Rewiti Marae
- Haranui Marae
- Kakanui Marae
- Te Aroha Pā
- Puatahi Marae

The Ngāti Whātua o Kaipara rohe is from Wellsford in the North to Taupaki in the south and includes all the land between these places from the , this is known as the South Kaipara Takiwa.

Acknowledging these interests from coast to coast, the SAP team has engaged with Ngāti Whātua o Kaipara on the SAP programme and the individual plans within their respective rohe.

The Pākiri to Mathesons Bay / Te Kohuroa SAP is within the wider rohe of Ngāti Whatua ō Kaipara.

Reflecting on the above, this section of the report serves as a "holding statement" for Ngāti Whātua until the cultural statement can be finalised.

Marutūāhu Confederation (Collective)

The Marutūāhu Confederation (collective) is comprised of Ngāti Maru, Ngāti Pāoa, Ngāti Tamaterā, Ngaati Whanaunga and Te Patukirikiri (of Kapetaua). The interests across the Marutūāhu iwi extend from Mahurangi in the north to the Bay of Plenty in the south (as shown in Figure 3-2), noting that the individual rohe bounaires of each iwi entity within this conferderation may fluctuate in terms of areas of interest.

Responding to matters raised during individual hui over 2024- 2025, engagement has been undertaken with the Marutūāhu as a collective, with a statement in response to the SAP programme anticipated.

The intention is that this statement will set out a response to the SAP program, an overview of customary acknowledgements and historical accounts, as well as expectations around engagement and aspirations for the Marutūāhu confederation in relation to coastal management across Tāmaki Makaurau.

Acknowledging the cultural footprint of the Marutūāhu confederation (as per Figure 3-2), the SAP team will continue to work collaboratively with the Marutūāhu collective to reflect this statement in future revisions of the Pākiri to Mathesons Bay / Te Kohuroa SAP, as well as other SAPs of interest. The collective statement will also aim to enhance and provide vital context to the individual contributions each iwi has and will make to the SAP programme.

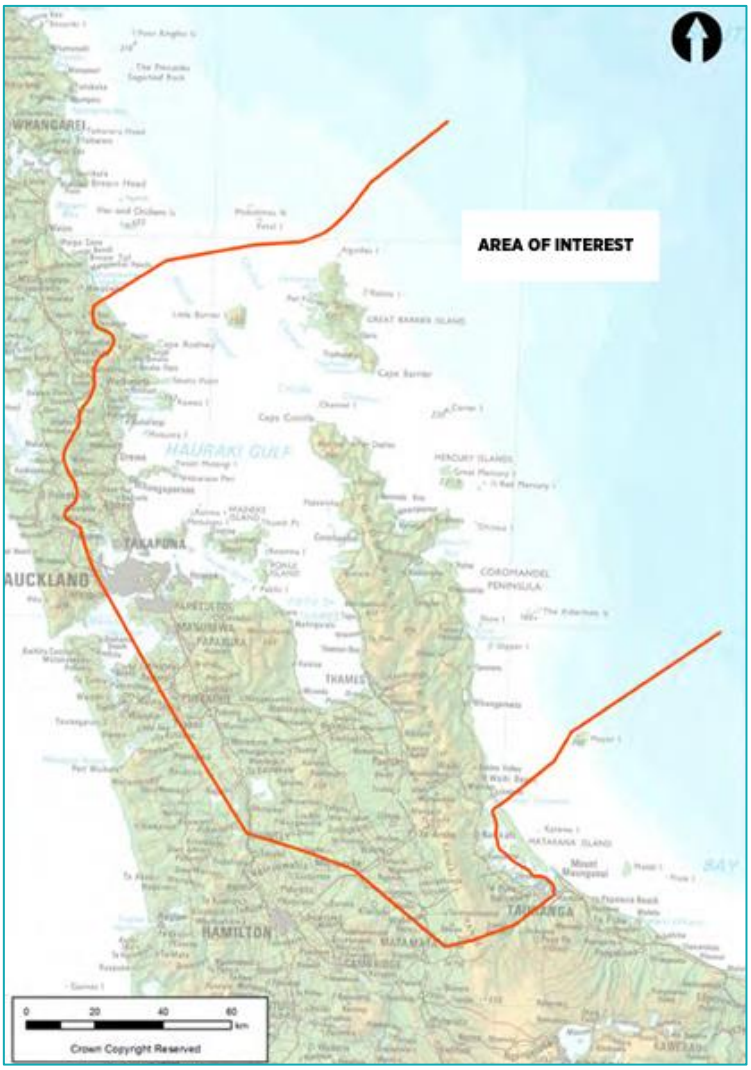
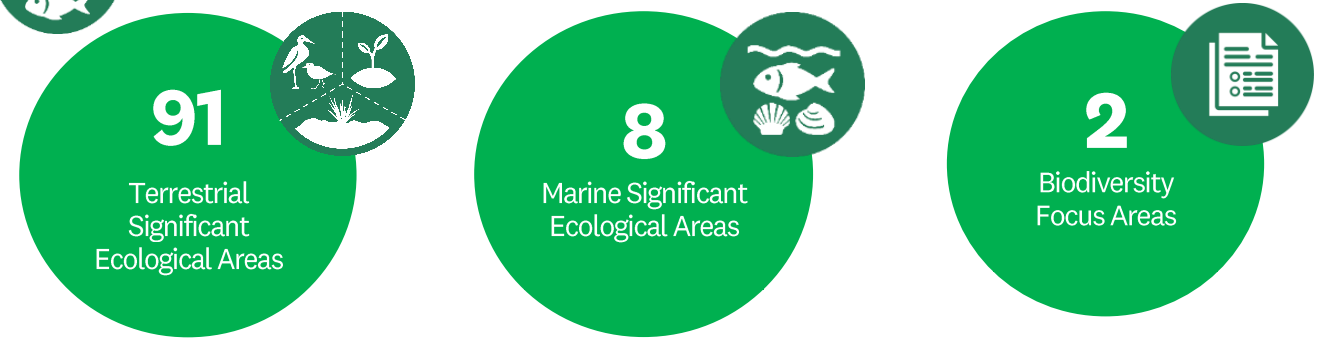


