Ngā mahere whakaurutau mō te takutai

Shoreline Adaptation Plan

Kaipara Moana (Harbour)

Volume 2: Introduction to the SAP area

2025

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We would like to acknowledge and thank the Local Boards and Ward Councillors for their ongoing support of the Shoreline Adaptation Plan Programme. The Local Boards and Ward Councillors have actively supported the development of this report, promoting and attending community events and providing valuable insights regarding the challenges for shoreline engagement across the Kaipara Moana (Harbour) coastline. The project team would like to acknowledge their support for the programme, as well as the local community, key stakeholders and third party infrastructure and asset/ landowners (including but limited to NZTA Waka Kotahi and the Department of Conservation) and users of the wider Kaipara Moana (Harbour) coastline for their engagement, support, and ongoing interest in this SAP.

As set out in *Volume 1: Understanding 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.

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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.
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.

Term	Definition
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

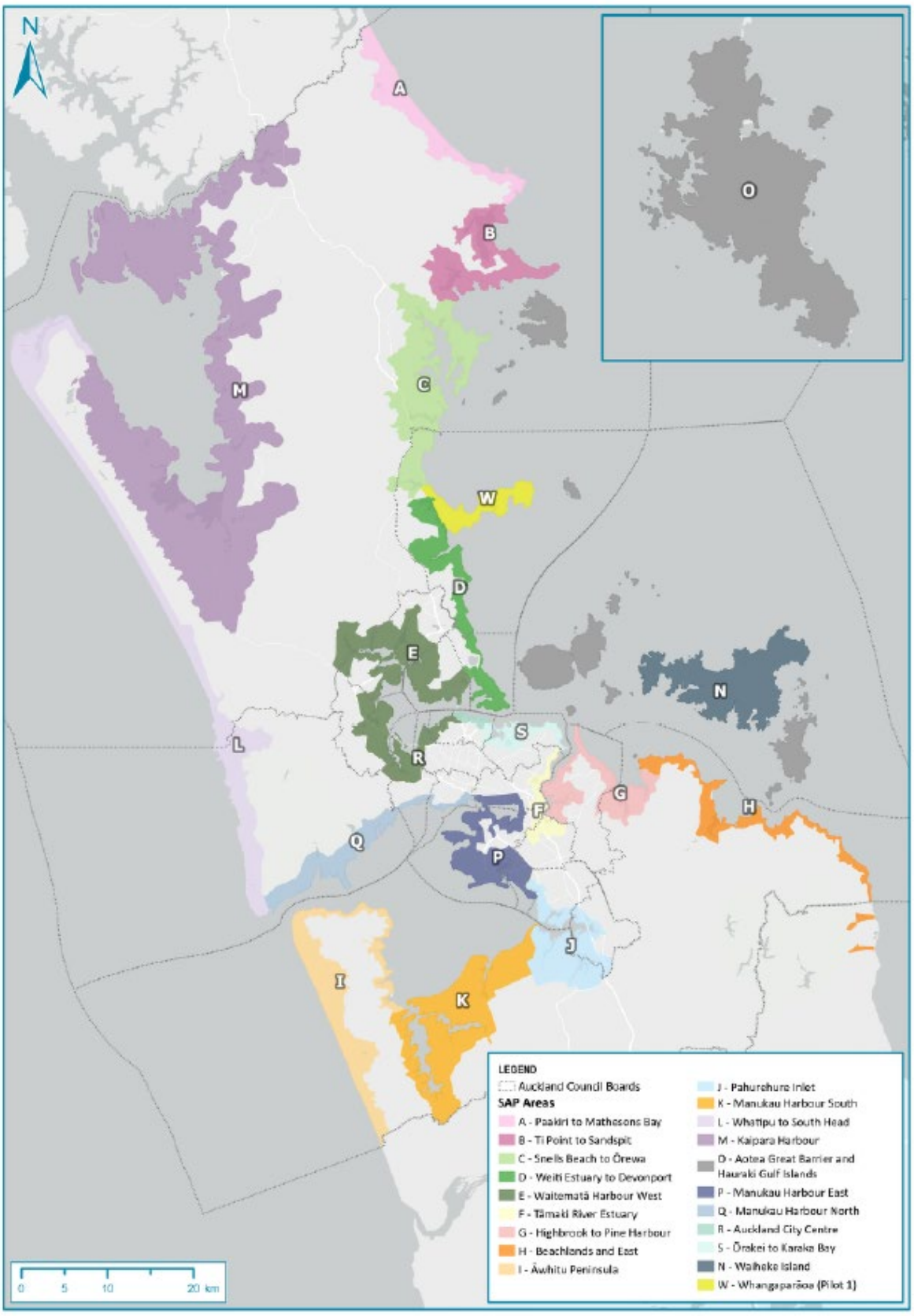
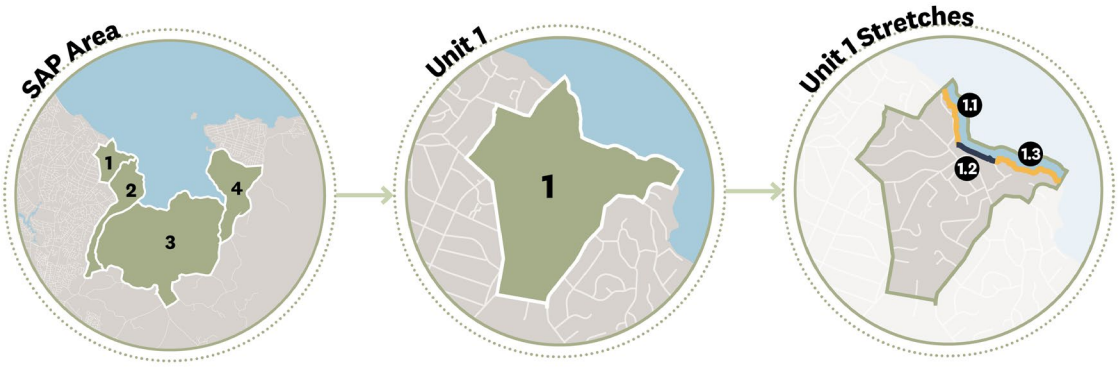


Figure 1-1: Shoreline Adaptation Plans (regional)

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 Kaipara Moana (Harbour) SAP area is situated on Auckland's west coast and covers the Auckland boundary of New Zealand's largest harbour. It extends from Te Rau Puriri Regional Park in the north-west, to Port Albert on the north-eastern shore of the Harbour. The SAP area extends south, following the Kaipara River south to Helensville.

The entire SAP area is contained within the Rodney Local Board area. For the purposes of adaptation planning, the area has been divided into 7 main SAP units, each with a series of discrete stretches. The Kaipara Moana (Harbour) SAP area extends for approximately 400 km of the southern Kaipara Harbour, within Auckland Council's regional boundaries. Most of this SAP area is rural, interspersed with small local communities including Shelly Beach (Unit 2), Glorit and Mangakura (Unit 5), Tapora (Unit 6) and Port Albert (Unit 7). The most notable development is located on the Kaipara River at Parakai (Unit 3) and Awaroa Helensville (Unit 4).

Auckland Council land and assets within the Kaipara Moana Harbour area include (but are not limited to): 1584 ha of park and reserve land (a significant portion of which is designated ecological area), over 120 Council-owned buildings and structures, the Helensville River Reserve Closed Landfill and over 260 km of Auckland Transport road infrastructure. These landholdings and assets support community, cultural and ecological uses and form part of wider landscapes and systems.

The development of shoreline adaptation strategies for this area 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 4) 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 (as set out in Section 2)
- Local iwi, acknowledging the cultural values and associations of iwi which centred on supporting local iwi objectives and aspirations set out in 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).

Figure 1-1: Kaipara Moana (Harbour) SAP area overview

For a number of stretches, a No Action approach is recommended across all climate change scenarios to reflect private property and/ or areas of the coast with limited Council-owned land or assets exposed to coastal hazard risk.

A Maintain approach is applied to support areas with current interventions at the coast, such as existing protection structures and access ways. 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.

A Protect approach is recommended in a limited number of stretches, typically where there are high value assets which will need to be maintained in their current location to allow for continued use, necessitating ongoing defence of the coastal edge. This approach is typically used in areas where critical assets and/or coastal and marine facilities are located on or near the coast, i.e. Aotea Shelly Beach, sections of Awaroa Helensville including the Watercare treatment facility in the low change scenario, Mangakura boat launching facilities and Port Albert.

Adaptation Priority is identified under moderate to high climate change scenarios for much of the coastline reflecting its increasing exposure to coastal inundation and catchment flooding with climate change over time. To ensure a holistic approach to adaptation planning can be supported, this strategy is reflected across key units of the Kaipara River. 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 at locations across the Kaipara Harbour SAP. 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 range of adaptation strategies are recommended across this SAP area, discussed in further detail in Volume 3 and summarised in Section 4 of this report.

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 Shoreline Adaptation Plans, refer to *Volume 1: Understanding the Shoreline Adaptation Plans*.

Coastal context

The Kaipara Moana (Harbour) SAP area extends for approximately 400 km of the southern Kaipara Harbour, within Auckland Council's regional boundaries – starting at Te Rau Pūuriri Regional Park, following the Kaipara Harbour coastline to Tapora, and turning east up Oruawharo River.

The Kaipara Harbour is a complex, drowned-valley/barrier-enclosed type estuary which is broad and predominantly shallow. It is the largest harbour in New Zealand and one of the largest in the Southern Hemisphere with a high-tide surface area of around 947 km^2 and around 800 km of coastline. The harbour extends for some 60 km from north to south at its widest point, with several large arms extending inland. The harbour mouth to the Tasman Sea narrows to approximately 6 km.

