Ngā mahere whakaurutau mō te takutai

Shoreline Adaptation Plan

Aotea Great Barrier Island

Volume 2: Introduction to the SAP area

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Shoreline Adaptation Plan Aotea Great Barrier Island Volume 2: Introduction to the SAP area

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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 (SAP) 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 Aotea Great Barrier 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 not limited to DOC) and users of the wider Aotea Great Barrier coastline for their engagement, support, and ongoing interest in this SAP.

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

Mātauranga Protection Statement (Disclaimer)

Auckland Council acknowledges that all cultural information within this document is the intellectual property of iwi who have contributed to the development and co-authoring of this 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.
'At Risk'	• Term used to describe status of ecological species. Defined by the Department of Conservation (2021) as taxa that meet the criteria specified by Townsend et al. (2008) for Declining, Recovering, Relict or Naturally Unknown. See (Robertson, et al., 2021) for these criteria.
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.
Coastal marine area	• The coastal area is defined as the area of sea from the line of Mean High Water Springs (MHWS) to 12 nautical miles off the coast.
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.

Term	Definition
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).
Ecological District	• Areas with relatively homogenous characteristics (e.g. topography, soil, biology, climate). There are 12 ecological districts in Auckland.
Exposure	• The nature and degree to which a system is exposed to significant climate variations.
Fetch	• The length of an area of the harbour, estuary or sea in which waves are generated by wind, measured in the direction of the wind.
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.
Mean High Water Springs (MHSW)	• The average of high levels of spring tide.
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.

Term	Definition
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

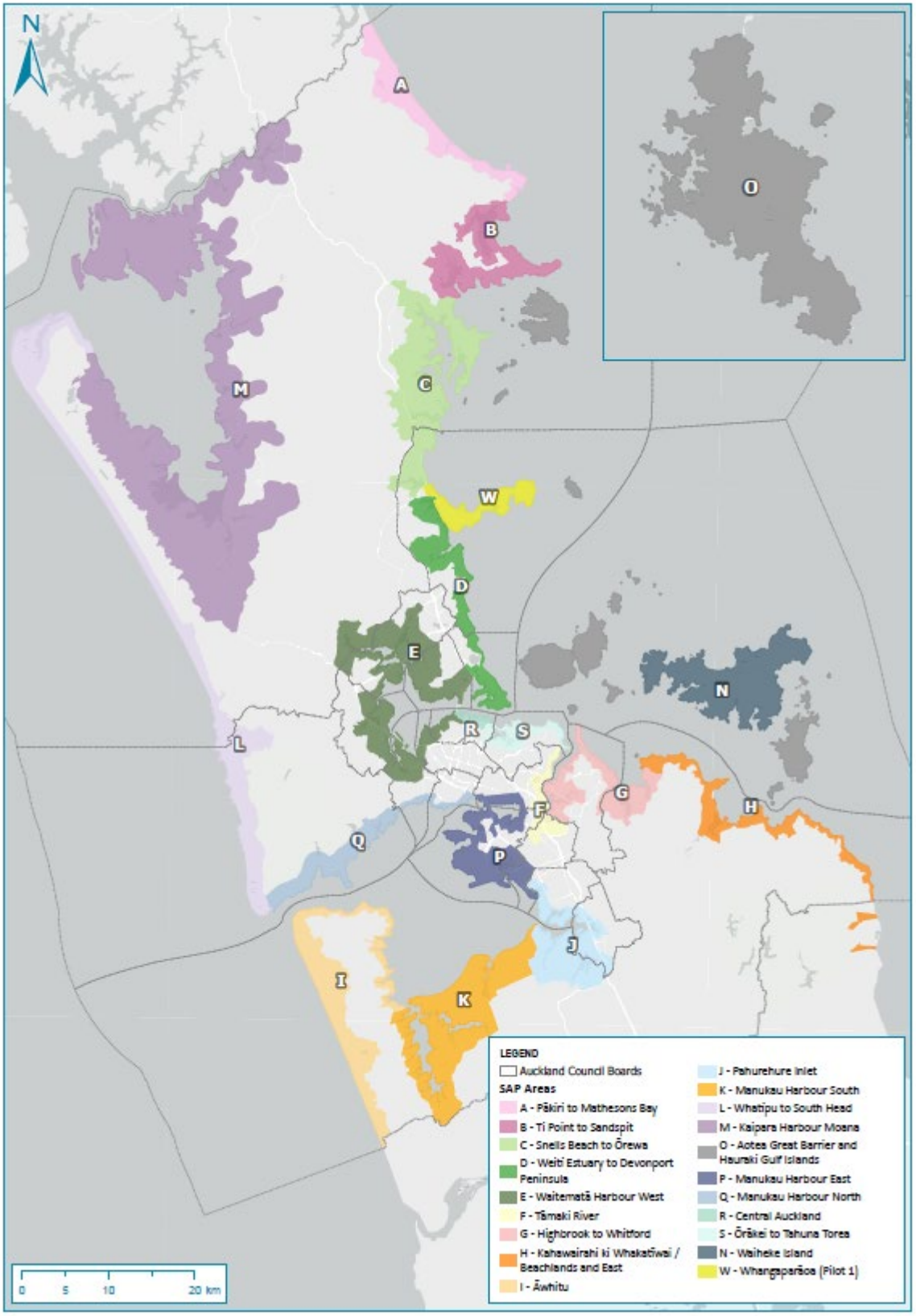
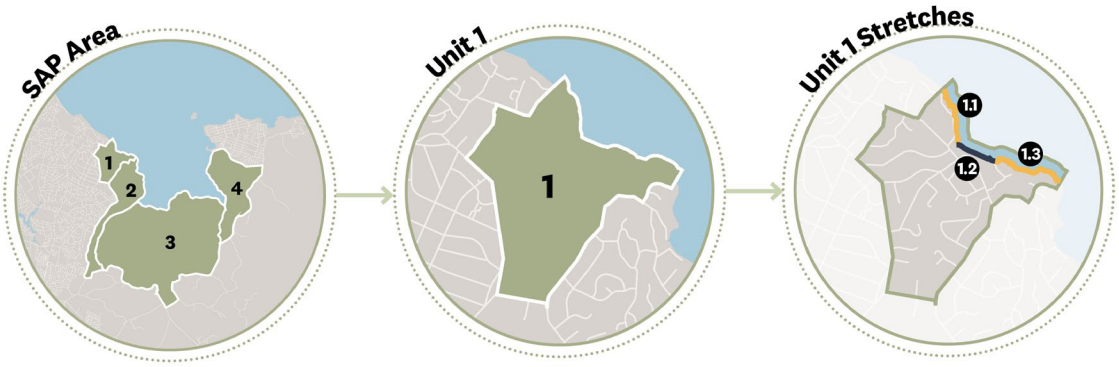


Figure 1-1: Regional overview of Shoreline Adaptation Plans

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 Aotea Great Barrier Island SAP area covers the Aotea Great Barrier Island and the islands off its respective north and south coasts described in Volume 3, including but not limited to Te Hauturu-o-Toi Little Barrier Island, the Pokohinu / Mokohīnau Islands, the Broken Islands/ Pig Islands and Rakitu / Arid Island. For the purposes of adaptation planning, this area has been split up into 2 units and 38 stretches, noting that remaining islands of Tīkapa Moana / the Hauraki Gulf and Waiheke will be addressed in their own dedicated SAP.

Approximately 1,000 people live in the Aotea Great Barrier SAP area, with most residents concentrated in Tryphena and Claris (Statistics New Zealand, 2018). This population distribution is discussed in more detail in Section 3.5.

Assets of particular importance across this SAP area include the wharves which provide the primary supply lines and access points to the islands, and the airfields on Aotea Great Barrier Island. Other notable Auckland Council assets are reserve land, roads, walking tracks, buildings, and toilets. Much of this SAP area holds substantial cultural, ecological and historic significance. Many locations feature protections over these matters, including restricting access to some islands. Many do not have a permanent resident population and function as nature or conservation reserves, managed or co-managed in various arrangements including with the Department of Conservation (DOC), Auckland Council, mana whenua groups, and other local community groups.