Figure 3-2: Marutūahu Collective Iwi areas of interest. (New Zealand Government, 2018

3.4 Ecological context



Ecosystems and significant ecological areas

The Pākiri to Mathesons Bay / Te Kohuroa SAP area is located within the Rodney Ecological District (ED), featuring 23 indigenous ecosystem types that cover approximately 790 ha within the boundaries of this SAP area. These include seven forest ecosystems, three regenerating ecosystems, one coastal saline ecosystem, six wetland ecosystems, one dune ecosystem, one cliff ecosystem, and four regional variants, as described by the regional ecosystem classification system (Singers N. , et al., 2017). Whilst this SAP area is highly modified for residential and rural use (McEwen, 1987), prior to human modification, this ecological district would have been dominated by podocarp-broadleaved forest, with tall kauri forest on the inland ridges and slopes and dense taraire, tōtara and kahikatea forest within some of the valley floors (Goldwater, et al., 2012). Pōhutukawa-dominant coastal forest, saltmarshes, swamp forests and wetland ecosystems would have bordered the coastal environment. The ecological district has been subject to extensive forest clearing and land modification for rural and urban use, with most indigenous ecosystems significantly reduced from their original extent (McEwen, 1987; Goldwater et al., 2012).

The SAP marine area is included within the boundaries of the Hauraki Gulf Marine Park, with the Hauraki Gulf Marine Park Act emphasising conservation, sustainable management, and protection of natural and historic resources within this area. Any proposed activities, including building structures or dredging, require a thorough assessment of potential adverse impacts on marine ecosystems, habitats, and cultural sites. The marine area within Unit 4 is also part of the Cape Rodney – Okakari Point Marine Reserve (Te Hāwere-a-Maki / Goat Island) administered by DOC. The marine reserve provides habitat for a rich diversity of marine fish, crustaceans, cnidarians, cephalopods, and other species.

Key regulatory considerations for the Pākiri to Mathesons Bay / Te Kohuroa coastline from an ecological perspective include the Hauraki Gulf Marine Park Act 2000, the New Zealand Coastal Policy Statement Policy 11: Indigenous Biodiversity and Auckland Unitary Plan – Operative in Part: Significant Ecological Areas. The Rodney Local Board Plan (2023) also outlines key objectives and initiatives related to biodiversity.

A summary of vulnerable ecological features and values across the Pākiri to Mathesons Bay / Te Kohuroa SAP coastline are discussed in the table below.

Table 3-1: Summary by SAP unit of Pākiri to Mathesons Bay / Te Kohuroa vulnerable ecological features and values.

Unit	Summary of ecological features and values
1	The boundaries of Unit 1 start in the north at Tara Iti Golf Course and end at Te Ārai Regional Park. • The northern section of Unit 1 is bordered by the Mangawhai spit and island areas (outside of the Auckland Region), which are recognised as one of the four remaining breeding sites for fairy tern (*Sternula nereis*, Threatened – Nationally Critical). Fairy tern intermittently use the Te Ārai River mouth and other habitat along the coastline. • The coastline is bordered by intact spinifex, pīngao dunelands (DN2 – Regionally Endangered) that is utilised by a variety of shorebirds, including black shag (*Phalacrocorax carbo*, At Risk – Relict) and white-fronted tern, katipō spider and shore skink. Regionally significant populations of sand coprosma is also found along the back dunes of this unit. • There are several areas of mānuka, tangle fern, scrub, fernland and *Machaerina* sedgeland situated adjacent to the Tara Iti golf course. • Te Ārai Regional Park is comprised of a mosaic of important ecosystems, including coastal cliff vegetation dominated by pōhutukawa and spinifex, pīngao duneland. A shallow reef and rocky shore system lies below the coastal cliffs. • The regional park also contains three regionally significant dune lakes that are surrounded by the only two sites of mānuka, greater wire rush, restiad reedland and some of the best remaining examples of herbfield. There are several threatened plant species found in the dune lakes and they also provide habitat for cryptic wetland birds. Black mudfish is found in one of the lakes – one of the few remaining populations in the region (Auckland Council, 2022d). • This site is also a Biodiversity Focus Area (BFA), therefore Council, Ngāti Manuhiri, the local community, and DOC are all involved in protecting and enhancing the biodiversity values of the dune lakes through revegetation, pest plant control and animal pest control. • Pest plant control and animal pest control is also undertaken within Te Ārai Regional Park.
2	Unit 2 consists of the stretch between Forestry Beach and Pākiri River, which is lined by spinifex, pīngao dunelands (DN2). • Three other regionally important dune lakes (Tomarata Lake, Slipper Lake and Spectacle Lake) are in the northern section of this unit and are included in the same BFA as the dune lakes above and are therefore actively managed. Similarly, these lakes have wetland margins (WL19 – Regionally Endangered, WL18 – Regionally Critically Endangered, WL11, and WL2 – Regionally Critically Endangered). There are several rare plant species found in the margins of these lakes, including wire rush, and *Machaerina complanate*. Australasian bittern, fern bird, fairy tern and grey duck have all been recorded utilising these dune lakes. • Pākiri River is a tidal stream with a small estuary and bordering saltmarsh (SA1.3) that grades into the adjacent dunelands. Several wading, coastal, and cryptic fringe birds utilise this vegetation sequence. A range of native freshwater fish have also been recorded in Pākiri River and its tributaries, including longfin eel and inanga. There is a large wetland area, called Pākiri Valley Swamp Forest, further inland from the river mouth that is dominated by flaxland.
3	Unit 3 consists of the stretch of coastline between Pākiri River to Pākiri Regional Park. • Although dominated by planted vegetation, Pākiri Regional Park does contain some small remnants of kauri, podocarp, broadleaved forest, kauri ricker forest, pōhutukawa-dominated cliff vegetation and coastal broadleaved forest .