Figure 2-1: View of the Kaipara Harbour from Ātiu Creek Regional Park

The harbour contains a diverse range of estuarine environments including extensive wave-exposed intertidal flats, sand barriers, extensive mangrove and salt marsh habitats and large tidal creek systems. The southern arm and Oruawharo River are within the Auckland region. There are many stream flows and rivers flowing into the harbour and low-lying land is prone to coastal inundation and catchment flooding.

The harbour is primarily intertidal and shallow subtidal, but is dissected by deeper channels. Sediments that enter from the ocean-side are typically marine sands, washed in through the mouth of the estuary by waves and tides. Marine sands tend to accumulate in the seaward reaches of the estuary. Sediments that enter from the catchments are derived from erosion of catchment rocks and soils and may comprise a wide range of grainsizes (including clays, fine silts and silts).

Kaipara Harbour and its tributaries have long been associated with 'muddy', turbid conditions. Large-scale environmental changes have been documented within the harbour since European colonisation, including deforestation, kauri-gum extraction and conversion to pastoral agriculture. These changes have substantially increased catchment sediment loads into the harbour.

Figure 2-2: Shelly Beach Looking southward towards one of the mudcrete groynes. Native shells are visible in the seawall in the foreground.

Figure 2-3: Port Albert Wharf

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 Kaipara Moana (Harbour) 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 events.

Figure 2-4 below shows the resulting coastal flooding hazard extents at the Kaipara Moana SAP scale for:

- Coastal Inundation 1% Annual Exceedance Probability (AEP) event (meaning a 1% chance of occurring in any year, or otherwise known as a 1 in 100-year return period)
- The same event with 0.5 m and 1.0 m sea-level rise added (to represent medium- and long-term change).

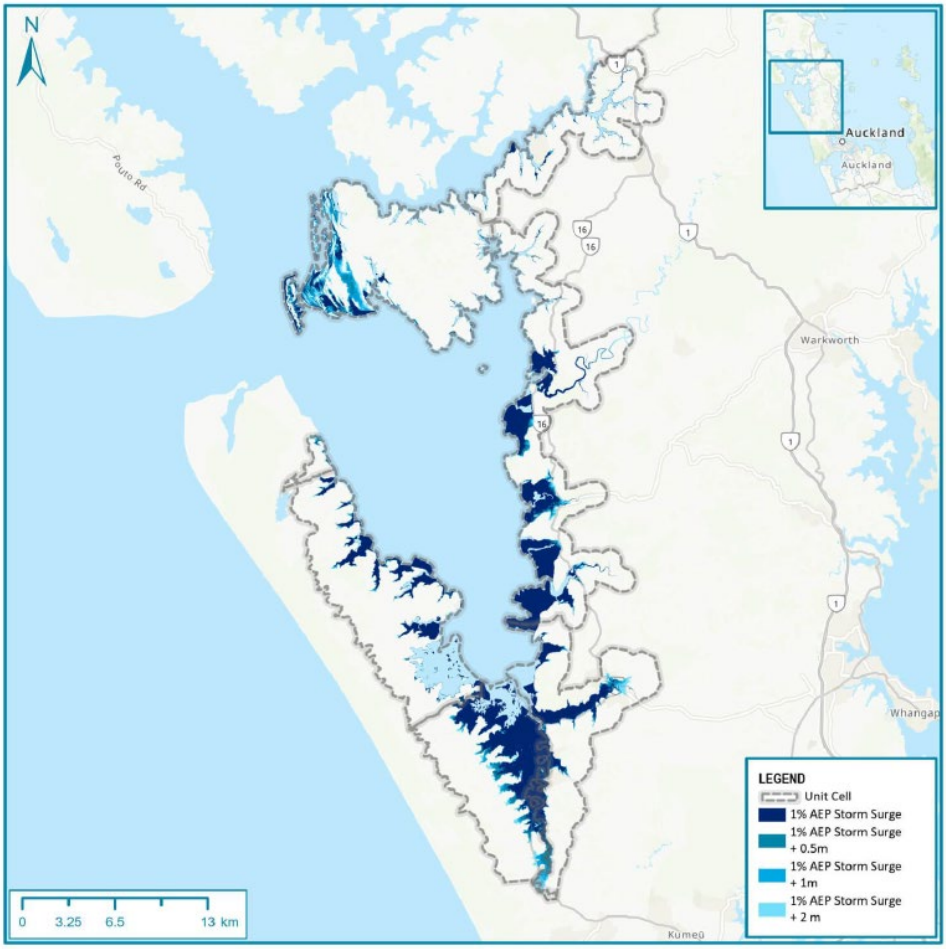


Figure 2-4: Coastal Inundation (CI) for 1% AEP storm surge for present day and with 0.5 m, 1 m and 2 m sea-level rise. Source: Kaipara Moana (Harbour) Risk Assessment Technical Report, 2024, Tonkin & Taylor.

Within the Kaipara Harbour SAP area, coastal inundation flooding is predicted to have the greatest impact on low-lying land and Auckland Council-owned land and community facility assets in a low-change scenario, including Parakai, Helensville and Kaukapakapa. In the moderate to high change scenario, risks to transport infrastructure, environmental and cultural heritage values increase to very high.

Coastal erosion (including sea-level rise)

The areas along the Kaipara Harbour shoreline that are susceptible to coastal instability and erosion (ASCIE) for a range of climate change (sea-level rise) scenarios and periods are published on Auckland Council's GeoMaps (Natural hazards theme). The mapping is based on Auckland Council's technical report *Predicting Auckland's Exposure to Coastal Instability and Erosion.* The regional scale assessment of the ASCIE provides a conservative or 'first pass' appraisal of the natural hazard extent. A more detailed site-specific assessment may be required to quantify exposure and risk of localised land or assets.

Figure 2-5 below shows the resulting coastal instability and erosion hazard extents over changing climate change scenarios. The ASCIEs are shown as a line, representing the distance (in metres) landward of the current coastline that is predicted to be susceptible to coastal instability and erosion, for a given time period.

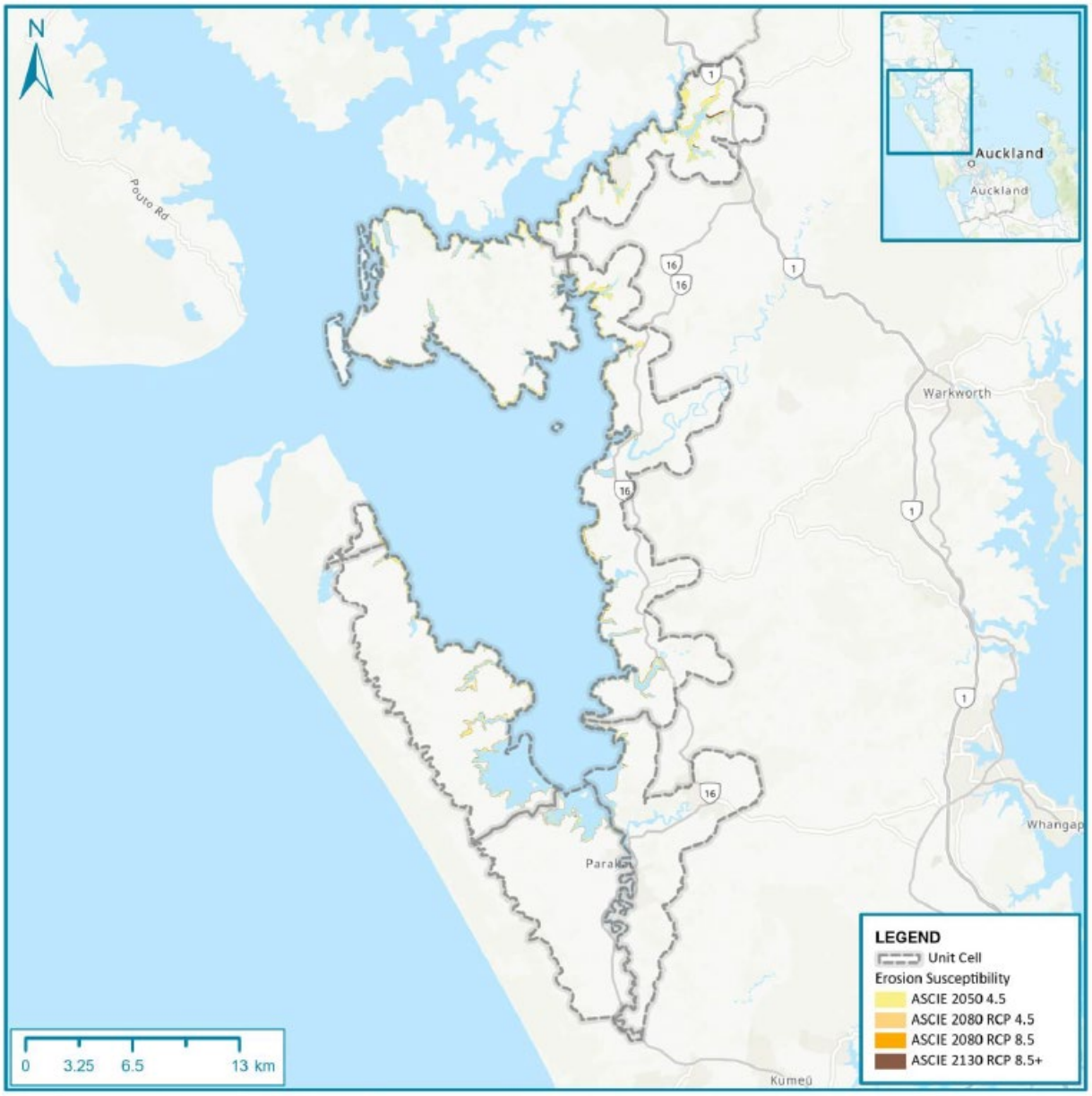


*Figure 2-5:**Coastal Instability and erosion (ASCIE)** susceptibility for 2050, 2080 and 2130 considering RCP4.5 and RCP8.5 emission scenarios. Source: Kaipara Harbour Technical Risk Report, February 2024, Tonkin &Taylor.*

The ASCIE lines indicate a low to moderate coastal erosion risk, reflective of the more sheltered environment of the Kaipara Harbour. Predicted future rates of erosion are greatest on higher elevated sections of coastline such as along the northern boundary of the SAP area northeast of Tapora up the tributary to Port Albert. At the coastal community of Shelly Beach, erosion rates are predicted to be in the order of 30 m to 2130. Coastal erosion prediction terminates before the upper reaches of the Kaipara River at the MHWS boundary; however, it is noted that these areas will still be exposed to stream bank erosion (particularly on outer meanders).