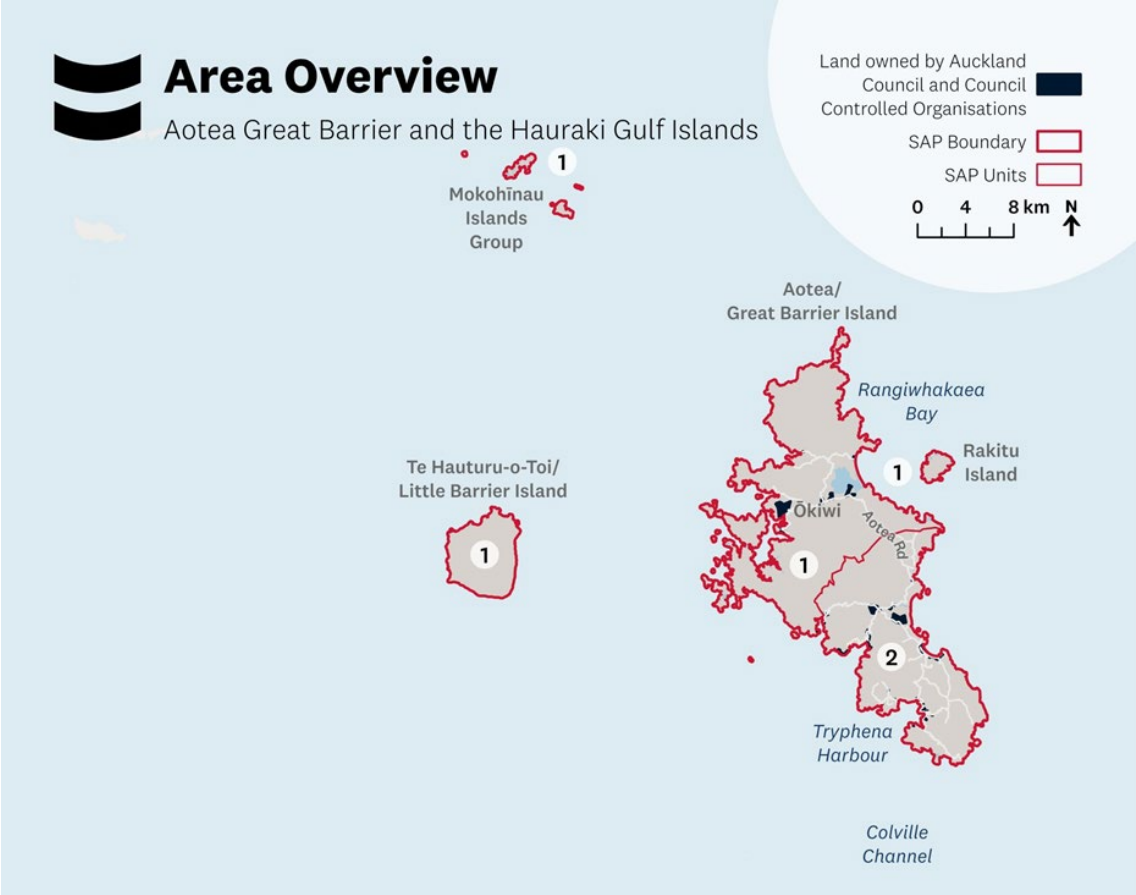


Figure 1-1: Aotea Great Barrier SAP area overview

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

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

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

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

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

A **protect** approach is recommended in a limited number of stretches, typically where there is critical infrastructure which will need to be maintained in its current location to allow for its continued use, necessitating defence of the coastal edge. This approach is typically used in areas where critical assets and /or marine facilities are located on or near the coast, i.e. the coastal margins of traversing Point Fitzroy Wharf[1], Tryphena Wharf and the Whangaparapara ferry connection. A protect approach has also been applied to critical roading networks and links between urban areas (i.e. around Tryphena (Pā Beach and Blind Bay).

A range of adaptation strategies are recommended across this SAP area, discussed in further detail in Volume 3 and summarised in Section 5 of this report.

[1] not applicable to the privately owned Wharf at Port Fitzroy

2 What's happening

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

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

Coastal context

This SAP area covers the Aotea (Great Barrier Island) coastline and the associated islands within the Aotea Local Board Area including the Mokohinau Islands and Hauturu (Little Barrier Island). These island coastlines are significantly varied in character and exposure. The majority are relatively unmodified, with a lack of general coastal protection structures (Auckland Council, 2024b).

Aotea's coastline ranges from well-vegetated coastal cliffs and rocky foreshore to the more sheltered western coastline with pocket beaches and harbours, and the high energy dynamic sandy beaches on the east coast which are backed by relatively robust dune systems. Estuaries transition to wetland and freshwater bodies, including the large, ecologically significant Whangapoua Estuary and associated barrier spit.

The east coast of Aotea is exposed to high wave energies from the Pacific Ocean, including longer period swell events generated from some distance away, as well as more localised, shorter period storm waves generated by strong onshore winds. As a result, this coastline is relatively frequently exposed to events with significant wave heights of over 2 m, and less frequent extreme events with significant wave heights of over 3.5 m. These events can cause episodic erosion of the east coast beaches and dunes, following which the beaches and dunes tend to recover naturally.

Figure 2-1:Awana Beach and dunes, March 2024 (Source: Matthew McNeil)

The west coast of Aotea is sheltered from the longer period swell events. However, this coastline is exposed to a significant fetch distance, in the order of 75-80 km from the southwest, over which small to moderate short-period waves are generated. With Auckland's predominant wind direction being southwest, the exposed sections of coastline on Aotea's west coast are frequently exposed to these short period waves. Wave energies reaching the upper foreshore at the west coast pocket beaches are reduced by wave shoaling across the shallow intertidal areas. However, at high tide and during elevated water levels, moderate wave energies do impact the upper beaches, reserve edges and structures.

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 Aotea Great Barrier SAP area, noting that projected conditions may occur sooner or later depending upon climate emissions.

A detailed 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. Projected coastal inundation for Aotea Great Barrier is shown in Figure 2-3.

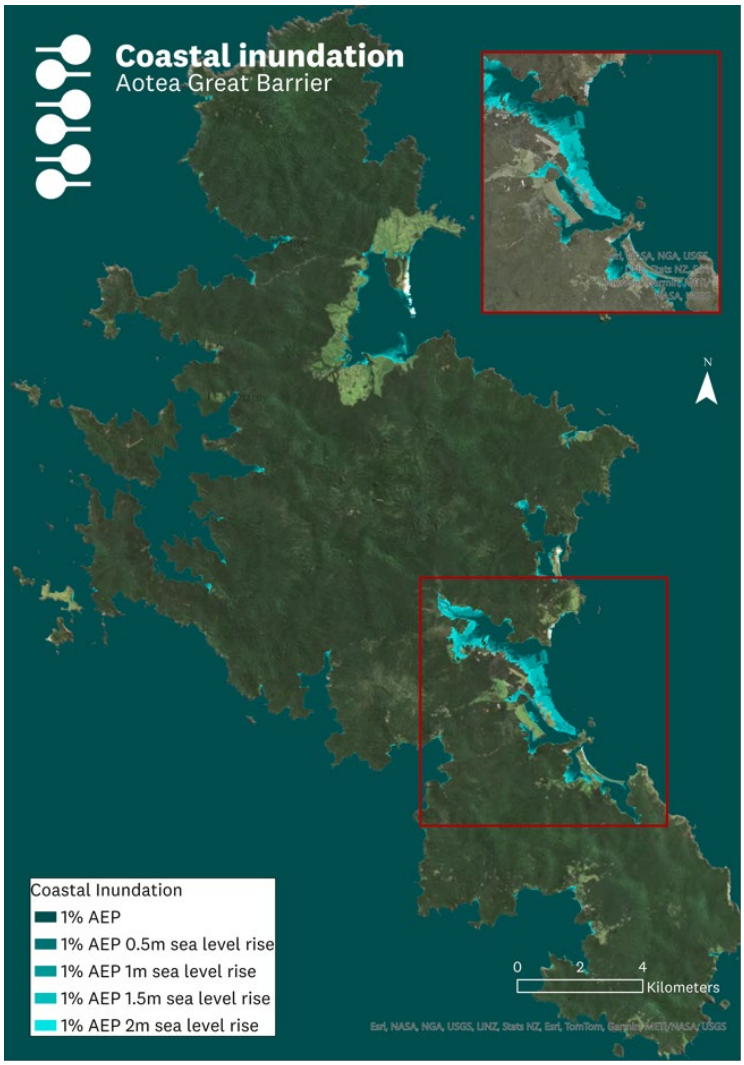


Figure 2-2: Coastal Inundation (CI) for 1% AEP coastal storm surge for present day and with 0.5 m, 1 m, 1.5 m and 2 m sea-level rise for Medlands Beach, Aotea Great Barrier. Source: Auckland Council GeoMaps

Within the Aotea Great Barrier SAP area, coastal inundation flooding is predicted to have the greatest impact on low-lying land and Auckland Council community facility assets and roading connections along the southwestern edge of Aotea, with the island's vulnerability influenced by factors such as sea-level rise, storm surges, and its topography and exposure.