Unit	Summary of ecological features and values
	• The dunelands are reduced within this unit to a small area to the south of the river which has also been identified as a BFA (i.e., Pākiri Dunes). Council is actively managing the dune and wetland ecosystems in this area through revegetation and protection against further degradation via fencing (Auckland Council, 2022d). • There is a biogenic green-lipped mussel reef in the marine area at the southern end of this unit. Mussel reefs are recognised as marine biodiversity hotspots and offer crucial ecosystem services.
4	Unit 4 includes the coastal land between Te Rere Bay to Panetiki Island and is characterised by coastal cliffs and rocky outcrops. • Leigh Recreation Reserve is characterised by coastal broadleaved forest dominated by pōhutukawa. There is a *Machaerina* sedgeland to the south of the reserve. • Goat Island Scenic Reserve is located offshore to the north of Goat Island Marine Discovery Centre and is classified as WF4. The island and its surrounding marine environment contain a regionally significant sequence that grades from marine algae to coastal forest. Red-billed gull, white-fronted tern, and other seabirds are known to nest on the island. • This marine area within this unit is part of the Cape Rodney – Okakari Point Marine Reserve (Goat Island) administered by DOC. The marine reserve provides habitat for a rich diversity of marine fish, crustaceans, cnidarians, cephalopods, and other species. Little penguin are known to breed along the rocky coastline from Goat Island to the Leigh Reef.
5	The last unit encompasses Leigh and Omaha Cove (also known as Leigh Harbour) – there are several reserves within this unit that are classified as indigenous coastal forest ecosystems. These are as follows: • Leigh Scenic Reserve lies to the east of Mount Pleasant Drive and is classified as coastal broadleaved forest. • On the other side of the harbour, Ferndale Avenue Recreation Reserve comprises both WF4 and kauri, podocarp, broadleaved forest. • Leigh Wharf Reserve is also classified as WF4 and from this reserve there is a contiguous vegetation corridor that includes Harbour View Road Coastal Reserve, Wonderview Road Esplanade and Matheson Bay Reserve. Forest gecko have been recorded utilising this corridor.

A more detailed discussion of the key features, located within each unit, is included in Volume 3. This includes ecological features and values that may influence the selection of adaptation strategies or are vulnerable to climate change hazards.

Potential opportunities: nature based solutions?

Coastal environments around the world are under pressure from climate change. Pressures can vary from localised flooding and erosion to changes in habitats and species distribution. To avoid losing highly valued, vulnerable ecosystems, there is an opportunity to consider a range of nature-based solutions.

For example, where indigenous ecosystems are threatened by increasing inundation and sea-level rise, supporting ecosystems to shift inland, or allowing to adapt naturally is encouraged. Another opportunity is to utilise nature-based solutions (e.g. beach nourishment, dune planting) to protect shorelines from climate change in favour of hard protection structures, which can cause displacement of impacts further around the coastline and coastal squeeze (amongst other

impacts).Recognising the microcosm of ecosystems lining the Pākiri to Mathesons Bay / Te Kohuroa SAP coastline, opportunities for nature-based solutions will be factored into decision making in implementation.

Table 3-1 has been informed by Significant Ecological Area (SEA) schedules and descriptions (Auckland Council, 2024t), Biodiversity Focus Area (BFA) information, fauna and flora records and other publicly available information. These ecological features and values should be considered alongside the significant cultural values associated with them and where possible, factored into decision making. Statutory direction to protect and enhance the Pākiri to Mathesons Bay / Te Kohuroa area is reflected in several national and regional policy documents and more specifically, local board plans for the seven local boards, as noted in the social and policy sections above.

3.5 Social and policy context

The social (and policy) context provides a foundation of knowledge for testing adaption strategies and the key drivers for each community, their assets, uses and how this may be conveyed in local policy within a SAP area.

It is important to understand who lives in an area and how they use and interact with coastal areas to understand the role that Auckland Council land and assets play in supporting community and social outcomes. Considering what communities have already conveyed as important and the outcomes or aspirations they may have adopted in policy also complements the engagement undertaken directly with communities.

Who lives here

Pākiri to Mathesons Bay / Te Kohuroa has a population of approximately 1,000 (Statistics New Zealand, 2018). The median age is 42 which is the same as the regional average of 42. Within the area, 93% of the population identify as being of New Zealand European ethnicity which is higher than the regional proportion of 56% (Statistics New Zealand, 2018). Other ethnicities include Māori (13%), Asian (2.9%), Pacific Peoples (1.7%), The Māori population in this area is close to the Auckland regional proportion of 11%.

Leigh is the main settlement and only urbanised part of this SAP area. It contains primarily low-density housing and several key social amenities, including a school, local shops, and parks. It is bordered to the south by Te Kohuroa / Mathesons Bay, which is a site of significance to mana whenua and contains a popular reserve and swimming beach. While Leigh is the primary community within the SAP area, the closest settlement for residents in the northern units is Mangawhai (within Kaipara District, Northland).

Community groups and organisations

Based on desk-top research approximately 15 active community organisations[4] have been identified within the SAP area. This review of organisations will be supplemented by consultation and engagement feedback that furthers the understanding of the range of activities the community is involved in. These are clustered around Leigh (Unit 5) and include six environmental groups and seven neighbourhood or business community groups. As one of New Zealand's premier golfing destinations, this area also contains two golfing clubs across Units 1 and 2.

Several of these groups advocate for preservation and restoration of the natural environment, including Pest Free Leigh (n.d.), Save Our Sand (2024) (which advocates against sand mining), and the Leigh Harbour Valley Society (n.d.) and Pāriki Community Landcare (n.d.) which aim to re-establish and restore native bush in coastal areas.