Catchment flooding and climate change

Flooding because 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 frequent natural hazard. The flooding event with the highest probabilistic risk is a 1 % Annual Exceedance probability (AEP) event, because an event of such intensity is likely to result in more severe consequences.

Auckland Council's web-based portal GeoMaps (Natural Hazard Theme) displays the spatial extent of potential flooding. The maps, developed at catchment scale, indicate 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) and future climate change.

The flood plain mapping illustrates that flooding hazards along this SAP area are extensive, noting the number of catchments and tributaries feeding into Kaipara Harbour. The low-lying flood plain of Kaipara River which encompasses Parakai and a proportion the Awaroa Helensville township are particularly notable. This complex floodplain includes interactions with the coastal inundation extent, future sea-level rise and anticipate future groundwater management issues.

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. 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 Kaipara Moana (Harbour) SAP area, the relevant plans can be located here.

2.2 Current coastal management practices

An overview of existing current coastal management across the Kaipara Moana (Harbour) is summarised in the table below and discussed in greater detail in *Volume 3: Adaptation Strategies for the Kaipara Moana (Harbour) Shoreline Adaptation Plan*.

The Auckland boundary of Kaipara Harbour has an extensive coastal edge. However, the SAP area is predominantly rural, both in character and land uses, with limited coastal hazard management practices. A summary of some of the key features is outlined below:

Flood control or management

- Auckland Council manages stormwater assets located on private land in both Glorit and Okahukura, inherited from the former Rodney District Council. These drainage districts relate to discrete areas of rural Auckland where Auckland Council provides ongoing stormwater management services to private landowners. Funding through general rates (since the 1990s) typically includes for weed spraying, mechanical clearing and general repairs to drains, culverts and floodgates.
- Critical Watercare infrastructure is located in Helensville. In 2023, Watercare published Te Rautaki Whakarato a Helensville me Parakai: Helensville and Parakai Servicing Strategy. The strategy outlines Watercare's goals and objectives for managing water and wastewater within the area and includes a section on Adaptative Planning under the Dynamic Adaptive Pathways Approach.
- Along the Kaipara River, including Parakai and Awaroa Helensville, there are numerous flood protection measures in place including legacy stopbanks, culverts and tidal flaps.

Coastal protection

- Shelly Beach Reserve is protected by a 'mudcrete' seawall with integrated accessways and a series of 5 groynes acting to retain beach sediment. The project was completed in 2019, with the mudcrete structures replacing previous haphazard rock groynes and seawalls.
- Mangakura Reserve is partially protected with a weathering 'mudcrete' seawall, adjacent to the boat ramp and wharf.
- A rock seawall is located between the wharf and northern boat ramp at Port Albert.

Nature-based options

- Kaipara Harbour Remediation Programme is the largest landscape programme underway in New Zealand. It represents new models of co-governance, planning, and problem-solving to restore the health and mauri of the Kaipara Moana.

Sand replenishment/ soft or nature based engineering

- Commercial sand extraction is undertaken offshore from Manukapua Island (authorised by resource consents that expire 21 May 2026).

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.

For the Kaipara Moana (Harbour) SAP area (Tonkin + Taylor Ltd, 2024), these risk results were considered consistent for the topography, geology, and land use within the SAP area. This is represented in the table below and at a unit scale in Volume 3.

Figure 2-6: Council-owned land, Council community facilities, transport infrastructure and water infrastructure risk ratings per unit

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

3

3 What matters most?

3.1 Auckland Council land and assets

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.

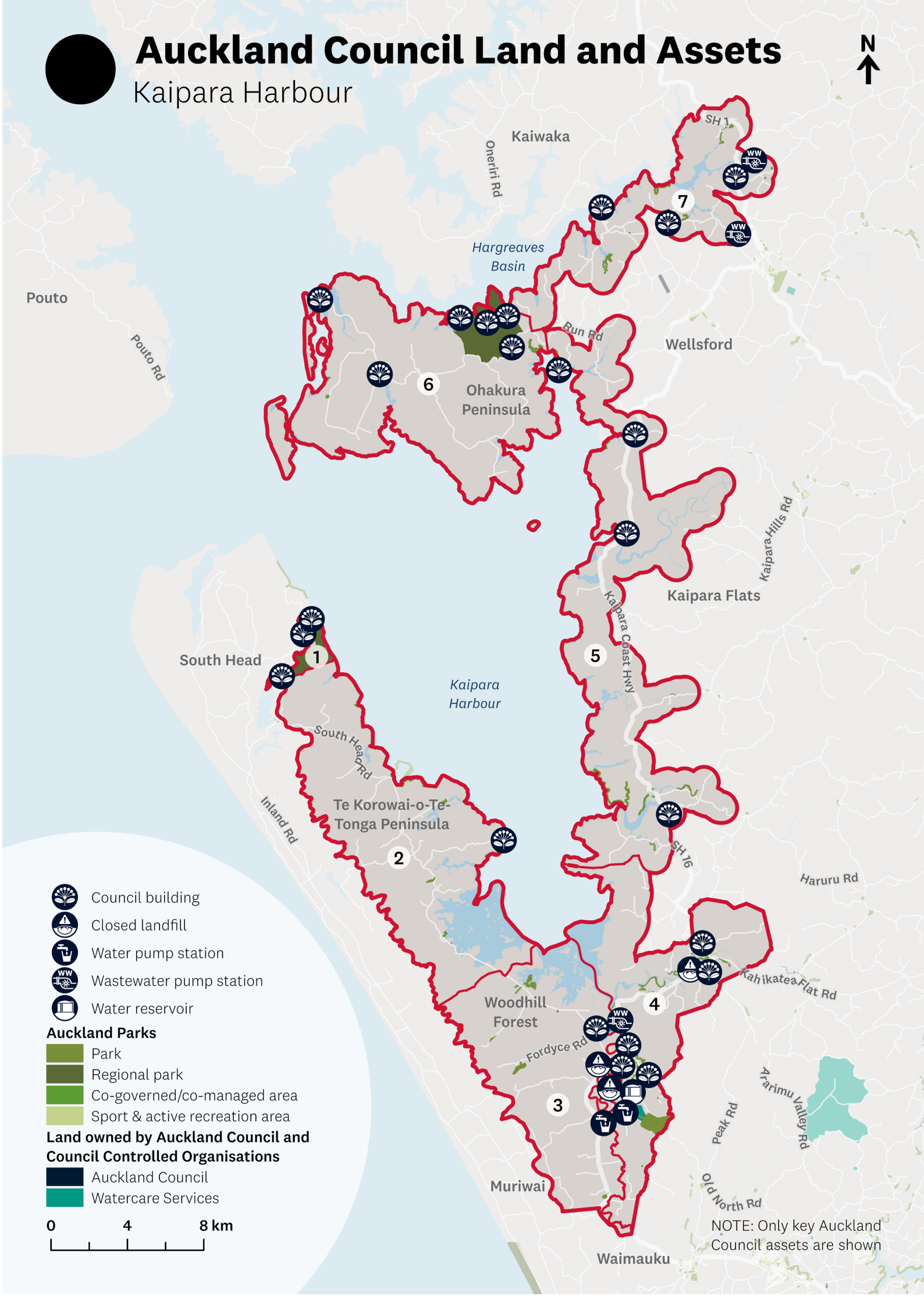
The SAPs were developed with input from key stakeholder partners including Auckland Transport, Watercare Services, and Eke Panuku. Council-owned land is primarily identified through Auckland Council's GIS data; in some areas there are landholdings and facilities which involve numerous asset owners and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

The Kaipara Moana (Harbour) area includes a wide range of Council-owned land and assets, including Regional Parks, reserves and open space, boat ramps, wharfs, parks amenities and facilities and numerous Auckland Council or Council-controlled organisation (CCO)-owned buildings.

The figure overleaf shows the general location of Auckland Council land and assets located within the Kaipara Moana (Harbour) 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

Kaipara Harbour



Auckland Council land and parks

The Kaipara Moana SAP area features several coastal reserves and regional parks, this includes (but not limited to) the main coastal parks and reserves listed below:

- Atiu Creek Regional Park
- Birds Beach Reserve
- Helensville A&P
- Helensville River Reserve
- Kaipatiki Recreation Reserve
- Mangakura Reserve
- Port Albert Wharf Reserve
- Shelly Beach Reserve
- Stables Landing Reserve
- Te Rau Puriri Regional Park

The Kaipara coast is popular with both the local and wider communities for informal recreational activities such as walking and a variety of water-based activities including swimming, kayaking, and boating. Shelly Beach Reserve, Mangakura Reserve and Port Albert are important water access points for the Kaipara Moana.

Two Regional Parks are located within this SAP area, providing a range of Council amenities including walking, mountain biking and horse-riding tracks, restrooms, boat ramps, picnic areas, camping and accommodation.

Water Infrastructure

Water Reservoirs:

- Mangakura Dam
- Wishart Road Reservoir

Pump Stations and Sheds:

- Ātiu Creek Regional Park
- Kaipara Coast Water Supply Well
- Rautawhiri (irrigation)
- McLeods Farm (Te Rau Pūriri)
- Helensville Wastewater Treatment Plant
- Kaipātiki Recreation Reserve

Additionally, Auckland Council manages stormwater assets located on private land in both Glorit and Okahukura areas of the Kaipara SAP area. These have been inherited from the former Rodney District Council. These drainage districts are the only remaining areas of rural Tāmaki Makaurau / Auckland where Auckland Council provides ongoing stormwater management services to private landowners.