At a localised scale, there are other areas where the inundation extent will increase in the moderate to high change scenario with sea-level rise, such as the spit feature at Whangapoua Estuary mouth. Changes to the spit and estuary mouth have occurred in recent years, with widening of the estuary mouth and development of a secondary opening through the spit over 2022. This is likely the result of significant spit overtopping during extreme storm events. An increase in the estuary mouth opening may result in increased propagation of wave energy into the estuary mouth area.

Figure 2-3: Whangapoua estuary mouth channel April 2020 (left) and May 2024 (right). (Source: RIMU)

During extreme events and elevated water levels (projected to increase with sea-level rise), overtopping of seawalls can result, particularly along the Tryphena Harbour coastline. The stream mouths at Kaitoke, Awana and Medlands beaches can also result in increased coastal inundation risks further inland.

Coastal erosion (including sea-level rise)

The areas along the Aotea Great Barrier 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*[6]. 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.

Projected coastal instability and erosion hazard extents over changing climate change scenarios for this SAP area is shown below. 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.

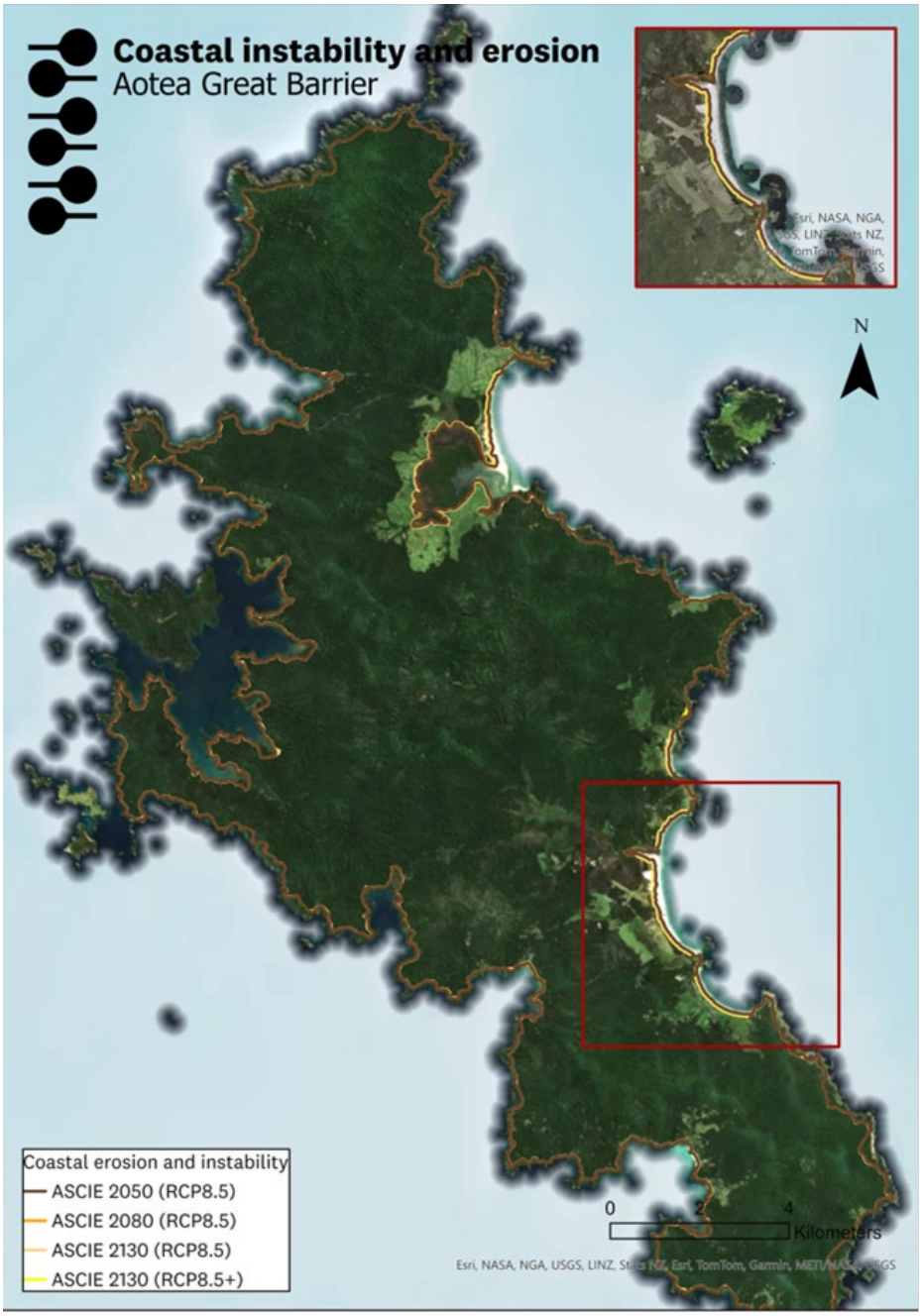


Figure 2-4: Coastal Instability and erosion susceptibility for 2050, 2080 and 2130 considering RCP8.5 and RCP 8.5+ emission scenarios for Kaitoke Beach, Aotea Great Barrier

Areas with higher exposure to erosive forces are more at risk to coastal instability and erosion, where waves interact directly with cliff faces (e.g. no dry beach buffer) or where cliffs are steep with little vegetation cover.

The established dunes on the higher energy Aotea east coast beaches help buffer wave attack and storms. However, as sea-level rise occurs, waves will further impact these dunes and interact with a larger portion of the cliffs, and slope instability and erosion along the coast is expected to increase. Ongoing weathering of the coastal margin during extreme weather events is resulting in the slow, ongoing erosion of the low coastal cliffs along the Tryphena coastline, behind which Shoal Bay Road extends (Figure 2-5), with the road carriageway now close to the cliff edge adjacent Blackwell Drive.

Figure 2-5: Shoal Bay Road, adjacent Blackwell Drive, with active coastal erosion (Source: Urban Solutions)

Historically, dune planting at Medlands Beach was periodically undertaken by a previous community coast care group, and these dunes remain well vegetated. The dunes at Medlands and Awana Beach were impacted by the 2021-2023 La Nina weather phase related storm events that resulted in high erosion scarps on the dune faces, and lowering of upper beach face sand levels. The upper beach at Medlands and Awana had visually recovered naturally by early 2024, and the dune erosion scarps softened. However, these beaches remain highly dynamic, and (other than at the stream mouths) no operational intervention is undertaken on these beaches.

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 % AEP event (1:100 year ARI), 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 (Figure 2-6).

Aotea Great Barrier Island is susceptible to catchment flooding, particularly in areas with steep terrain and limited drainage infrastructure. This vulnerability is exacerbated by extreme weather events, such as Cyclone Gabrielle in 2023, which caused severe flooding and road closures. Within the SAP area, Aotea Great Barrier is amongst the most susceptible to catchment flooding, particularly in areas with steep terrain and limited drainage infrastructure. Numerous catchments include areas of floodplain which drain to the coast across Aotea, with Impacts from historic and more recent flood events (including the 2023 storm events) impacting land uses, road networks (i.e. Shoal Bay Road in Tryphena), assets and infrastructure.