[4] These were identified through a community organisation mapping exercise that included reviewing maps and desk-top based research

Most of these community groups are coordinated online, however at least two (the Leigh Community Group and the Leigh Bowling Club) meet at the Leigh Bowling Club (2024), located within Council's Leigh Domain. Most others appear to operate within public open and coastal spaces rather than having dedicated meeting spaces.

Relevant Policy

Understanding the regulatory and policy context applicable to the area helps us understand previously expressed issues by the communities, as well as their values, objectives and aspirations.

The table below provides a summary of key objectives and/or initiatives in the most pertinent plans for the development of the Pākiri to Mathesons Bay / Te Kohuroa SAP. It is not an exhaustive list of all regulatory and policy context. Additionally, a spatial representation of key regulatory and policy features within this SAP area (again, a non-exhaustive representation) is included overleaf for reference. Key documents are identified as applicable to the programme in Volume 1 and at a unit scale in Volume 3.

Table 3-2: Regulatory and Policy Context of the Pākiri to Mathesons Bay/Te Kohuroa SAP area

Document/Plan	Unit	Key objectives and/or initiatives

Rodney Local Board Plan 2023 (Rodney Local Board, 2023a)	All	The Local Board provides the following direction to protect and enhance the Pākiri to Mathesons Bay / Te Kohuroa area:
		• Support initiatives to prevent pollution in waterways and the marine environment.
		• Restore freshwater ecosystems and wetlands through riparian planting and sediment reduction.
		• Support mana whenua to enhance and restore biodiversity in Rodney, including coastal infrastructure, waterways, sites of significance, urupā, wāhi tapu.
		• Support initiatives to manage pest plants, animals, and pathogens to improve sites of high ecological value.
		• Future land use possibilities have been identified through the Local Board's aspirations for the future of the area. These aspirations include:
		  ○ The board intends to protect and enhance the biodiversity values of significant ecological areas including the Pākiri/Te Arai coastline.
		  ○ Trail access from Pūhoi to Pākiri in Rodney is being established.
		  ○ Māori outcomes, with a growing and young Māori population in the area and numerous iwi and hapū which whakapapa here, are important.
		• The Local Board advocates for increased funding for improving unsealed rural roads.

New Zealand Coastal Policy Statement	All	Policy 11: Indigenous Biodiversity: • The ecological features and values within the Pākiri to Mathesons Bay / Te Kohuroa area include those that meet NZCPS Policy 11 clauses such as Threatened and At-Risk species and ecosystems. The NZCPS requires that adverse effects are avoided or managed to maintain significant ecological values. These values are described in Table 4 above and are generally captured within the SEA terrestrial and marine sites.
Auckland Unitary Plan – Operative in Part	All	Significant Ecological Areas: • There are 91 terrestrial SEAs and 8 marine SEAs identified under the AUP:OP within the Pākiri to Mathesons Bay / Te Kohuroa area. • It is important to note that while the SEA overlay encompasses majority of the region's terrestrial and marine biodiversity, there are additional ecosystems, habitats and corridors that will not have been captured.
Hauraki Gulf Marine Park Act 2000	All	The marine area within the Pākiri to Mathesons Bay / Te Kohuroa area is included within the boundaries of the Hauraki Gulf. • The Hauraki Gulf Marine Park Act emphasises conservation, sustainable management, and protection of natural and historic resources within this area. • Any proposed activities, including building structures or dredging, require a thorough assessment of potential adverse impacts on marine ecosystems, habitats, and cultural sites.
Tāmaki Makaurau Recovery Plan	All	• This plan sets out the actions needed to recover from the severe weather events of 2023 in Auckland. It also paves the way for local-level recovery planning and future actions which can create resilience and reduce future hazards. • It encourages a coordinated approach to assessing risk and the consideration of how the costs of adapting to climate change can be met, acknowledging that this requires a broader range of planning and funding tools than is currently available.

Regulatory and Policy Features

Pākiri to Mathesons Bay/Te Kohuroa

Community use

Most of this SAP area is rural and relatively remote. Pastoral agriculture and forestry occupy much of the land area, particularly in Units 1-3. It is key to note that due to the large size of this SAP area, the closest urbanised area for those located in these northernmost units is Mangawhai (Kaipara District, Northland), rather than Leigh. The key attractors in the area are the regional parks, beaches themselves and the golf courses (Tara Iti Golf Club and Te Arai Links), which are highly regarded and draw visitors internationally.

Leigh is the main and only urbanised and predominantly residential part of this SAP area. Leigh contains low-density housing and several key supporting social and commercial services, such as a school, local shops and, just outside the SAP area, a live music venue, the Leigh Sawmill, with local and international acts for which people travel to the area (Stuff NZ, 2023). Leigh Sawmill (n.d.) and other sites in the surrounding area also provide accommodation options. Goat Island (Cape Rodney-Okakari Point Marine Reserve) attracts visitors from across the region, particularly during peak holiday periods. It is home to the Goat Island Marine Discovery Centre and University of Auckland laboratory, which hosts public and school groups from across Auckland and has accommodation for students and a fleet of research vessels (University of Auckland, n.d.).

No significant population growth is planned within the Pākiri to Mathesons Bay / Te Kohuroa SAP area, with most land zoned rural, open space, or rural and coastal settlement (Auckland Council, 2016). Future land use possibilities have been identified through the Rodney Local Board's (2023a) aspirations for the area. These are not identifying overall population growth and instead include:

- The board intends to protect and enhance the biodiversity values of significant ecological areas including the Pākiri/Te Ārai coastline
- Trail access from Pūhoi to Pākiri in Rodney is being established
- Māori outcomes, with a growing and young Māori population in the area and numerous iwi and hapū which whakapapa here, are important
- The Local Board advocates for increased funding for improving unsealed rural roads.

Local community organisations also form an important element of community social infrastructure, with key community groups engaged to provide feedback which has informed the development of the Pākiri to Mathesons Bay / Te Kohuroa SAP.