Facilities and structures

Council-owned assets are primarily located within the area's Regional Parks and Recreation Reserves. Assets include numerous sheds, toilets, and small buildings with several of these buildings specifically supporting equestrianism. Civic buildings are mostly found in and around Helensville, the largest population centre for this SAP area (Auckland Council, 2024a).

Transport, roads and access

Waka Kotahi's SH16 is a key transport link within this SAP Area. It extends from Wellsford, from the northeast of the SAP area boundary, south through Parakai and Helensville at the southern SAP area boundary. From Helensville, Parkhurst Road transitioning to South Head Road form the main arterial route to Te Rau Puriri Regional Park on the SAP areas north-western boundary.

Coastal access is also provided through footpaths/ coastal walkways near key beaches. A non-exhaustive list of roads that provide coastal access is below:

- Albert Road
- Basil Orr Road
- Burma Road
- Fordyce Road
- Green Road
- Haranui Road
- Jordan Road
- Journeys End
- Marsh Road
- Okahukura Road
- Omaumau Road
- Parakai Avenue
- Run Road
- Saleyard Street
- Shelly Beach Road
- Springs Road
- Tuparekura Road
- Wharehine Road
- Wharf Road Port

Another significant transport feature is KiwiRail's North Island Main Trunk rail line which runs from through the southern boundary of the SAP area at Helensville, in a north-easterly direction through Kaukapakapa.

Access to and along the coast

Much of the coastal land in this SAP area is rural and privately controlled. Within the two regional parks, there is limited vehicle access to coastal areas but walking tracks provide access to remote coast and beaches. Popular walking tracks within the SAP area include:

- Ātiu Creek Regional Park
- Kaipara River
- Shelly Beach
- Te Rau Pūriri Regional Park

Harbour access

The Kaipara Moana (Harbour) area features a variety of reserves which provide valuable water access to the wider harbour. Coastal access is provided through the following boat ramps/ coastal infrastructure (non-exhaustive list):

- Birds Beach Reserve
- Jordan Road
- Makarau River
- Mangakura Hoteo River
- Parakai Springs Road
- Shelly Beach
- Stables Landing Witheford Road
- Te Rau Pūriri Regional Park
- Wharf Road (Point Albert).

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. Acknowledging intrinsic ancestral connections to lands, water, wāhi tapu (sacred areas) and other taonga (treasures) dispersed in remnants around the coast of Tāmaki Makaurau, engagement and collaboration with ngā hapū me ngā iwi o Tāmaki Makaurau is a vital step in establishing partnership through the creation and implementation of SAP area plans under the SAP programme. Auckland Council's commitment to growing and supporting partnerships 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 Kaipara Moana (Harbour) 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 Kaipara Moana (Harbour), 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 Kaipara Moana (Harbour) 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 Kaipara Moana (Harbour) 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. Where no response was received following provision of the letters, email follow ups were provided. Ongoing updates on the SAP programme (including the Kaipara Moana SAP) are also provided through Council's Mana Whenua Forum.

In no particular order of relevance, those who whakapapa to the area and/or have expressed an interest in the Kaipara Moana (Harbour) SAP kaupapa include:

- Ngāti Whatua o Kaipara
- Te Uri o Hau
- Te Kawerau Ā Maki

Throughout the SAP development process, Auckland Council has been engaging with respective iwi representatives to develop individual iwi authored 'Cultural Statements' and/or cultural commentary to inform the understanding of specific and wider cultural values, interests and associations with the coastal environment and the adjoining whenua and to guide the selection of adaptation approaches for each of the stretches set out within this SAP.

It is critical to note that each iwi is the kaitiaki (guardian) of 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 inclusive of the site-focused concept/detailed design and development processes. This will take place through targeted engagement with each iwi group as part of the implementation of this SAP, noting that it is fundamental that a partnership approach is 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 a failure of Auckland Council in fulfilling its obligations to iwi as project partners.

It is also important to note here that whilst the Kaipara District Council's remit is outside of this SAP area, the Kaipara District Plan's Tangata Whenua Strategy includes iwi in policy development and implementation and recognises Iwi Management Plans in consents and decision making. Notably, it "recognises the importance of protecting coastal and waterway environments and other taonga in the Kaipara District. This recognises and provides for the tangata whenua values of tino rangatiratanga and active protection, consistent with the Treaty of Waitangi obligation to actively protect Māori in the use of their land, water and other protected taonga, to the fullest extent practicable" (Kaipara District Council, 2013).

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 Kaipara Moana (Harbour) 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 Kaipara Moana (Harbour) SAP is effective, meaningful and aligned with 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 the kaitiaki responsibilities of local iwi who whakapapa to the area and have a recognised interest in the Kaipara Moana (Harbour) 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 Kaipara Moana (Harbour) 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 Kaipara Moana (Harbour) area and other SAPs of interest within their rohe.

Ngāti Whātua O Kaipara

The SAP team has worked with Ngāti Whātua o Kaipara on various SAP plans within their rohe, with the aim of gathering feedback on the SAP programme and individual plans of interest. This ongoing partnership has extended to the development of the Kaipara Moana (Harbour) SAP, and Ngāti Whātua o Kaipara has expressed interest in specific aspects of this SAP that relate to their core rohe of the Southern 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 west coast to the east coast, this is known as the South Kaipara Takiwa. These areas of core interest hold ancestral history and connections to Ngāti Whatua o Kaipara.

The South Kaipara Heads Peninsula area, in its entirety (with emphasis on the coast) is one of the last remaining areas with a high density of archaeological evidence of tangata whenua. When implementing Shoreline Adaptation Plans the cultural significance of the coastline of the South Kaipara Heads Peninsula to Ngāti Whātua o Kaipara must be acknowledged by taking a partnership approach to the management of these important areas.

Historical Context

Ngāti Whātua signed the Treaty of Waitangi in 1840, beginning a formal relationship with the Crown. However, this relationship was soon undermined by land losses due to poorly regulated sales and large Crown purchases, especially in the upper Waitematā and south Kaipara. Promised benefits like infrastructure were often delayed or never delivered, and the iwi was left with insufficient land for future needs.

By the late 19th century, Ngāti Whātua in the Southern Kaipara faced increasing hardship. Land was sold to repay debts, and political efforts for fair representation fell short. Despite gifting land for public use, the Crown failed to honour the return conditions promised. By 1900, only a small portion of their land remained, and the compulsory vesting of the Otakanini block without consultation further eroded their control. When it was returned in 1958, the iwi faced major challenges due to decades of mismanagement of the land by others.

Settlement

Ngāti Whatua o Kaipara signed a Deed of Settlement on 9 September 2011. This included a comprehensive series of acknowledgements by the Crown, recognising that its actions breached the Treaty of Waitangi and its principles. The Crown formally apologised to Ngāti Whātua o Kaipara for its acts and omissions, particularly those that led to the iwi's virtual landlessness and the resulting social, cultural, economic, spiritual, and physical harm.

The Crown commited to rebuilding and strengthening its historically close relationship with Ngāti Whātua o Kaipara.

Cultural and Environmental Recognition

The settlement also acknowledges Ngāti Whātua o Kaipara's traditional, historical, cultural, and spiritual associations with sites and places within their area of interest that are currently owned by the Crown. This recognition enables both parties to work together to protect and enhance the conservation values of these significant locations.

Sites transferred to Ngāti Whātua o Kaipara

The settlement vested nine sites in Ngāti Whātua o Kaipara totalling approximately 675 hectares, subject to specific conditions including protection of public access and conservation values:

- Atuanui Scenic Reserve
- Mairetahi Landing
- Mauiniu Island
- Moturemu Island
- Tīpare
- Makarau
- Makarau Bridge Reserve
- Parakai

- Ten Acre Block Recreation Reserve
- Joint vesting of Kaipātiki (formerly the Parakai Recreation Reserve)

Kaipatiki (approximately 18.4 hectares) was vested, in trust, jointly in Ngāti Whātua o Kaipara and the Auckland Council. Te Poari o Kaipātiki ki Kaipara (formerly the Parakai Recreation Reserve Board) is a co-governance entity that oversees Kaipātiki. The Kaipātiki Reserve Management Plan outlines a vision for the reserve. The values and principles from this plan will need to be taken into account when implementing the shoreline adaptation plan in this area and those relevant to implementation of the SAPs are as follows:

- Kaipātiki is envisioned as a place for sharing and enjoying natural resources.
- Māori placenames and cultural practices shall be restored.
- Local economy and community engagement shall be enhanced.
- Kaitiakitanga - restoring natural features and protecting habitats.
- Ahi kā – sustaining people and place through cultural resources and volunteer programmes.
- Manaakitanga – Sharing experiences and improving public facilities.

Statutory Acknowledgements

A Statutory Acknowledgement recognises the special association between Ngāti Whātua o Kaipara and a particular site and enhances Ngāti Whātua o Kaipara's ability to participate in specified Resource Management Act processes.

The settlement provides Statutory Acknowledgements over:

- Papakanui Conservation Area and Papakanui Spit Wildlife Refuge;
- Rototoa Conservation Area and Lake Rototoa Scenic Reserve;
- Motutara Settlement Scenic Reserve and Goldie Bush Scenic Reserve; and
- Coastal Statutory Acknowledgement area.

Shoreline adaptation planning by Council must reflect the unique status of Māori land and the enduring relationship of tangata whenua with their whenua and moana. Upholding Te Tiriti o Waitangi in this context means recognising and respecting the rangatiratanga of iwi, hapū, and whānau, while ensuring that adaptation strategies are co-developed and co-implemented.