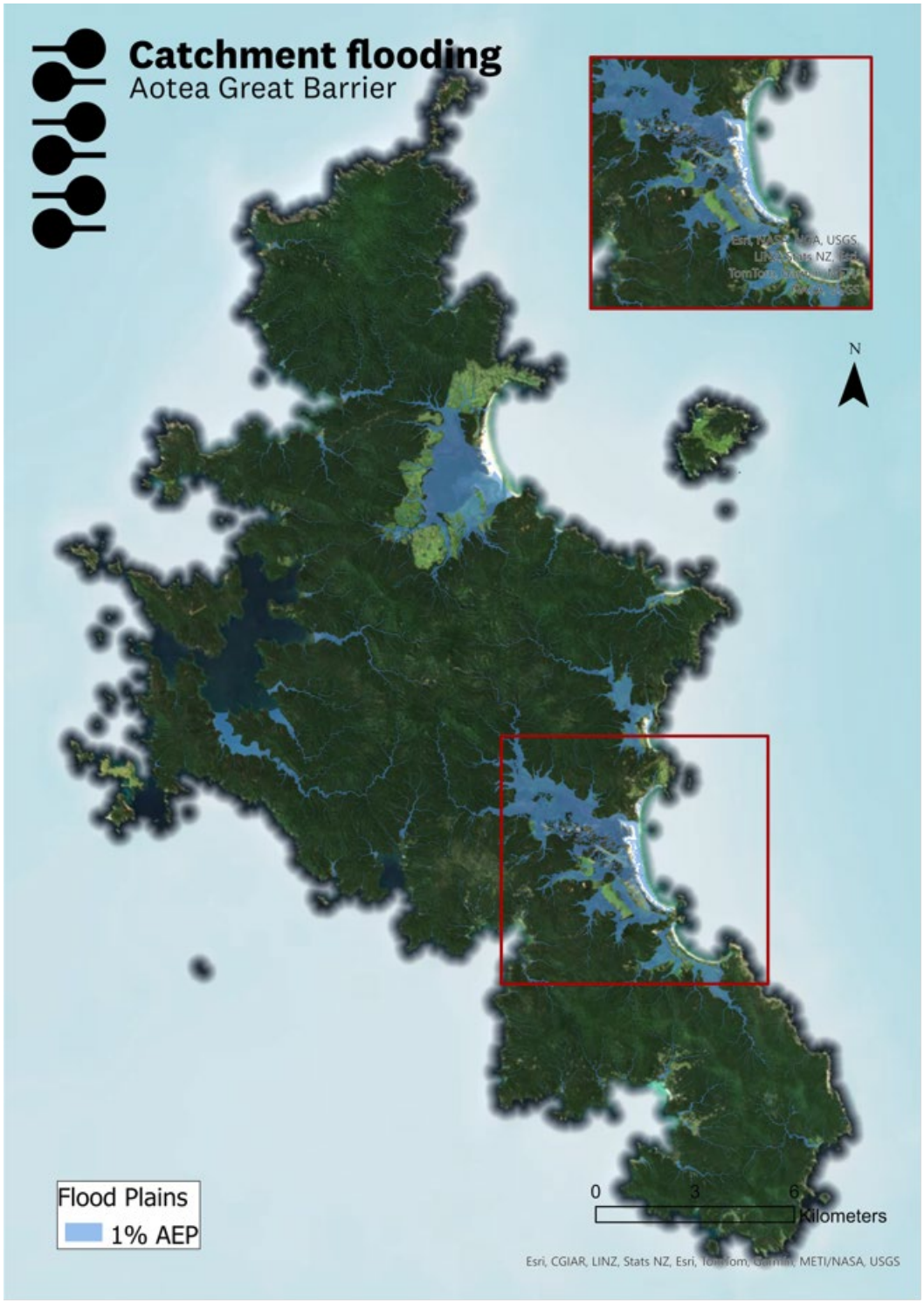


Figure 2-6: Flood Plain areas 1% AEP hazard, for Aotea Great Barrier Island, Auckland Council Flood Viewer.

Stream mouths that discharge across Medlands Beach and Kaitoke Beach periodically become blocked or impounded during times of low rainfall or when storm events deposit sand in the stream mouths. This can result in elevated upstream water levels and associated flooding risks to roads and private property.

Figure 2-7: Kaitoke Stream mouth

Other hazards

Auckland is affected by several other natural hazards that are not considered within this SAP, 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 Aotea Great Barrier SAP area, the relevant plans can be located here.

2.2 Current coastal management practices

An overview of existing current coastal management across the Waitemata Harbour is summarised in the table below and discussed in greater detail in *Aotea Great Barrier Island Volume 3: Adaptation Strategies*. The coastal character across the Aotea Great Barrier is highly dynamic and unique, with limited coastal protection/ management structures. Detailed discussion of the management interventions is included at a unit scale in Volume 3. A non-exhaustive summary of some of the key features is included in the table below:

Flood control or management

- Stream mouths that discharge across Medlands Beach and Kaitoke Beach periodically become blocked or impounded during times of low rainfall or when storm events deposit sand in the stream mouths. This can result in elevated upstream water levels and associated flooding risks to roads and private property.
- As an operational response, Council's Healthy Waters Department will mechanically open the stream mouths on the east coast beaches when blocked or impounded triggering a flooding risk.

Coastal protection

Rock masonry and rock revetment seawalls

- Rock seawalls within Tryphena Harbour protect Tryphena Hall Reserve, Pah Point Reserve, Mulberry Grove School Reserve (targeting repairs planned for Mulberry Grove), Shoal Bay Road, Puriri Road, and the Tryphena Wharf parking area. Rock seawalls also armour Blind Bay Road and the Blind Bay boat ramp and wharf, Whangaparapara Road and boat ramp and wharf access area, and Kaiaraara Bay Road and boat ramp and wharf access at Port Fitzroy. A rock revetment armours South Pacific Road, Sandy Bay, Rakino.

Armoured reclamations

- There are areas of reclamation at Tryphena Wharf, Whangaparapara Wharf, and Port Fitzroy Wharf.

Nature-based options

- Dune planting at Medlands Beach was periodically undertaken by a previous community coast care group, and these dunes remain well vegetated and go through cycles of erosion and rebuilding in response to coastal processes.
- Historically, dune restoration work and planting were undertaken at Kaitoke Beach adjacent to Claris Airfield. This was to stabilise the dunes to better provide protection to the airfield, and to better control wind-blown sand that otherwise can impact the airfield during strong east or northeast winds.

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 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. Table 2-1 below lists the asset groupings for the risk assessment.

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.
Culture and heritage	• Cultural heritage points, mana whenua areas of significance and sites of historical heritage significance.
Environmental	• Areas of ecological significance (SEA) based on the Auckland Unitary Plan.
Transport infrastructure	• Roads, bridges, ferry terminals and train stations.
Water assets and infrastructure	• Publicly-owned three waters infrastructure.

For the Aotea Great Barrier SAP area (Tonkin + Taylor Ltd, 2024), risk results for Council-owned land, Council community facilities, transport infrastructure and water infrastructure were considered consistent for the topography, geology, and land use. This is represented in the table below and at a unit scale in Volume 3.

Table 2-2: Risk results for the Aotea Great Barrier SAP area

		Council-owned land			Council community facilities		
Unit	**Hazard**	Short-term	Medium-term	Long-term	Short-term	Medium-term	Long-term
1	Erosion	Moderate	Moderate	High	Moderate	Moderate	High
	Inundation	Moderate	Moderate	High	High	High	High
2	Erosion	High	High	High	Moderate	Moderate	High
	Inundation	Moderate	Moderate	Moderate	High	High	High

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

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 take into account 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 Aotea Great Barrier area includes a wide diversity of Council-owned land and assets, from parks and reserves through to buildings, roads and wharves.

Approx. **239** ha of park and reserve land & over **116** km of road infrastructure.

Approx. **90** Auckland Council-owned buildings/ wharves

2 Closed landfills

Auckland Council assets for the northern section of Aotea Great Barrier are clustered around Port Fitzroy, particularly within Glenfern Sanctuary Regional Park, where they are mostly outside of the hazard area and are managed by the Regional Parks Management Plan. Other assets within the coastal area are located at Motairehe and Whangapoua with much of the Motairehe area exposed to coastal hazards. In the southern section of Aotea Great Barrier, assets are clustered in and around the key settlement areas of Claris and Tryphena as well as around Medlands Beach, Okupu, and Whangaparapara.

The figure below (Auckland Council Land and Assets) shows the location of Auckland Council-owned infrastructure, assets, and land within the SAP area. Further detail is provided at a unit level in the following sections.