Community buildings / assets

Social infrastructure, which may be located on Auckland Council-owned land or other landholdings identified by the community is relevant to the consideration of adaptation strategies. Note that while the adaptation strategies relate to Auckland Council-owned land, infrastructure and assets, the wider social context of the area has been considered when determining strategies in terms of understanding how the community use and value the area.

All buildings serving a key social function in this SAP area are located within or near Leigh. With the exception of Ōmaha Marae, which sits on the northern coast of Ōmaha Cove, these buildings are clustered around the Leigh School, forming a central area for community activity. The following list

identifies key social infrastructure located within approximately 300 m of the coast. Just outside this area are also the Leigh Bowling Club, tennis courts, fire station, and a motel (Auckland Council, 2024a).

- Leigh School (2022) – a semi-rural school with a roll of approximately 60 and an environmental focus, connected to the adjacent Leigh Community Preschool (n.d.) which take up to 28 children.
- Leigh Community Hall.
- St. Michael's and All Angels Anglican Church; the parish based in Warkworth holds monthly services at this church in addition to their weekly home services (Warkworth Anglican Parish, 2024).
- Ōmaha Pā, Marae for Ngāti Manuhiri and Te Uri-o-Katea, and site of Wahi Tapu at Waikowhai (Omaha Marae, n.d.).

Emergency services, facilities or key infrastructure

Rodney Local Board is anticipating significant population growth, however nearly all of this is anticipated to occur outside the SAP area (specifically in Huapai, Dairy Flat, Riverhead, and Warkworth), potentially resulting in greater focus and investment in those growth areas. Despite this urbanisation, the Local Board also aims to achieve vibrant and prosperous rural areas (Rodney Local Board, 2023a).

No major projects are proposed within this SAP area, however the nearby proposed Ara Tūhono motorway extension from Warkworth to Wellsford may improve regional connections between the SAP area and routes north (NZ Transport Agency Waka Kotahi, 2024).

Landscape features and character

Portions of the SAP area are designated as having High/Outstanding Natural Character (HNC/ONC), Outstanding Natural Landscapes (ONL), and/or Outstanding Natural Features (ONF), with four ONFs, six ONLs, two HNCs and one ONC identified within the Pākiri to Mathesons Bay / Te Kohuroa SAP area. These locations are listed below and may hold significant community and regional values associated with their preservation and appreciation (Auckland Council, 2016).

- Pākiri Beach [Unit1/2/3, ONF/ONL]
- Te Ārai and Pākiri Beach [Unit1/2/3/4/5, HNC]
- Lake Tomarata and Spectacle Dune Lakes [Uni 2, ONF]
- Tomarata Lake [Uni 2, HNC]
- West Te Ārai Point [Unit 2, ONL]
- Pākiri Block Road [Unit 2, ONL]
- Pākiri Foothills [Unit 2, ONL]
- Rahuikiri Road [Unit 2, ONL]
- Coastline from Pākiri River to Ōmaha Cove [Unit 3/4/5, ONL]
- Te Hāwere-a-Maki / Goat Island [Unit 4, ONC]
- Leigh Reef and Panetiki Island [Unit 4/5, ONF]
- Mathesons Bay basal Waitemata Group thrusts-cut unconformity and Miocene reef corals [Unit 5, ONF]

There are also several features listed as heritage sites or features under the Auckland Unitary Plan (AUP:OP) (Auckland Council, 2016). These include historic buildings and pā sites. The Pākiri to Mathesons Bay / Te Kohuroa SAP area is home to 11 historic heritage sites which are mostly within Units 2, 3 and 5 (Auckland Council, 2016).

Heritage features are identified at a unit and stretch level in the following sections. It is noted that engagement with Heritage New Zealand may be needed to understand whether any heritage features are exposed to climate hazards or are likely to be impacted by the implementation of adaptation strategies.

3.6 Community Feedback

Community engagement throughout the SAP development process has been extensive to understand how communities use and value their coastal areas including contemporary interests, issues and aspirations regarding their interaction, and use of coastal areas. By identifying broad community objectives which reflect shared contemporary outcomes or aspirations sought by each community for their coastal areas, this can then inform the selection of appropriate coastal adaptation strategies.

Community engagement for the Pākiri to Mathesons Bay / Te Kohuroa SAP ran in parallel to the Ti Point to Sandspit, Snells Beach to Ōrewa and Kaipara Harbour SAPs. Engagement for all four plans was undertaken in two rounds.

To capture a diversity of demographics, a range of events and engagement opportunities were utilised, including both in-person and online engagement. These are summarised in the discussion below, noting that during both periods of community engagement feedback was received via the '*AK have your say'* survey, social pinpoint and email submissions. Refer to Volume 1 for more on the methodology used to plan and undertake community engagement.

Round 1: Values and use based community engagement

The first round of community engagement was focused on understanding community values and uses of coastal spaces and places along each SAP and was open from 8 April 2024 to 31 May 2024.

In person events during this time included:

- 10 May 2024: Wellsford Library
- 11 May 2024: Matakana Village Farmers Market
- 14 May 2024: Ōrewa Library
- 17 May 2024: Warkworth Library
- 18 May 2024: Leigh Community Hall
- 19 May 2024: Helensville Market
- 26 May 2024: Ōrewa Market
- 27 May 2024: Warkworth Town Hall

Running in parallel to digital engagement platforms, public events during this provided an opportunity to inform people of the SAP programme, sharing prior examples with experts to respond to questions as required. The key call to action at these events was encouragement to identify 'what matters most' to them about the public coastal areas and their associated facilities (through sharing this with the team or identifying this on sticky notes on the large format maps) or to use the 'AK have your say' survey or social pinpoint to share their thoughts. Notes from each event captured basic attendance observations and key issues or matters discussed.