A Te Tiriti-based shoreline adaptation framework must:

- Uphold the Council's obligations under Te Tiriti, including partnership, protection, participation, and active protection of taonga and wāhi tapu.
- Recognise and support Māori rights and interests in adaptation planning.
- Integrate te ao Māori and mātauranga Māori into all stages of decision-making.
- Provide adequate resources to enable Māori participation and leadership.
- Ensure tangata whenua have decision-making roles in adaptation processes.

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 o Kaipara to input into the implementation of the SAPs for the Kaipara Moana (Harbour) area and other SAPs of interest within their rohe.

Te Kawerau ā Maki

Te Kawerau ā Maki values ultimately stem from Te Ao Māori – our world view – and are given effect through our Te Kawerautanga – the body of tikanga or customs specific to our people. Te Kawerau ā Maki worldview, at its foundational or metaphysical basis, consists of different domains of the world governed by ancestral atua (such as Papatūānuku, Rangi, Tāne, and Tangaroa), and core concepts such as whakapapa (lineage), mana (authority), wairua (spirit), mauri (life essence), and tapu (sacredness). Te Kawerau ā Maki values include ensuring the mana of our ancestors and our descendants is upheld. We emphasise a holistic ethic where people are part of the world, rather than separate from it. The body of knowledge passed down and expanded upon each generation is our mātauranga (what we know of the world). The practices of how to use it is our tikanga (how to navigate the world). While some publicly identified sites of significance and portages have been identified at a local scale across Volume 3, the kōrero around management of these sites is to be lived and activated by Te Kawerau ā Maki and requires ongoing engagement to do so.

Mātauranga shared by Te Kawerau ā Maki includes:

The organization (legal entities) that represent Te Kawerau ā Maki people have adopted the following values and tikanga as guiding principles:

Mana Motuhake	Independence
Kaitiakitanga	Guardianship and stewardship of te tiao
Whanaungatanga	Whanau-focused
Auaha	Innovation
Mātauranga Māori	Culture-led

The table above has been developed as a starting point for guiding the implementation of coastal adaptation strategies set out in Volume 3.0 of this report.

To help guide the use of this table, the following questions have been set out through engagement with Te Kawerau ā Maki, and are to be addressed by Te Kawerau ā Maki during implementation of coastal adaptation strategies:

- Are Te Kawerau ā Maki rights protected?
- Is Te Kawerau ā Maki making/contributing to decision-making or otherwise collaborating?
- Is Te Kawerau ā Maki mana maintained/increased?
- Is Te Kawerau ā Maki identity acknowledged and celebrated?
- Are Te Kawerau ā Maki heritage places protected or otherwise managed and interpreted/activated?

- Is tapu maintained?
- Is mauri maintained/enhanced?
- Can Te Kawerau ā Maki safely collect kai?
- Can Te Kawerau ā Maki access the coastline?
- Can Te Kawerau ā Maki access the harbour?

Table 3-1: Te Kawerau ā Maki framework for Coastal Management across the *Kaipara Moana (Harbour)* SAP

	RaNgātiratanga (whakapapa to place, rights, mana over resources, mana to make decisions, and identity of Te Kawerau ā Maki	**Wairuatanga** (whakapapa to entities, recognition of spiritual elements and practices, protection of tapu)	**Kaitiakitangta** (ability to uphold the mauri of the place, protection of taonga)	**Manaakitanga** (ability to care and provide for guests)
Tangaroa	• Te Kawerau ā Maki rights and associations with the harbour are acknowledged • Te Kawerau ā Maki decision-making is upheld • Te Kawerau ā Maki identity is acknowledged • Our marae and lands are protected	• Tangaroa is acknowledged and the interactions he has with other atua • The interaction between Tangaroa and Taane at coastline is natural, and therefore hard infrastructure/hold the line should be avoided except in exceptional circumstances • Taniwha are acknowledged • Tapu of certain places is protected • Cultural tohu/indicators are utilised	• Mauri is thriving • Kaimoana can be safely collected - mahinga kai • No noa/kino activities are discharged into harbour • Te Kawerau ā Maki can access the harbour easily along the coastline and via boat ramps • Heritage places are protected and celebrated • Native species are protected	• Visitors/public can safely access the coastline • Visitors/public can safely access the harbour • Emergency services can access the harbour • Critical infrastructure is maintained • Kaimoana can be gathered to provide for the needs of guests and customs (i.e. tangi) • Te Kawerau ā Maki can activate tourism opportunities on the harbour

	RaNgātiratanga (whakapapa to place, rights, mana over resources, mana to make decisions, and identity of Te Kawerau ā Maki	**Wairuatanga** (whakapapa to entities, recognition of spiritual elements and practices, protection of tapu)	**Kaitiakitangta** (ability to uphold the mauri of the place, protection of taonga)	**Manaakitanga** (ability to care and provide for guests)
Papatuuaanuku	• Te Kawerau ā Maki rights and associations with the coastline are acknowledged • Te Kawerau decision-making is upheld • Te Kawerau identity is acknowledged • Our marae and lands are protected	• Papatuuaanuku is acknowledged and the interactions she has with other atua • Taniwha are acknowledged • Tapu of certain places is protected • Cultural tohu/indicators are utilised	• Mauri is thriving • Topsoil is preserved • Coastal topography is preserved • Te Kawerau ā Maki can access the harbour easily along the coastline • Heritage places are protected and celebrated - where these are naturally eroding the maatauranga about them is protected e.g. via cultural activation of space	• Visitors/public can safely access the coastline • Critical infrastructure is maintained
Taane	• Te Kawerau ā Maki rights and associations with the coastline and its vegetation are acknowledged • Te Kawerau ā Maki decision-making is upheld • Te Kawerau ā Maki identity is acknowledged	• Taane is acknowledged and the interactions he has with other atua • The interaction between Tangaroa and Taane at coastline is natural, and therefore hard infrastructure/hold the line should be avoided except in exceptional circumstances • Tapu of certain places is protected • Cultural tohu/indicators are utilised	• Mauri is thriving • Native vegetation is protected and enhanced • Vegetation provides for rongoa and textiles (i.e. weaving) • Te Kawerau ā Maki can access areas of native vegetation • Heritage places are protected and celebrated • Native species are protected	• Visitors/public can safely access the coastline • Rongo/textiles can be gathered to provide for the needs of guests and customs (i.e. tangi)

Noting the numerous sites of significance situated along the coastline of the Kaipara Moana (Harbour) SAP, it is important to note here Te Kawerau ā Maki concerns in regard to heritage, noting that only the Te Kawerau ā Maki Trust or its agents can establish the significance of any historic place or area associated with Te Kawerau ā Maki. Heritage in this context refers to Te Kawerau ā Maki's history, culture, traditions, tikanga, place, names, artefacts, wahi tapu and historical places and areas. Each are these are all taonga and their significance is recognised under the Treaty of Waitangi, Conservation Act 1987, Resource Management Act 1991 and Historic Places Act 1993.

Concerns of Te Kawerau ā Maki in regard to heritage include ensuring:

- The protection of Te Kawerau ā Maki heritage without necessarily prohibiting all use and development in areas associated with Te Kawerau ā Maki heritage
- Recognition of and provision for Te Kawerau ā Maki cultural heritage and spiritual values in decision making
- Real opportunities for Te Kawerau ā Maki to manage, enhance and monitor heritage are created, supported and realised
- That Te Kawerau ā Maki's guardianship of our cultural property is recognised and provided for.

It is of note here that the Te Kawerau ā Maki Trust Resource Management Statement has a section on Coastal Marine Areas which identifies areas of key concerns, these identified as being:

- Protecting heritage sites and areas from inappropriate access and development
- Water quality
- The quality and availability of kaimoana
- Waste disposal from boats and the provision of waste disposal facilities for boats
- Development and rental of coastal space
- Additionally, it is noted that the statement discusses the protection of waterways from waste from industry services.

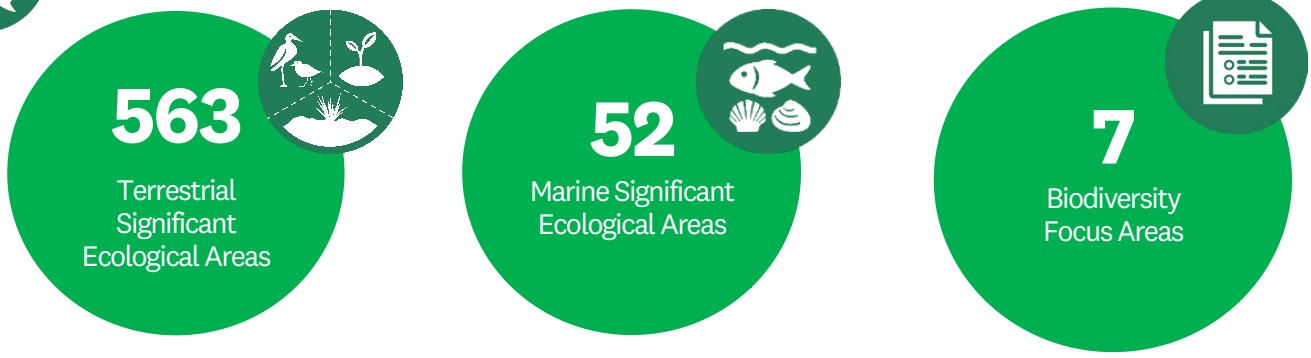
Te Kawerau ā Maki expects to be involved in any plans to improve access to coastal areas to ensure the access does not impact negatively upon heritage sites. Additionally, Te Kawerau ā Maki wishes to be informed and actively engaged in any coastal development proposals in order to assess the likely effects on heritage sites. Other points raised by Te Kawerau ā Maki:

- It is key that the SAPs are clear that in the Māori world view it is tikanga that guides the activities and practices in respect to the taiao, including within Tangaroa and on Papatuanuku. The interactions of these environments need to be developed but not reinvented.
- Mātauranga is equally important in guiding coastal adaption and management strategies and approaches. All coastal / shoreline management should be subject to cultural input and co-design.
- It is the preference of Te Kawerau ā Maki that 'soft' engineering is used where required, noting that there is not always a need to interfere in the natural processes.
- An acknowledgement that areas may not be able to be, or need to be, 'saved' as nature is the dominant force, with the loss of the whenua and sites being in part accepted as coastal

adaptation. Te Kawerau ā Maki consider that recording (e.g. taking photos and surveys) te taiao in its present state and also progressively recording the changes that occur over time. Te Kawerau ā Maki consider that this is a way of preservation and an opportunity to regenerate mātauranga.