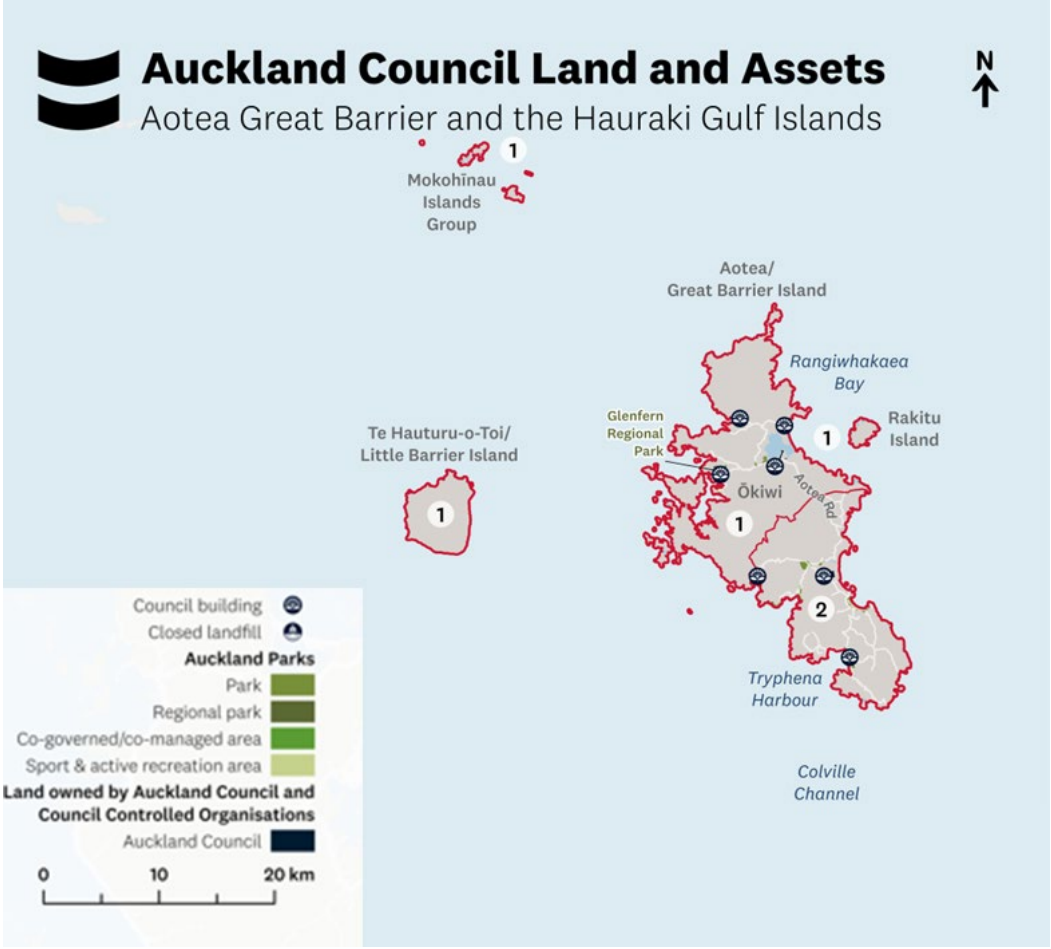


Figure 3-1: Overview of Auckland Council owned land and assets in the Aotea Great Barrier SAP area

Auckland Council land and parks

There are approximately 70 local reserves/parks located across the islands of this SAP area, mostly located on Aotea Great Barrier Island. These include numerous small community and esplanade reserves, cemeteries, and local playgrounds, as well as the land underlying Council buildings (such as community halls) and the two airfields.

Glenfern Sanctuary Regional Park is also located within this SAP area. It is located alongside Port Fitzroy on Aotea Great Barrier Island (Unit 1) and is a hub for environmental and sustainability activities, including protecting threatened endemic species.

Outside of these Council-owned or managed reserves, a large amount of this SAP area is protected as reserve or conservation land under DOC management. This includes Aotea Conservation Park (which comprises nearly half of Aotea Great Barrier Island), popular with visitors for nature-based activities such as hiking and bird watching. DOC also co-manages Te Hauturu-o-Toi / Little Barrier Island (with Ngāti Manuhiri), which can only be visited with a permit to protect the nature reserve (Department of Conservation, 2019).

Aotea Great Barrier contains several distinct coastal environments. This includes (but is not limited to) the following beaches, bays and other coastal locations (including whole smaller islands):

Aotea Great Barrier Island:

- Awana Bay
- Harataonga Bay / Overtons Beach
- Kaitoke Beach / Palmers Beach
- Karaka Bay
- Katherine Bay (Moanauriuri Bay and Oruawharo Bay)
- Blind Bay Ōkupu Ōkupe Bay
- Oruawharo Bay / Medlands Beach
- Port Fitzroy
- Schooner Bay
- Smokehouse Bay
- Tryphena Harbour (Shoal Bay and Puriri Bay)
- Whangapoua Beach and estuary
- Whangaparapara Harbour

The largest beaches on Aotea Great Barrier Island are on the east coast – Kaitoke and Medlands Beaches near Claris settlement, and Whangapoua Beach near Ōkiwi settlement. All of these are large sandy beaches over a kilometre in length and are key attractions to the island. They are popular for swimming, hiking, bird watching and camping.

Water Infrastructure

Aotea Great Barrier for the most part lacks centralised, Council-owned water infrastructure systems/ assets. Instead, residents and businesses primarily depend on rainwater harvesting from rooftops, supplemented by water sourced from bores, creeks and springs located in the island's hilly terrain, along with private systems for managing stormwater (i.e. on-site drainage solutions).

As Auckland Council does not provide reticulated water services to the islands, the importance of water conservation and self-sufficiency is emphasised by locals.

Facilities and structures

Numerous buildings and significant structures (such as wharves), owned or managed by Auckland Council are located within the SAP area including accommodation, community buildings such as libraries and sports clubs, toilet blocks, and maintenance sheds etc. These are mainly distributed across all Units 1 and 2 of Aotea Great Barrier Island.

Community facilities, ranging from toilet facilities and playgrounds are also distributed throughout the Aotea Great Barrier including (but not limited to):

- **Glenfern Sanctuary Buildings** (generator shed, wharf, boat shed, Glenfern Cottage, Fitzroy House etc.
- Kaitoke/Claris (Local Board office, playground etc)
- Medlands playground and basketball half-court
- Ōkiwi playground
- Tryphena Hall and playground
- Whangaparapara shed

Roads and access

The main settled areas on these islands are all either coastal or near to the coast. Vehicle roads are only found on Aotea Great Barrier Island with roading running the majority of the length of the island, connecting most larger settlements. Several unsealed roads extend beyond this core route, including to Whangaparapara and north of Ōkiwi (Destination Great Barrier Trust, 2024a; Auckland Council, 2024a).

Alongside footpaths and coastal walkways, the following roads are key to providing coastal access (all located on Aotea Great Barrier Island unless otherwise stated):

- Aotea Road
- Blind Bay Road
- Cape Barrier Road
- Gray Road
- Kaiaraara Bay Road
- Harataonga Road
- Hector Sanderson Road / Walter Blackwell Road
- Kawa Road
- Karaka Bay Road
- Medland Road
- Motairehe Road
- Puriri Bay Road
- Sandhills Road
- Shoal Bay Road
- Schooner Bay Road

Access to the coast

For many residents of Aotea Great Barrier, access to the coast is integral to daily life, including for transport, fishing, tourism/business reasons, and for their social/cultural wellbeing. Access to Te Hauturu-o-Toi/Little Barrier and most of the Mokohīnau Islands is closed to visitors without a permit, and many more do not have a regular ferry service and can only be accessed via private or chartered vessel (Department of Conservation, n.d.a.).

Passenger and vehicle ferry services are available from downtown Auckland. The island can also be accessed by air, with Barrier Air operating over 60 flights per week between Great Barrier Aerodrome in Claris and Auckland, and 3 per week to Tauranga (Barrier Air, 2024). Chartered helicopters also operate within the SAP area, and additional airstrips are located near Ōkiwi (sealed) and on Kaikoura/Selwyn Island (grassed) (Auckland Council, 2024a; Hellitranz, n.d.).

There are a range of walking paths throughout the SAP area, which are used for recreation as well as to facilitate access to the coast. Key paths/ walking tracks include:

- Dolphin Bay Walkway
- Glenfern Regional Park walkway
- Haratonga Coastal Walkway
- Tryphena Path
- Island Bay Walkway Kowhai Valley Track Ōkiwi walkways, Forest Road, Station Rock Road
- Ruahine Walkway

Harbour access

Coastal access is provided through the following boat ramps/ coastal infrastructure (non-exhaustive list):

- Glenfern wharf
- Little Shoal Bay, Tryphena
- Home Bay boat ramp
- Mulberry Grove boat ramp
- Okupu Reserve boat ramp and wharf (Blind Bay Road)
- Pā Beach boat ramp
- Port Fitzroy boat ramp and wharf
- Puriri Bay Road boat ramp
- School House Bay boat ramp and wharf
- Tryphena Hall boat ramp
- South Cove boat ramp
- Tryphena Harbour Road boat ramp
- Whangaparapara boat ramp and wharf
- Sandy Bay wharf

Tryphena Harbour is the primary entry point to Aotea Great Barrier Island and location of the largest settlement on the island. It contains a wharf and several boat ramps as well as several small beaches. Other wharves are located at Port Fitzroy, Blind Bay/Okupu and Whangaparapara Harbour, noting that many of these wharves function as lifeline assets for nearby communities. Auckland Transport is making improvements and repairs to all these wharves (2024).

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 iwi and hapū of 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 the 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 Aotea Great Barrier 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 Aotea Great Barrier SAP, 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 Aotea Great Barrier 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 Aotea Great Barrier SAP, iwi groups were identified using several tools including treaty settlement documents, statutory acknowledgment areas and rohe overlays (identified using Auckland Council GeoMaps). Following identification, iwi were formally approached via a letter extending an invitation to engage on this particular SAP. Where no response was received following provision of the letters, email follow ups were provided restating the invitation to engage. Ongoing updates on the SAP programme are also provided through the I&ES Mana Whenua Forum, with an overview on the upcoming SAP areas and the extension of an invitation to engage if other parties wished to be involved in the development of upcoming SAP area plans.