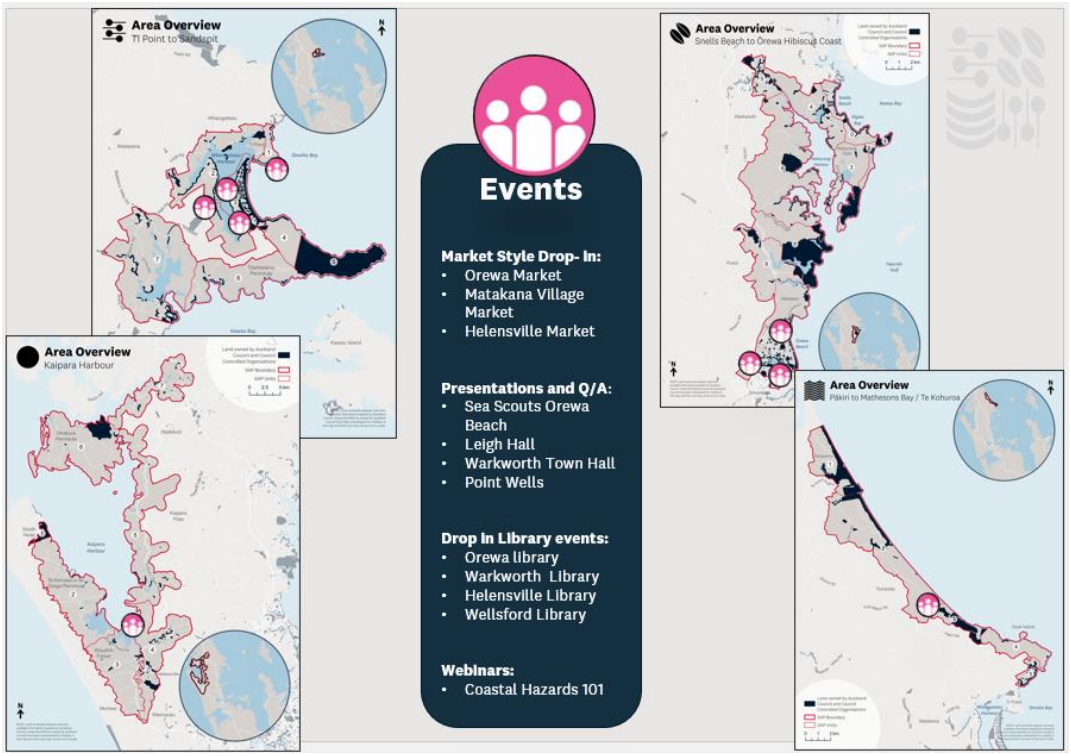
During this time 33 comments were received via the digital platform Social Pinpoint, whilst 112 surveys were completed via AK Have Your Say.

Round 2: Draft coastal adaptation strategy community engagement

The second round of community engagement focused on socialising and seeking feedback on draft coastal adaptation strategies developed based on changing coastal hazardscapes and input from asset owners and infrastructure providers, and local iwi and communities, running from 15 October - 6 December 2024.

In-person events during this time included:

- 11th November 2024: Wellsford Library
- 11 May 2024: Matakana Village Farmers Market
- 4th November 2024: Ōrewa Library
- 21 October 2024: Warkworth Library
- Ōrewa Sea Scouts on 3 December 2024
- 30th November 2024: Leigh Community Hall
- 8th November 2024: Helensville Library
- Point Wells Residents and Ratepayers Meeting on 3 November 2024



Community feedback (in-person and digital) was analysed alongside that which has been received from Local Boards and key stakeholders. Key themes were identified from the feedback and findings at a SAP scale are shown below. Volume 3 includes more detailed analysis of specific feedback alongside any quantitative community views of the draft adaptation strategies that were provided for engagement.

Community uses/ values

In response to 'what matters most' within this SAP area, most respondents noted 'ecosystems, coastal habitats and biodiversity, flora and fauna' highlighting an appreciation of their local coastline; and 'recreation and amenities'.

In terms of activities, a high percentage of respondents recognised passive water- based activities such as swimming or playing in the water; closely followed by walking or running on the beach.

When it came to community uses and values, key themes raised related to asset management and maintenance, with a focus on coastal recreation, parks, and community facilities, highlighting:

- A strong call for regular programs to remove rubbish and other pollution along the coast.
- Requests for Council to respect and observe the rāhui placed on Pakiri Beach.
- Community interest in restoring walking access to Pakiri Beach through collaboration with local iwi.
- Mixed views on allowing dog access to Pakiri Beach.
- A need for improved public signage to educate visitors about the cultural and environmental significance of Pakiri Beach.
- Widespread concern about the poor condition of tracks and pathways, particularly the coastal walk from Leigh to Goat Island.
- Calls for improved coastal road access, with infrastructure designed to withstand the impacts of climate change.
- A desire for better connected and accessible coastal walking routes.
- Improved management of wetland areas to support and enhance local biodiversity.

Community cultural values / comments

Pākiri is considered a place of historical significance, with some respondents emphasising their deep connection to the area, including family traditions and mana whenua rights to manage resources.