- Recognise and uphold tino rangātiratanga over natural resources.

3.4 Ecological context



Ecosystems and significant ecological areas

There are 563 terrestrial SEAs and 52 marine SEAs identified under the AUP(OP) within the Kaipara Harbour area. In total, these include 32 indigenous ecosystem types that cover approximately 9,170 ha within the SAP areas boundaries. Ecosystems are described using the regional ecosystem classification system (Singers et al., 2017) and regional or national species threat classifications as appropriate.

The ecological features and values that may influence the selection of adaptation strategies or are vulnerable to climate change hazards (Foley & Carbines, 2019; Bishop & Landers, 2019) are described in the table below. This table has been informed by Significant Ecological Area (SEA) schedules and descriptions, 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.

Figure 3-1: Summary by SAP unit of Kaipara Harbour vulnerable ecological features and values

Unit	Summary of ecological features and values
1	Unit 1 encompasses the coastline between Omokoiti Bay Reserve and Te Rau Pūriri Regional Park. • Omokoiti Bay Reserve contains several ponds that were constructed for prawn farming and are now largely covered in raupō reedland (WL19 – Regionally Endangered) – this area is also known as the Old Prawn Farms Wetlands. There is also a naturally occurring wetland to the south of the ponds that contains patches of *Machaerina* sedgeland and raupō reedland, bordered by dune forest. A large variety of avifauna have been recorded utilising these wetlands and the adjacent coastal habitat of Omokoiti Beach (New Zealand eBird, n.d.), including threatened shorebird and seabird species. Cryptic wetland bird species have also been recorded, including the Australasian bittern and fernbird. • Te Rau Pūriri Regional Park contains the largest and deepest dune lake and the largest dune forest remnant on the peninsula. There are small mosaics of threatened wetland ecosystems scattered across the park, consisting of raupō reedland, *Machaerina* sedgeland, and mānuka, tangle fern, scrub, fernland (WL12 – Regionally Critically Endangered). A similar range of native avifauna are found in this park as in Omokoiti Bay Reserve. • Seagrass meadows can be found within the nearshore marine area across the entire unit.

Unit	Summary of ecological features and values
2	Unit 2 contains a mosaic of threatened ecosystem types, including numerous wetland ecosystem types and several ecosystems that are considered regionally uncommon. • Haratahi Creek is a permanent watercourse located to the south of the Te Rau Pūriri Regional Park. Gumland wetland borders the upper reaches of the creek, as well as large remnants of dune forest and kahikatea forest. • There is a large and diverse area of saltmarsh, mangrove forest and seagrass meadow located to the north of Shelly Beach. This saline environment is recognised as an important high tide bird roost for shorebirds, including several threatened species. Most notably, a small number of black stilt spend the winter at this site – which represents approximately 10% of the entire population. • Mairetahi Creek is also bordered by saltmarsh and mangrove forest, which transitions into areas of raupō reedland and mānuka, tangle fern, scrub, fernland. • The coastal cliffs of Shelley Beach Reserve are lined with pōhutukawa dominated forest with small areas of raupō reedland and flaxland wetland located within the depressions. • Rat Island, located offshore of Shelley Beach, is an important high tide bird roost due to its proximity to significant feeding areas. It is a key nesting site for Caspian tern. • There is a large area of Machaerina sedgeland wetland to the south of Parekawa Creek. There are records of Australasian bittern, dabchick and royal spoonbill. • A large mosaic of mangrove forest and salt marsh extends from Parekawa Creek to southern end of the unit. This saline vegetation has been relatively unmodified by reclamation and provides habitat for threatened secretive coastal fringe birds. Puharakeke Stream is a known feeding area for New Zealand fairy tern.
3	Unit 3 encompasses the coastal land to the south of Opakekeke Island, including Parakai and the western bank of the Kaipara River. • The western bank of the Kaipara River contains a very extensive area of mangroves which grade into smaller areas of saltmarsh. A variety of avifauna have been recorded feeding, roosting and nesting in the mangrove-lined reaches of the river, including Australasian bittern. • Black mudfish have been recorded in an unnamed tributary of the Kaipara River, as well as several other freshwater fish species.
4	Unit 4 covers the eastern bank of the Kaipara River and continues north to Oyster Point. It also encompasses the Kaukapakapa River and the Kaukapakapa Estuary Scientific Reserve. • There are several pockets of indigenous forest scattered along the eastern bank of the Kaipara River – classified as kauri, podocarp, broadleaved forest, dune forest, kahikatea forest, and tawa, kohekohe, rewarewa, hīnau podocarp forest. • The largest forest fragment within this unit lies within the Kaukapakapa Estuary Scientific Reserve and is largely classified as kauri, podocarp, broadleaved forest. The forest vegetation transitions into oioi dominated wetland margins (WL10 – Regionally Endangered) and then to mangrove forest. Fernbird and a variety of other bird species have been recorded within this reserve. • There are shellbanks (SA1.5) located at the edge of Oyster Point which are known to host many nesting Caspian tern. Several other threatened wader birds feed on the flats to the west of the point.

Unit	Summary of ecological features and values
5	Unit 5 covers a large stretch of the Kaipara Harbour – from Oyster Point to the eastern bank of the Tauhoa River. • The Makarau Bridge Reserve is located to the northwest of the Makarau River and is characterised as kauri-dominated forest which adjoins a small section of pūriri forest to the north of the bridge. • The Atuanui Forest is large remnant of kauri, podocarp, broadleaved forest which supports a large number of regionally threatened and rare plant species. • The Hōteo River lies to the north of Atuanui Forest and is the largest river in the region, both by flow and catchment area (LAWA, 2024). Several threatened species have been recorded within the wider catchment, including Hochstetter's frog, threatened lizard and freshwater fish species, banded rail and other waterfowl species. • Mangrove forest and salt marsh border almost the entire stretch of coastline and several estuarine arms. The Tauhoa Scientific Reserve is one of only two significant mangrove reserves in New Zealand and hosts an important high-tide bird roost. Fairy tern and other threatened avifauna species have been recorded within this area.
6	Unit 6 encompasses the coastal land to the west of the Tauhoa River and surrounding Tapora. • Ātiu Creek Regional Park contains regenerating indigenous scrub and smaller remnants of kauri, podocarp, broadleaved forest and coastal, broadleaved forest, as well as some small wetland ecosystems. Dabchick, brown teal, and several threatened lizards have been recorded here. • Manakapua Island and the Okahukura Sequence is located on the west coast of the Tapora Peninsula. This area contains a mosaic of saltmarsh, active dunes, dune forest, mangrove scrub and forest, raupō reedland, and *Machaerina* sedgeland. It is recognised as a regionally and nationally important bird area, supporting fairy tern, New Zealand dotterel, banded rail, Australasian bittern and several other notable species. The islands within this area are critical high-tide bird roosts for said species.
7	Unit 7 includes the southeastern banks of the Oruawhaeroa River. Indigenous vegetation within this unit is predominately mangrove forest and regenerating mānuka and kānuka scrub. • There are many shorebird and seabird records at the Point Albert Wharf, which is recognised as important wading bird habitat.

As shown in the table above, there are several ecologically significant ecosystem types identified within this SAP area including:

- There are 52 marine SEAs identified under the AUP:OP.

- There are 563 terrestrial SEAs are in the area.
- The Kaipara Moana (Harbour) area is characterised by regionally and nationally important coastal avifauna habitat. Areas including Shoal Bay, Tuff Crater, the City of Cork shellbank, Pollen and Traherne Islands, and Meola Reef.

- The Kaipara Moana (Harbour) area encompasses seven Biodiversity Focus Areas (BFAs), which are key zones prioritised by Auckland Council for ecological management. These are Lake Rototoa – Te Rau

	Pūriri, Otakanini Topu Sequence, South Head Wetlands, Kaipara Harbour Saline, Kaukapakapa Estuary Scientific Reserve, Manukapua Island and Okahukura Sequence, Tapora Wetlands.
	• Taonga species within the area will be informed based on local iwi recommendations, as different hapū and iwi associate with different taonga species.

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. Statutory direction to protect and enhance the Kaipara Moana (Harbour) 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 below.

Kaipara Moana Remediation Programme

Relevant to the ecological context of the Kaipara Moana (Harbour) Shoreline Adaptation Plan is the Kaipara Moana Remediation Programme. This Programme was initiated in October 2020, following the signing of a Memorandum of Understanding by the Ministry for the Environment, Ngā Maunga Whakahī o Kaipara, Te Rūnanga o Ngāti Whātu, Te Uri o Hau, Northland Regional Council and Auckland Council (Ministry for the Environment, 2020).

This programme is dedicated to reducing further degradation to Kaipara Moana by halving the annual sedimentation rate from land to sea. Initiatives undertaken include native plantings, riparian and wetland restoration, and the creation of sediment detention bunds/sediment traps (Kaipara Moana Remediation, 2022). It is the “largest landscape programme underway” representing “new models of co-governance, planning, collaborating and problem-solving to restore the health and mauri of the Kaipara Moana (Kaipara Moana Remediation, n.d.)

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 Kaipara Moana (Harbour) SAP coastline, opportunities for nature-based solutions will be factored into decision making in implementation.

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

Kaipara Harbour area contains some of the most remote parts of the Auckland region, and as such has little built area outside of Helensville and Parakai. Coastal settlements such as Shelly Beach, Birds Beach, and Port Albert contain only several dozen houses. Further inland, Kaukapapa retains a rural morphology but is slightly bigger and provides services such as a school for the wider area.