In no particular order of relevance, those who whakapapa to the area and/or have expressed an interest in the Aotea Great Barrier SAP kaupapa include:

- Ngāti Rehua Ngātiwai Ki Aotea
- Ngāti Wai
- Ngāti Manuhiri
- Ngāi Tai ki Tāmaki
- Ngaati Whanaunga
- Ngāti Tamaterā
- Ngāti Maru
- Marutūāhu Collective (Ngāti Maru, Ngaati Whanaunga, Ngāti Paoa, Ngāti Tamaterā, Te Patukirikiri (of Kapetaua))

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

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

Local iwi aspirations, values and principles

Holding statement:

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

Acknowledging the importance of protecting cultural narratives and sustaining ongoing, lasting relationships with iwi for the Aotea Great Barrier SAP, the "Holding Statement" reflected above has been created. This serves as a reminder that this document, and any others which are developed because 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 may share additional mātauranga through the ongoing engagement to occur through the various stages of the SAP programme including through 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 Aotea Great Barrier SAP is effective, meaningful and aligned with the principals of Te Tiriti o Waitangi / Treaty of Waitangi, the following guidelines set out below should be followed for each stage of the SAP programme.

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

Ngāti Rehua-Ngātiwai ki Aotea

The SAP team is currently working with Ngāti Rehua-Ngātiwai ki Aotea on various SAP plans within their rohe, in 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 Aotea Great Barrier SAP, noting that Ngāti Rehua-Ngātiwai ki Aotea has expressed interest in specific aspects of the Aotea Great Barrier SAP that relate to their rohe.

Multiple hui have been undertaken and a cultural statement in response to the SAP programme is anticipated. The SAP team will continue to work collaboratively with Ngāti Rehua-Ngātiwai ki Aotea to input into the implementation of the SAPs for the Aotea Great Barrier area and other SAPs of interest within their rohe.

Reflecting on the above, this section of the report serves as a "holding statement" for Ngāti Rehua-Ngātiwai ki Aotea Incorporated until the Cultural Statement has been finalised.

Ngāti Manuhiri

The SAP programme has worked with Ngāti Manuhiri on various SAP plans within their rohe with the aim of gathering the feedback of Ngāti Manuhiri on the SAP programme and individual plans of interest. This ongoing partnership has and will continue to extend to the development of the Aotea Great Barrier SAP, noting that Ngāti Manuhiri has expressed interest in specific aspects of the SAP that relate to their rohe.

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

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

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

These values are categorised into three major themes which reflect the Kia Ora Te Tātai outcome; *Whakapapa - Ancestry, Taiao-Environment, and Tangata Hononga - Connecting People*. For each theme, Ngāti Manuhiri have provided objectives on how the Shoreline Adaptation Plan will give effect to these values in the Pākiri to Mathesons Bay / Te Kohuroa SAP.

Whakapapa (Ancestry)

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

Objectives

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

Some examples of valuing Whakapapa include:

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

Taiao (Environment)

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

Objectives

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

Some examples of valuing Taiao include:

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

Tangata Hononga (Connecting people)

Through involving the community, the people are connected and invested in their environment and therefore uplifted. The SAP recognises that people and the environment are holistically intertwined. Resource management should be implemented in a way that sustains and supports the ability of

Manaakitanga, ongoing generosity and hospitality, and enables and supports mana whenua's role as Kaitiaki.

Objectives

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

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

Marutūahu Confederation (Collective)

The Marutūāhu Confederation (collective) is comprised of **Ngāti Maru, Ngāti Pāoa, Ngāti Tamaterā, Ngaati Whanaunga and Te Patukirikiri (of Kapetaua).** The interests across the Marutūāhu iwi extend from Mahurangi in the north to the Bay of Plenty in the south (as shown in Figure 3-1), noting that the individual rohe boundaries of each iwi entity within this confederation may fluctuate in terms of areas of interest.

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

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

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

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

Ngāti Tamaterā

The rohe of Ngāti Tamaterā is vast and extends from the Kaimai Ranges near Tauranga Moana in the south, to Warkworth in the northwest and the Coromandel Peninsula and Aotea (Great Barrier Island) to the east[2].

The SAP team is currently working with Ngāti Tamaterā on various SAP plans within their rohe, in with the aim of gathering Ngāti Tamaterā feedback on the SAP programme and the individual plans. This ongoing partnership has extended to the development of the Aotea Great Barrier SAP, noting that Ngāti Tamaterā has expressed interest in specific aspects of the Aotea Great Barrier SAP that relate to their rohe.

Multiple hui have been undertaken and a cultural statement in response to the SAP programme is anticipated. The SAP team will continue to work collaboratively with Ngāti Tamaterā to input into the implementation of the SAPs for the Aotea Great Barrier area and other SAPs of interest within their rohe. While this statement is being developed, the below provides a "Holding Statement" on behalf of Ngāti Tamaterā.

Ngāti Tamaterā Aspirations

For Ngāti Tamaterā, Te Moananui-ā-toi captures the wider Hauraki Gulf and surrounding areas of the moana and includes the Waitematā Harbour. The view of Ngāti Tamaterā is that the Auckland Council's SAP programme needs to acknowledge the connection of the entirety of Te Moananui-ā-Toi and its impacts on the shoreline and whenua within the SAP programme boundary of Tāmaki Makaurau.

The Ngāti Tamaterā Environmental Management Plan identifies their overarching goals and aspirations. These goals and aspirations are summarised below and include:

- Kaitiakitanga and Tino Rangatiratanga – Uphold and exercise guardianship and self-determination over land, water, and sacred sites in alignment with Ngāti Tamaterā tikanga and kawa.
- Sustainability and Environmental Protection – Support long-term sustainable practices that protect and enhance the mauri (life force) of water, land, and biodiversity for future generations.
- Uphold the Treaty of Waitangi – Ensure that the principles of Te Tiriti o Waitangi are upheld in all resource management decisions affecting their rohe.
- Active Participation and Partnerships – Establish and maintain partnerships with external parties responsible for resource management within the Tamaterā rohe.
- Preservation of Mātauranga (Knowledge) – Safeguard and promote traditional knowledge held by kaitiaki for the benefit of Ngāti Tamaterā.

[2] https://www.tkm.govt.nz/iwi/ngati-tamatera/

- Resilience to Natural Hazards – Ensure land use planning avoids significant risk, and that Ngāti Tamaterā are prepared for, and resilient to, natural hazards while maintaining environmental integrity.

Ngāti Tamaterā Engagement Statement

Ngāti Tamaterā view the partnership with Auckland Council and other iwi as being crucial in advancing our collective goals and advocating for the needs and aspirations of our people. The following principles support best practice engagement and consultation with Ngāti Tamaterā:

- Kanohi ki te kanohi – face-to-face meetings
- Upholding Te Tiriti o Waitangi principles of partnership, mutual respect and good faith
- Early engagement on issues of known mutual interest
- A commitment to open and honest and transparent communication
- Operating from a 'no surprises' approach
- Acknowledging that the relationship is evolving and not prescribed
- Respecting the independence of the parties and their respective individual mandates, roles and responsibilities
- Recognising and acknowledging that both parties benefit from working together and sharing knowledge and expertise
- Committing to good faith engagement at the highest level.

Ngaati Whanaunga

Over the course of the SAP programme, the SAP team had the opportunity to work with kaitiaki representatives from Ngaati Whanaunga through the development of multiple SAP (e.g. Kahawarahi ki Whakatiiwai Beachlands and East, Wai Manawa Little Shoal Bay 'mini' SAP, Manukau East, Manukau North and Pahurehure Inlet), with hui held and koorero was shared. Over the 2024 -2025 calendar year the SAP team has deepened their understanding of Ngaati Whanaunga cultural footprint across the Aotea Great Barrier SAP through further hui and koorero with Ngaati Whanaunga, with hui remaining ongoing to support Ngaati Whanaunga to input into plans of interest at a regional scale via the completion of a Cultural Statement

Matauranga shared by Ngaati Whanaunga:

Kaupapa Matua Guiding Principles:

> *"Ki te whakarite te taha tinana, te taha hinengaro, te taha wairua, te taha whaanau ki te aoturoa, kia tino whai mana te mauri"*

To ensure that there is a holistic balance between and in tune with the natural world and that the mauri of Te Taiao is enhanced via the implementation of all SAPs.

> *Whakatauakii by "Auntie Betty Williams"*
>
> *"Kaitiaki Principles are practised by all"*

Ngaati Whanaunga enhances the mauri elements of the Te Taiao and seeks to protect our whenua tuupuna, moana waahi tapuu and other taonga, from the effects of development and the many activities that take place within the rohe.