Responses expressed a strong support for respecting mana whenua (local Māori) rights, particularly in terms of Rahui (cultural restrictions) and other practices to protect natural resources and allow for restoration when needed. Key comments included:

- *"Engage with local groups and mana whenua to discuss kaitiakitanga strategies."*
- *"Respect when Rahui (Māori restriction tikanga practice) are in place."*

Community values of ecosystems and impacts of climate change

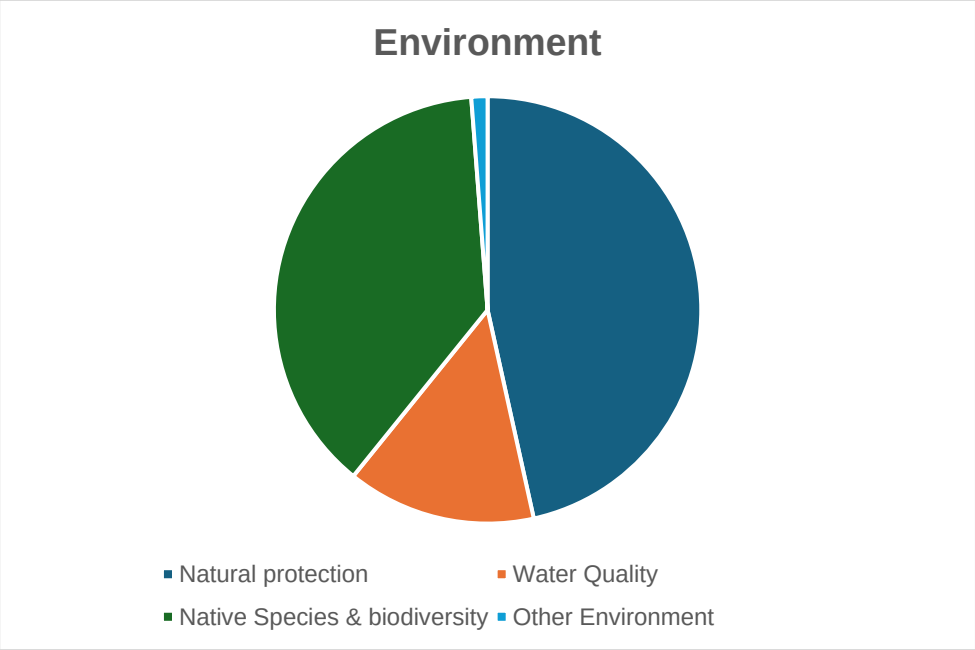
Aspirations for habitat restoration and long-term environmental protection were expressed, particularly around the coastline. The importance of preserving ecosystems for future generations through projects like the Te Kohuroa Rewilding Initiative, were emphasised.

Respondents expressed concern about pollution from wastewater runoff, the impact of mangroves on harbour flushing, and sand mining, which many oppose due to its negative environmental impact. Community volunteers were noted to actively address these concerns, but more effort and resources are needed.

More specifically, matters raised touched on:

- Stronger protections are needed for kaimoana and native birdlife, with some communities advocating for temporary bans on kaimoana gathering and improved dog control
- Community support for the establishment of a marine reserve between Pakiri and Tāwharanui, with marine reserve at Leigh highly important to the local community
- High level of support for dune restoration and long-term protection measures, ending offshore sand mining

- Rivers, estuaries, and wetlands require cleaning and ecological restoration to improve environmental health.



Community experience of hazards / concerns

Coastal erosion was the most common concern cited by respondents, followed by coastal storm events. The impacts of coastal inundation and rainfall flooding were also noted, with a significant proportion of respondents noting an increased frequency of tidal inundation events.

Across the SAP area, concerns about climate change and warming waters, coastal erosion and storm impacts were frequent. The flooding risk for Leigh and Pākiri was noted to be significant, with storm events often cutting off access to these areas, creating emergency response challenges.

Specific themes that came up in community feedback include but were not limited to:

- Ongoing concerns about frequent park, road, and accessway closures due to severe weather
- Issues raised about the environmental impact of grazing—particularly at Pakiri Regional Park—contributing to estuary contamination
- Strong community concern that current road networks are inadequate and vulnerable during extreme weather events
- A clear need for stronger dune protection measures and an end to offshore sand mining
- Repeated flooding of community facilities, such as the Pakiri Cricket Club, remains a significant issue.

Community values and aspirations

Respondents were asked what they would like to see maintained, enhanced or restored in the Pākiri to Mathesons Bay area. The highest mentions were for (note this is not an exhaustive list):

- More/better access to the water/coastline, management of dog friendly spaces
- More shared walking paths and access to the coastal environment (i.e. boat ramps) for recreational water based activities
- More marine protection (supporting the creation of a marine reserve between Pakiri and Tāwharanui), acknowledgement of the protection of local marine resources through supporting a ban on all kaimoana collection at Pakiri
- Increased planting/vegetation to support the natural environment, advancing dune restoration initiatives, and prioritizing the clean-up and ecological restoration of rivers, estuaries, and wetlands.

Community objectives for the Pākiri to Mathesons Bay / Te Kohuroa SAP area

Community feedback received during the period of engagement was collated and reviewed in collaboration with Auckland Council's Parks and Community Facilitates Department, to develop the following high-level objectives:

Coastal connections, use and access	• Work to enhance the management and maintenance of coastal recreation areas, parks, and community facilities by restoring and maintaining public access and walking tracks, ensuring balanced use of beaches (including dog access), and strengthening the protection and ecological health of wetland areas.
Social and Cultural	• Iwi, communities and stakeholders are central to and leading conversations, assessment of options and implementation actions and decision making in relation to adaptation in coastal areas. Rāhui, cultural landscapes and land ownerships across this coastline must be respected in coastal management. • Acknowledging the unique nature of the coast, locally relevant signals and triggers for change are developed, in response to a dynamic coastal environment and sea-level rise, to support adaptation decision making. • Enhancing signage and public education around the coast to support an awareness of dynamic coastal environments, climate change, and adaptation planning.
Responding to risk	• Work to improve the resilience and environmental sustainability of coastal infrastructure and land use by addressing weather-related vulnerabilities, with a focus on upgrading/ maintaining critical road networks to withstand extreme weather events, implementing stronger dune protection measures, and mitigating flooding risks for community facilities.
Environmental	• Support the natural environment by advancing nature-based solutions along the coast (i.e. dune restoration initiatives) and supporting community led initiatives (i.e. coastal clean-up programs) to contribute to ecological restoration of rivers, estuaries, and wetlands along the coast. • Where possible, support the protection and enhancement of local natural environments, water quality, and amenity values—recognising the connection between catchments and the coast, and the opportunity to improve ecological health across these systems.

4

What can we do about it?