Most housing and services in this SAP area are in Helensville or nearby Parakai, with organised events such as the Helensville A&P show that draws attendees from across Auckland. Helensville is known as an 'historic town', celebrated for its older buildings and heritage (Helensville Online, 2024). Homes are predominantly low-density, detached houses.

Overall, the coastal area is predominantly zoned as Rural Coastal transitioning to the Rural Production Zone further inland with pockets of Open Space Zones. Around the centres of Parakai, Helensville and Kaukapakapa, there are small areas of Business Zones, Residential - Single House Zone, and Residential – Rural and Coastal Settlement Zone. An area to the south of Helensville is zoned Future Urban.

Community groups and organisations

Approximately 22 active community organisations were identified within the Kaipara Harbour SAP area[1]. As Kaipara Harbour covers a wide geographic area, many of these community groups are relevant to specific, smaller sections of the SAP area, however they are largely concentrated in the south. Seven are sports clubs, of which four are based in Helensville. Two business organisations were identified; Northwest Country Business Association and Federated Farmers South Kaipara.

The Kaupapa and Te Awaroa Ratepayers and Residents' Associations support improvements to beautify Kaupapa, Helensville, and Parakai towns. The area's key social and recreation groups include

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

six online groups representing communities across the SAP, as well as the Helensville Lions and Helensville RSA.

Key environmental groups include Kaipara Forest and Bird, South Kaipara Landcare, and The Forest Bridge Trust, which are locally run and share visions of protecting and restoring native biodiversity and habitat in the area, particularly forest remnants and wetlands.

It is important to consider the social and community values associated with these groups, while also acknowledging that any changes to coastal infrastructure may impact their current activities and interests.

Community use

The Kaipara Harbour SAP area is well known for its rural character, which includes a range of parks, reserves, and infrastructure. While these amenities may not all be owned or managed by Auckland Council, they play a crucial role in supporting social activities within the community. The community places high importance on coastal access, rural lifestyle and natural character.

Despite this rural character, a significant amount of light industry zoned land serving the wider region is located along the shores of the Kaipara River in Helensville. This area contains the North Island Main Trunk rail line, a shipping port for bulk sand, the West Auckland Airport (a recreational airport used for skydiving, flight training and aircraft hire (West Auckland Airport, n.d.)), and a wastewater treatment plant, alongside private light-industrial businesses and warehousing.

Future land use possibilities have also been identified through the Rodney Local Board's (2023a) aspirations for the future of the area. These aspirations include the following:

- Climate action is a key concern following damaging floods with Parakai and Helensville vulnerable to coastal inundation and flooding. Additionally, nationally significant duneland ecosystems and estuarine habitats in the Kaipara Harbour are threatened by climate change effects.
- Māori outcomes are important, with a growing and young Māori population in the area and numerous iwi and hapū which whakapapa here.
- The Local Board advocates for increased funding for improving unsealed rural roads.

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. While the adaptation strategies relate to Auckland Council-owned land and assets, the wider social context of the area has been considered in terms of understanding how the community use and value the area.

Most social infrastructure in the Kaipara Harbour SAP area is located in the twin townships of Helensville and Paraki, as the largest population centres of the area. Due to the large size of this SAP area, residents of the northernmost Units (parts of 5, 6, and 7) are quite distant from Helensville, and are instead likely to travel to Wellsford (outside the SAP boundaries) for social services that they

cannot access within their immediate area. Exemplifying this separation are high school zones – with the areas north of Glorit (Unit 5) closest to Rodney College in Wellsford, and those south closest to Kaipara College in Helensville.

Key infrastructure in the Kaipara Harbour SAP area includes:

- SH16
- North Island main trunk rail line
- Parakai Airport.

Emergency services, facilities or key infrastructure

Whilst developing the SAPs, Auckland Emergency Management has, in collaboration with local communities and local boards, developed Emergency Response and Readiness Plans for each of the 21 local board areas. Plans for the Devonport Takapuna and Hibiscus and Bays local board areas have been produced and they identify key information and details for response and readiness including the location of Civil Defence centres, community hubs, marae and urgent care facilities throughout the wider area. These plans can be located on the Auckland Council website here. Civil defence centres and hubs identified in these plans are generally set back from the coastal edge and may be identified in Volume 3 where applicable to coastal adaptation strategies.

Landscape features and character

Several significant sections of this SAP area are identified as Outstanding Natural Landscapes (ONL) and/or Outstanding Natural Features (ONF). Amongst these are the Omotoiti/Waioneke salt marshes (Unit 2), the Kaukapakapa River Escarpment (Unit 4), the Makarau River Headland (Unit 5), the Mataia Headland (Unit 5), the Glorit Knoll (Unit 5), and the Hotea River, headland, and Mt. Auckland (Unit 5) all of which show outstanding examples of remnant indigenous ecosystems (Auckland Council, 2024e) (Auckland Council, 2024f).

The Ōkahukura Peninsula (Unit 6) has a high coverage of ONLs and ONFs. These include the Tapora Dunes, Dune islands, Manakapua Island (Big Sand Island), and coastal marine area – an extensive area of complex islands, intertidal banks, and salt marshes with a mixture of wetland species along the western head of the peninsula (Auckland Council, 2024e) (Auckland Council, 2024f). This peninsula also contains the Tauhoa River and Hill Creek and Kahutaewao Creek Valley ONL, recognised for the long series of headlands, promontories, inlets and bays, and the mangroves and remnant coastal forest (Auckland Council, 2024f).

These designated areas contribute to the natural character of the coastal environment and are identified under the AUP:OP. These areas may also hold significant community and regional values associated with their preservation and appreciation (Auckland Council, 2016a).

Applicable 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 following are key plans and documents of relevance to the Kaipara Moana (Harbour) SAP development. Key documents are identified as applicable to the programme in Volume 1 and at a unit scale in Volume 3.

Policy direction of note includes (not an exhaustive list):

- Resource Management Act (1991)
- Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA)
- Climate Change Response Act (2002)
- National Adaptation Plan (2022 – 2028)
- Reserves Act (1977)
- Conservation Act (1987)
- New Zealand Coastal Policy Statement 2010
- The Auckland Plan 2050 (Auckland Council, 2018)
- Auckland Unitary Plan (Operative in Part) (2016)
- Auckland Council Long Term Plan 2024 – 2034 (2024)
- Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan (Auckland Council, 2020)
- Asset-specific asset management plans (various including Auckland Transport, Stormwater Asset Management Plan, Watercare Services, Open Space Strategic Asset Management Plan, and Community Facilities Strategic Asset Management Plan)
- Regional Parks Management Plan (Auckland Council, 2022a)
- Rodney Local Park Management Plan (Rodney Local Board, 2023b)
- Kaipara Moana Remediation Programme.

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.

Initial community engagement for the Kaipara Moana (Harbour) SAP ran in parallel to the development of the Pākiri to Matheson Bay Kohuroa, Ti Point to Sandspit, Snells Beach to Orewa Hibiscus Coast SAPs between April and May 2024. A second round of further engagement was completed in November 2024 to seek feedback on area specific strategies.

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. 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 community feedback (in-person and digital) included:

- 8 community events
- Approx 38 'AK Have your Say' responses
- Approx 26 pins dropped on Social Pinpoint Map
- Community submissions received
- Direct in person feedback at engagement events

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
- 30th November 2024: Leigh Community Hall
- 8th November 2024: Helensville Library
- Point Wells Residents and Ratepayers Meeting on 3 November 2024
- Ōrewa Sea Scouts on 3 December 2024.

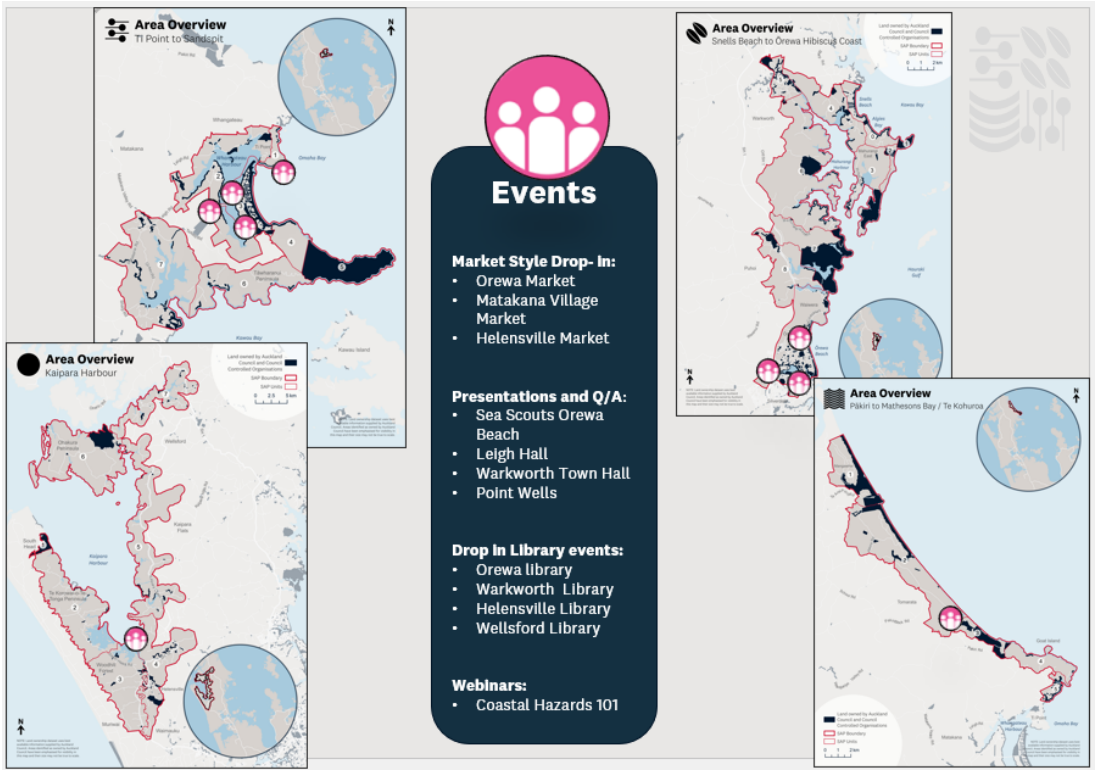


Figure 3-2: Summary of community engagement events by SAP area (undertaken in parallel)

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 summarised 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 Social and cultural values / comments

Responses highlighted the strong sense of place tied to the Kaipara Harbour and its surrounding areas. People have a deep cultural connection to the coast, including activities like fishing and gathering kai moana.