The core objectives of Ngaati Whanaunga Environmental Plan seek to ensure the long-term wellbeing of land, freshwater, coastal and marine areas, biodiversity, air, culture, and heritage such as historic structures, archaeological sites, places of significance that may include nature features such as trees, springs, rivers, or awa[3].

Coastal and marine areas are important to Ngaati Whanaunga because they:

- Provide valuable habitat, nurseries and feeding grounds for native species. Ngaati Whanaunga advocate for the protection and enhancement of the mauri of indigenous flora and fauna
- Provide mahinga kai, weaving and carving materials
- Regulate rainwater, drinking water, and climate
- Recreational/ community values and amenities when they align with Te Taiao (kia tino whai mana te mauri)
- Economic values e.g. tourism/ ecology/ aquamarine areas/ commercial development of fisheries, shorebird adaptation centre (supporting the migration of taonga species)
- Ngaati Whanaunga Aspirations and Outcomes for the Takutai and whenua
- Ngaati Whanaunga seeks to achieve the following goals in the Takutai moana space:
    - To enhance coastal and marine habitats: regeneration of wetlands, use of mangroves as nature-based solutions and recognize their role in ecosystem services.
- Sustainable resource use:
    - To recognise connections – mountains to the sea.

Documents which support Ngaati Whanaunga outcomes and aspirations include but are not limited to the Estuarine Tool Kit developed by NIWA in consultation with Ngaati Whanaunga and the Shellfish monitoring toolkits supplied by Hauraki Gulf Forum/ translated in the dialect of Ngaati Whanaunga for use at schools.

Further to the principles above, Ngaati Whanaunga seek to be included in any decision-making as part of the SAP kaupapa through:

- Encouraging applicants to consult with Ngaati Whanaunga prior to submitting any application for a Plan Change or resource consent application

[3] Estuarine tool kit developed by NIWA in consultation with Ngaati Whanaunga. This can be supplied via the Ngaati Whanaunga office @ 24 Wharf Road Coromandel. Ph 07 866 1011.

Shellfish monitoring toolkit supplied by the Hauraki Gulf Forum/ translated in the dialect of Ngaati Whanaunga for use at schools – Yr 1- Yr 13. This can be supplied via Ngaati Whanaunga website www.ngaatiwhanaunga.maori.nz or office @ 24 Wharf Road Coromandel. Ph 07 866 1011.

- Ensuring plan rules and policies make provision for Ngaati Whanaunga involvement
- Recognising and supporting kaitiaki initiatives. For example, raahui, whakatapuu (cultural tools) as well as monitoring, enforcement and enhancement programmes
- Ensuring staff have read and understand the Ngaati Whanaunga Environmental Management Plan[4]
- Working with Ngaati Whanaunga to develop appropriate risk and mitigation measures for protecting and enhancing Te Taiao and all cultural sites of significance within and beyond the confines of the Shoreline Adaptation Plan kaupapa.

Public access and equity

Ngaati Whanaunga acknowledges the importance of public access to coastal and marine areas but emphasises that access must be balanced with the protection of cultural sites, environmental sustainability, and kaitiakitanga responsibilities, advocated by the following principles:

1. **Protection of cultural and environmental values**	Public access should not compromise the mauri of Te Taiao or the integrity of wāhi tapu, urupā, mahinga kai, and other taonga. Ngaati Whanaunga advocates for: • Controlled access to wāhi tapu and culturally significant areas, ensuring tikanga and kawa are followed. • Clear guidelines on visitor behaviour to protect ecosystems and species. • The ability to implement rāhui where needed to allow natural recovery of resources.
2. **Equitable access for Ngaati Whanaunga**	Ngaati Whanaunga expects that access to traditional lands, waterways, and marine areas will prioritise tangata whenua rights, including: • Unrestricted access to mahinga kai areas for customary harvesting • Recognition of tikanga-based management practices in access rules • Collaborative governance ensuring iwi voices shape access policies.
3. **Sustainable and managed public use**	Ngaati Whanaunga supports responsible public access that aligns with environmental and cultural values, such as: • Designated pathways or boardwalks to minimise ecological damage • Education initiatives to inform the public about kaitiakitanga and responsible behaviour • Limits on commercial or recreational activities that may harm Te Taiao, such as overfishing or unregulated tourism.

[4] Ngaati Whanaunga advocates for ongoing recognition, acknowledgement and reference to the Ngaati Whanaunga Environmental Plan. Kaitaitanga is the responsibility of all.

Ngaati Whanaaunga Environmental Management Plan 2019. Prepared by the Environmental Services Department. https://www.waikatoregion.govt.nz/assets/WRC/NgaatiWhanaungaEnvironmentalManagementPlan9September2019.pdf

4.	**Expectations for decision-making**	Public access policies must: • Be developed in partnership with Ngaati Whanaunga to ensure equity • Reflect Te Tiriti o Waitangi obligations and protect iwi rights • Provide mechanisms for monitoring and enforcement of access rules • Include resourcing for iwi-led management and educational programmes • Te ao Māori worldview: connection to the te taiao.

Climate change and adaptation measures

Understanding the impacts of climate change

Ngaati Whanaunga recognises that climate change is already affecting coastal and marine environments. Key impacts include:

- Rising sea levels threatening wāhi tapu, urupā, and coastal communities
- Increased coastal erosion affecting whenua tūpuna and biodiversity
- More frequent and severe storms damaging mahinga kai, ecosystems, and infrastructure
- Changes in ocean temperature and acidity impacting fisheries and traditional food sources.

Kaitiakitanga-based adaptation approaches

To respond to these challenges, Ngaati Whanaunga supports adaptation measures that uphold the mauri of Te Taiao, including:

Nature-based solutions:	Restoring wetlands, maintaining mangroves, and using native vegetation to prevent erosion.
Cultural protection measures:	Identifying at-risk wāhi tapu and developing strategies to safeguard them from climate impacts.
Sustainable resource management:	Ensuring fisheries, freshwater sources, and other taonga species are managed in a way that adapts to changing conditions.
Community resilience:	Supporting whānau and hapū in preparing for climate-related risks, including emergency planning and relocation strategies if necessary.

Expectations for decision-making and engagement

Ngaati Whanaunga expects that climate adaptation planning will:

- Be co-developed with iwi, ensuring Te Ao Māori perspectives shape adaptation strategies.
- Recognise and uphold tino rangātiratanga over natural resources.
- Include mātauranga Māori alongside Western science in risk assessments and solutions.
- Provide funding and support for iwi-led climate adaptation projects.
- Ensure that any changes do not further harm cultural and environmental values.

Expectations around engagement on the implementation of Shoreline Adaptation Plans

Early and ongoing consultation:	• Ngaati Whanaunga must be engaged before any plans or changes are made, not just after decisions have been drafted • Regular hui and wānanga with iwi representatives to discuss concerns, priorities, and aspirations • Access to all relevant information (i.e. coastal hazard assessments, coastal options assessments) in a timely and transparent way.
Co-governance and decision-making:	• Ngaati Whanaunga has a seat at the table for planning, implementation, and monitoring • Decision-making should align with Te Tiriti o Waitangi principles and ensure Māori perspectives shape outcomes • Recognition of mātauranga Māori (traditional knowledge) alongside scientific approaches.
Protection of cultural sites and taonga:	• Active identification and safeguarding of wāhi tapu, mahinga kai, and other areas of significance • Support for iwi-led kaitiaki initiatives, including rāhui, ecological restoration, and resource monitoring • Development of cultural protocols for site access, use, and protection.
Clear communication and accountability:	• A formal agreement outlining how engagement will happen and who is responsible • Regular progress updates and opportunities for iwi to provide feedback • Commitment from councils and agencies to honour the role of Ngaati Whanaunga as kaitiaki

Ngāti Maru

The SAP team is currently working with Ngāti Maru on various SAP plans within their rohe, with the aim of gathering Ngāti Maru feedback on the SAP programme and individual plans of interest. This ongoing partnership has extended to the development of the Aotea Great Barrier SAP, noting that many areas and sites across Aotea Great Barrier hold great significance to Ngāti Maru. In Tamaki, Ngāti Maru along with other the Marutuahu Tribes had many fortified Pā, sites of significance and Wahi Tapu and a deep whakapapa connection and intermarriages with other early iwi of the district. The Ngāti Maru History an occupation in the Tamaki area began many generations before the coming of the British Crown's occupation and settlements.

Reflecting on the above, this section of the report serves as a "holding statement" for Ngāti Maru to add to once ready, noting a Cultural Statement in response to the wider SAP Programme is under development.