Summary of adaptation strategies per unit

The adaptation strategies are identified in the quick reference guide at the start of the document. The table below lists adaptation strategies for each unit and stretch. Volume 3 provides additional detail on adaptation strategies at a stretch level.

Climate scenarios

To reflect that exposure and therefore risk will change depending on climate scenarios, necessitating flexibility to change as required, strategies are split across:

- Low (climate) change – sea-level rise
- Moderate (climate) change – sea-level rise
- High (climate) change – sea-level rise.

Scenarios are indicative only and transitions between strategies will be in response to identified changes in conditions at a given location (i.e. signals, triggers and thresholds).

Auckland Council's adaptation strategies

Coastal adaptation strategies applied to each coastal stretch are described in further detail below:

Icon	Acronym / colour	Adaptation strategy
		**No Action**
		**Maintain**
		**Protect**
		**Adaptation Priority**

Unit	Stretch	Adaptation Strategy		
1: Te Ārai North	1.1: Te Ārai (north)	na	na	na
	1.2 Te Arai central (drainage district & roading connections)	m	apa	apa
	1.3 Te Arai (Point and park area)	m	m	m
2: Te Ārai South	2.1: Forestry access	m	m	m
	2.2: Ngāroto Dune Lakes	m	m	m
	2.3: Pākiri & Rahuikiri marginal strips	na	na	na
	2.4 Pakiri river north	m	apa	apa
3: Pākiri	3.1: Pākiri River south	m	apa	apa
	3.2: Taumata A & B Blocks	na	na	na
	3.3: Pākiri Regional Park (central)	m	m	m
	3.4: Pākiri private land	na	na	na
	3.5: Pākiri Regional Park (south)	na	na	na
4: North Leigh & Cape Rodney	4.1: Te Rere Bay	na	na	na
	4.2: Leigh & Te Hawere-a-Maki (Goat Island)	m	apa	apa
	4.3: Cape Rodney	na	na	na
5: Leigh to Mathesons Bay Te Kohuroa	5.1: Ōmaha Cove	m	apa	apa
	5.2: Leigh Scenic Reserves	m	apa	apa
	5.3: Leigh Wharf	p	p	p
	5.4: Harbour View Point	na	na	na
	5.5: Leigh to Mathesons Bay (eastern coastline)	m	m	apa
	5.6: Mathesons Bay Te Kohuroa	p	apa	apa

4.1 SAP Monitoring and implementation

Implementation of this SAP is a live and developing process which will require continued collaboration across multiple Auckland Council departments and Auckland Council-controlled organisations and entities. This will be undertaken alongside ongoing engagement with iwi to ensure that iwi have a partnership/co-management role in the project design, development, and implementation phases. This is a live document which will be kept updated by Auckland Council to reflect any developments in the ongoing implementation of the SAP.

The SAP area reports are currently anticipated to be reviewed on a five-yearly cycle. This will enable updated information to become available and be appropriately considered. Several specific factors may trigger a review or update of this SAP including review requested by iwi and national or regional legislative or policy changes.

Coastal monitoring activities in the Pākiri to Mathesons Bay / Te Kohuroa SAP area will be considered in implementation to inform signals triggers and thresholds. A more detailed discussion regarding implementation of the Shoreline Adaptation Plan Programme can be found in Volume 1.

References & Bibliography

Auckland Council. (2024). *Regional Parks Management Plan 2022* *https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/parks-sports-outdoor-plans/regional-parks-management-plans/Pages/regional-parks-management-plan-2022.aspx*

Auckland Council. (2017). *Coastal Management Framework for the Auckland Region.* *https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/topic-based-plans-strategies/environmental-plans-strategies/Documents/coastal-management-framework-2017.pdf*

Auckland Council. (2023, December 8). *Auckland Unitary Plan Operative in Part.* Retrieved January 31, 2024, from https://unitaryplan.aucklandcouncil.govt.nz/Pages/Plan/Book.aspx?exhibit=AucklandUnitaryPlan_Print

Bishop, C., & Landers, T. (2019). *Climate change risk assessment for terrestrial species and ecosystems in the Auckland Region.* Auckland Council Research and Evaluation Unit (RIMU) and Chief Sustainability Office. https://knowledgeauckland.org.nz/media/hy1hicvy/tr2019-014-climate-change-risk-terrestrial-species-ecosystems-auckland-final.pdf

Carpenter, N., Roberts, R., & Klinac, P. (2020). *Auckland's exposure to coastal inundation by storm-tides and waves.* Auckland Council. https://knowledgeauckland.org.nz/media/2070/tr2020-024-auckland-s-exposure-to-coastal-inundation-by-storm-tides-and-waves.pdf

Foley, M. M., & Carbines, M. (2019). *Climate change risk assessment for Auckland's marine and freshwater ecosystems.* Auckland Council Research and Evaluation Unit (RIMU) and Chief Sustainability Office. https://knowledgeauckland.org.nz/media/1083/tr2019-015-climate-change-risk-marine-freshwater-final.pdf

iNaturalist. (n.d.). *iNaturalist Observations.* Retrieved January 31, 2024, from *https://www.inaturalist.org/observations*

Singers, N., Osborne, B., Lovegrove, T., Jamieson, A., Boow, J., Sawyer , J., Hill, K., Andrews, J., Hill, S., & Webb, C. (2017). *Indigenous terrestrial and wetland ecosystems of Auckland.* Auckland Council. https://knowledgeauckland.org.nz/media/1399/indigenous-terrestrial-and-wetland-ecosystems-of-auckland-web-print-mar-2017.pdf

Statistics New Zealand (2018). Census Data. https://www.stats.govt.nz/topics/census

The Reserves Act 1977. (2019). https://www.legislation.govt.nz/act/public/1977/0066/latest/DLM444305.html

The Local Government Act 2002. (2019). https://www.legislation.govt.nz/act/public/2002/0084/latest/DLM170873.html