Community values and aspirations

Many responses highlighted the importance of recreational activities in the region, including fishing, boating, kayaking and paddleboarding, with a strong emphasis on preserving these opportunities for future generations. Access to the coast to support these activities was also emphasised, along with the need for more and improved signage to clearly mark public access beaches and walkways.

Aspirations were for the continued maintenance of Council-owned facilities and a desire to see more amenities to support water-based recreation, noting that the limited beach access points around the Kaipara can become overcrowded with visitors from wider Auckland. Restoration of ramp access for boats at Te Rau Pūriri and along the Helensville River was expressed. Additionally, interest in extending the Te Rau Puriri horse trails to include access to Omokoiti Bay, along with community support for creating a riverside walkway connecting Helensville and Parakai. Mixed views were received on vehicle access to Muriwai, particularly along Wilson Road and Rimmer Road.

Community values of ecosystems

Responses demonstrated a clear environmental focus, with a strong desire to preserve natural ecosystems. The Kaipara Moana Remediation (KMR) project is seen as an essential part of efforts to restore the health of the harbour, and respondents would like to see more engagement with this initiative. Aspirations for increased wildlife protection, particularly for seabirds and other native fauna, and to protect sand dunes by banning vehicles and dirt bikes from sensitive areas to protect these vital habitats were noted.

Other key points included but were not limited to:

- Strong community desire for cleaner, clearer coastal and freshwater environments, with a focus on reducing pollution and improving water quality.
- Need for effective removal and management of invasive plant species.
- Support for the restoration of coastal ecosystems, including expanded riparian planting to stabilise waterways and enhance habitat.
- Restoration and revitalisation of the Kaipara River is a key priority.
- The wetland reserve south of Shelly Beach requires additional conservation and management efforts.
- Ongoing concerns about agricultural runoff negatively impacting water quality in nearby rivers and coastal areas.
- Calls to enhance biodiversity across local and regional parks through ecological restoration and habitat protection.

Community experience of hazards / concerns

The greatest concerns were expressed in relation to coastal erosion and the effects of man-made structures on the natural coastal processes and functioning of the Kaipara Harbour. The community also raised concerns for sedimentation, water quality and flooding, with commentary that storm damage has resulted in the loss of boat ramps, with a strong desire for improved maintenance of wharves and boat ramp infrastructure.

Commentary that coastal erosion was restricting public access along parts of the shoreline also came up in community feedback, with public support for the construction of coastal protection measures (whilst supporting natural landscapes) to prevent further erosion and sediment build-up. Mangroves and commentary regarding navigation issues for boats was also a key theme in feedback.

Specific comments received included but were not limited to:

- Severe flooding occurs during heavy rain events, particularly in Helensville and the Te Moana Avenue Reserve.
- Storms are causing significant cliff erosion, increasing the risk of falling trees and debris.
- Coastal erosion is limiting access for walking and cycling along the shoreline.
- There is a need for improved VHF radio coverage for safety and communication.
- Vehicle damage on Manakaupa needs to be managed and controlled.
- Concerns have been raised about mangroves contributing to mud and sediment build-up.
- Water quality is declining due to sediment and pollution, and there is a strong need for clean-up efforts.
- Population growth is raising concerns about increased pressure on the environment and pollution levels.

Community suggestions for management and feedback on strategies

Responses reflected a strong commitment to preserving the natural beauty and ecological health of the harbour, while ensuring that communities continue to have access to areas for recreation and enjoyment.

A desire for improved water access at a number of locations was noted including improvement to the lower Helensville River jetty and surrounding areas, Kaukapakapa, and construction of new boat ramps at South Head.

Community objectives for the Kaipara Moana (Harbour) SAP area

In summary, the community is focused on maintaining access to natural coastal spaces, supporting recreational uses, and ensuring environmental preservation. There are strong concerns about pollution, infrastructure issues, and the impact of development on local ecosystems. Respondents expressed a deep commitment to the health of Kaipara Harbour, its biodiversity, and ensuring sustainable practices are followed.

Furthermore, key community prioritises touched on resolving boating navigation issues caused by mangroves, restoring storm-damaged boat ramps and vehicle access points (e.g. Wilson and Rimmer Roads), enhancing the maintenance of wharves and ramps, and extending recreational opportunities such as horse trails to Omokoiti Bay. Additional goals include improving public amenities (e.g. parking, toilets, and litter bins), protecting existing dog walking areas, supporting the development of a riverside walkway between Helensville and Parakai, ensuring equitable access to the Kaipara Harbour, and implementing erosion control measures—such as seawalls—where appropriate, while prioritising the natural character of the coastline.

Community feedback received during both periods 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 support sustainable recreational use of coastal areas by restoring and maintaining boat launching facilities, providing appropriate community facilities (i.e. camping amenities) improving water quality to enable safe fishing and swimming, and managing vehicle access to protect coastal environments to ensure balanced use of beaches.
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. Cultural landscapes and land ownerships across this coastline must be respected in coastal management. • Recognising the unique characteristics of the coast, locally tailored signals and triggers for change are developed to respond effectively to the dynamic coastal environment and sea-level rise, thereby supporting informed adaptation decisions.
Responding to risk	• Aim to enhance environmental resilience and public safety in coastal areas by addressing storm-related impacts such as flooding (particularly in Helensville and Te Moana Avenue Reserve), cliff erosion, and debris risks; expanding VHF radio coverage for emergency communication; controlling vehicle damage at Manakaupa.
Environmental	• Where possible, support the management of sediment and mud build-up (I.e. develop a mangrove management strategy to address concerns); improving water quality through pollution and sediment reduction; and mitigating the environmental impacts of population growth. • Support the protection and enhancement of local natural environments, water quality, and amenity values wherever feasible, acknowledging the interconnectedness of catchments and coastal areas, and the potential to strengthen ecological health throughout 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	Climate change scenario/adaptation strategy		
		Low	Moderate	High
1 – Te Rau Pūriri	1.1 Te Rau Pūriri north	Maintain	Adaptation priority	Adaptation priority
	1.2 Te Rau Pūriri south	Maintain	Maintain	Maintain
2 – Waioneke to Parkhurst	2.1 Waioneke	No action	No action	No action
	2.2 Omokoiti flats	Maintain	Adaptation priority	Adaptation priority
	2.3 Marietahi	No action	No action	No action
	2.4 Aotea Shelley Beach	Protect	Protect	Protect
	2.5Omana (South of Aotea Shelley Beach)	Maintain	Maintain	Maintain
	2.6 Mairetahi to Parkhurst	Maintain	Maintain	Maintain
3 - Parakai	3.1 Haranui north	No action	No action	No action
	3.2 Haranui Road to parkhurst road (and coast)	Maintain	Maintain	Adaptation priority
	3.3 Te Karaka Stream (Green Road north) and islands	No action	No action	No action
	3.4 Green Road (Airport and south)	Maintain	Adaptation priority	Adaptation priority
	3.5 Parakai (Kaipara River landing, Kaipātiki and parakai town)	Maintain	Adaptation priority	Adaptation priority
	3.6 Kaipara River inlet west	Maintain	Adaptation priority	Adaptation priority
4 – Awaroa / Helensville	4.1 Kaipara River inlet eastern banks	No action	Adaptation priority	Adaptation priority
	4.2 Mill road south	Maintain	Adaptation priority	Adaptation priority
	4.3 mill road north	Protect	Adaptation priority	Adaptation priority

	4.4 Awaroa Helensville	Protect	Protect	Adaptation priority
	4.5 Rautawhiri and Helensville north	Maintain	Adaptation priority	Adaptation priority
	4.6: Awaroa North & Showgrounds	Maintain	Adaptation priority	Adaptation priority
	4.7: Watercare treatment and Helensville North	Protect	Adaptation priority	Adaptation priority
	4.8: Kaukapakapa	Maintain	Maintain	Maintain
	4.9: Kaipara Harbour River Inlet North	No action	No action	No action
	5.1 Kanohi	No action	No action	No action
	5.2 Makarau	Maintain	Maintain	Adaptation priority
	5.3 Kakanui, Araparera & Glorit	No action	No action	No action
5 - Makarau to Wharehine	5.4 Glorit drainge district	Maintain	Maintain	Maintain
	5.5 Mangakura	No action	No action	No action
	5.6 Hoteo River	Maintain	Maintain	Maintain
	5.7 Mangakura boat launching	Protect	Protect	Protect
	5.8 Tauhoa & Wharehine	No action	No action	No action
	6.1 Wharehine and Ōkahukura Peninsula	No action	No action	No action
	6.2 Tapora & Ōkahukura DD	Maintain	Maintain	Maintain
6 – Ōkahukura Peninsula	6.3 Manukapua island	No action	No action	No action
	6.4 Birds Beach	Maintain	Maintain	Adaptation priority
	6.5 Tapora North	No action	No action	No action
	6.6 Ātiu Creek Regional Park	Maintain	Maintain	Maintain
	7.1 Oruawharo inlet west	No action	No action	No action
7 – Port Albert & Te Hana	7.2 Port Albert	Protect	Adaptation priority	Adaptation priority
	7.3 Te Hana	No action	No action	No action

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 Kaipara Moana (Harbour) 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.

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