Ngāi Tai ki Tāmaki

The rohe boundary of Ngāi Tai ki Tāmaki includes the area to which this SAP applies to being Aotea Great Barrier and Te Moananui-ō-Toi / Tīkapa Moana / Hauraki Gulf Islands. The cultural narrative shared below serves as a starting point, acknowledging the partnership development and the intention to ensure each SAP report remains a living document and may be updated to reflect further cultural context shared by Ngāi Tai ki Tāmaki.

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

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

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

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

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

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

3.4 Ecological context

Ecosystems and significant ecological areas

Numerous indigenous ecosystems cover the boundaries of the Aotea Great Barrier SAP, from unique, diverse forests and dynamic cliff and dune ecosystems to regenerating ecosystems, coastal saline ecosystems and wetland ecosystems (Singers, et al., 2017), each providing habitat to native flora and fauna alike. Within the Aotea Great Barrier SAP area, there are approx. 9 terrestrial SEAs and 23 marine SEAs identified under the AUP:OP. Terrestrial ecological values have been largely captured within the Marine SEA Schedule. Taonga species within the area will be informed based on local iwi recommendations, as different hapū and iwi associate with different taonga species.

This SAP area encompasses 8 Biodiversity Focus Areas (BFAs), which are key zones prioritised by Auckland Council for ecological management. These are as follows: Mt Young – Hirakimata, Te Paparahi, Whangapaoua, Kaitoke – Medlands, Windy Hill, Mokohīnau Islands, Ratiku Island and Te Hauturu-o-Toi.

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.

The table below has been informed by Significant Ecological Area (SEA) schedules and descriptions (Auckland Council, 2024t), Biodiversity Focus Area (BFA) information, fauna and flora records and other publicly available information. These ecological features and values should be considered alongside the significant cultural values associated with them and where possible, factored into decision making. Statutory direction to protect and enhance the Aotea Great Barrier 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.

Unit	Summary of ecological features and values: Unit Scale
1	Unit 1 includes the northern section of Aotea/Great Barrier Island (one of the important wilderness areas in the region), as well as Te Hauturu-o-Toi/Little Barrier Island and the Mokohīnau Islands group. • The northern section of Aotea is largely covered in indigenous forest, including regenerating kānuka forest, kauri, podocarp, broadleaved forest, and tawa, kohekohe, rewarewa, hīnau podocarp forest. • Whangaparapara Cemetery is surrounded by regenerating kānuka forest, and coastal forest dominated by pōhutukawa. A variety of threatened native lizards have been recorded close to the

Unit	Summary of ecological features and values: Unit Scale

shoreline within this harbour, including chevron skink, Pacific gecko, ornate skink and copper skink (Department of Conservation, n.d.b). Bluegill bully have been recorded in an unnamed stream that discharges into the Whangaparapara Harbour – one of the only known occurrences in the region (NIWA, n.d.).

- The Mount Young – Hirakimata BFA covers a large portion of the southern end of this unit and is administered by DOC (Auckland Council, 2024i). This BFA comprises a mosaic of indigenous forest ecosystems, including kauri, towai, rātā and montane podocarp forest (MF25 – Regionally Endangered) on Hirakimata; the highest point on Aotea Great Barrier. There are three plant species present within this BFA that are only found on Aotea Great Barrier. Black petrel and Cook's petrel nest in burrows on Hirakimata. Additionally, there are many threatened avifauna that utilise the forest mosaic and surrounding coastal environment (New Zealand eBird, n.d.).
- Port Fitzroy Harbour is located on the western section of this unit and is the largest, naturally occurring harbour in Aotea Great Barrier Island. The harbour is recognised as an important fish and shellfish area. There are several sheltered coves that make up the harbour, including Wairahi Bay, Kiwiriki Bay, Kaiarara Bay, and Rarohara Bay. A huge number of native lizards are recorded utilising Karaka Bay and Rarohara Bay, including chevron skink, egg-laying skink, and moko skink (Department of Conservation, n.d.). Giant bully have been recorded within the tributaries that discharge into these bays – including Kairara Stream and an unnamed stream at Rarohara Bay.
- There are several avifauna hotspots within this harbour, including Akaoua Bay Campsite and around the Port Fitzroy Ferry Terminal. Species include Caspian tern, banded rail, and variable oystercatcher (New Zealand eBird, n.d.).
- Located to the north of Port Fitzroy itself, Glenfern Regional Park is largely regenerating kānuka forest and kauri, podocarp, broadleaved forest. The Glenfern Sanctuary is managed by the Glenfern Sanctuary Trust and Ngati Rehua Ngatiwai ki Aotea nga mana whenua o Aotea Trust, with additional support from Council.
- Kaikoura, Nelson, and Motuhaku islands are located offshore from Port Fitzroy, and comprise of regenerating kānuka forest, pōhutukawa treeland, and coastal broadleaved forest. These islands, particularly Kaikoura, are recognised as important 'fly aways' for Cook's petrel and Black petrel (Aotea Great Barrier Environmental Trust, 2007).
- Further north, the tidal stream mouths located at Karaka Bay and Motairehe Bay are recognised as regionally important habitats for brown teal.
- The northern head of this Aotea is called Te Paparahi and has been identified as a BFA by Council. There are intact ecological sequences from the marine environment to the coastal and lowland forest areas, through to cloud forest which surrounds Tataweka peak. There are small areas of coastal turf located around the stream mouths on the eastern side of Te Paparahi – which are some of the few remaining examples within the region and differ in composition from the mainland sites. Te Paparahi supports a large diversity of native herpetofauna, including shore skink which are slowly declining due to the presence of pest animals. The area also supports populations of Hochstetter's frog and many passerine bird species.
- Rangiwhakaea Bay is located on the western side of Te Paparahi and is renowned for supporting one of the highest diversities of fish species within the region.
- Whangapoua Bay is characterised by a large barrier sandspit, comprising intact, pīngao sand dunes and dune plains. This sandspit is recognised as an important high-tide bird roost and a key breeding ground for New Zealand dotterel and variable oystercatcher. To the east of the sandspit, the estuary contains large stands of mangrove forest which grade into saltmarsh and then into

Unit	Summary of ecological features and values: Unit Scale
	mosaics of freshwater wetland ecosystems. Giant bully have been recorded within the Whangapoua Stream (NIWA, n.d.) and shore skink have been recorded within the coastal environment of the estuary (Department of Conservation, n.d.). It is also important to note that the Department of Conservation has selected the area of the proposed marine reserve at Whangapoua and Rakitu Island as an Area of Significant Conservation Value (ASCV). Unit 1 also encompasses several offshore islands that surround the northern section of Aotea. • Ratiku Island is a scenic reserve administered by DOC. It is largely classified as coastal broadleaved forest (WF4) and pōhutukawa treeland, with some small areas of regenerating kānuka forest. This island supports several seabird species, including fluttering shearwater, Cook's petrel, little penguin, and pied shag (Auckland Council, 2024e). Many weka have been translocated here. Native lizard species found on the island include copper skink, moko skink, ornate skink, Pacific gecko and ruakawa gecko (Department of Conservation, n.d.). • There are a number of offshore islands on the northwestern side of Aotea, including Mahuki Island, Little Mahuki Island, Rangiahua Island, and Motutaiko Island. While there are no Council or CCO-owned assets or land within these islands, they do host several important ecological features that warrant attention. The eastern tip of Mahuki Island is the site of one of the major breeding colonies of Australasian gannet in the region. Further north of this island group lies a small, unnamed island that is the only rat-free island within the group. This island supports a large population of native lizards and provides breeding habitat for diving petrel and fluttering shearwater, which nest in the petrel-induced scrub. • Te Hauturu-o-Toi/Little Barrier is situated at the northern end of the Hauraki Gulf between Aotea and Leigh on the mainland. Te Hauturu-o-Toi was the first nature reserve established in New Zealand and is currently administered by DOC (Department of Conservation, 2024). There are important ecological sequences found from the marine environment to land, with a shallow reef system transitioning to a thin layer of shore bindweed, knobby clubrush gravelfield that surrounds the island. This saline ecosystem transitions to coastal forest, including coastal broadleaved forest, tawa, kohekohe, rewarewa, hīnau podocarp forest, kauri, podocarp, broadleaved forest, and taraire, tawa, podocarp forest. Approximately 40 species of rare or threatened birds, 14 reptiles, both native bat species, and over 400 native plants can be found on the island (Department of Conservation, 2024b). The island is the only place that stitchbird is able to survive without human assistance. • The Mokohīnau Island group is located further north of Te Hauturu-o-Toi and includes a cluster of small pest-free islands, islets, and rock stacks. Some of the larger islands include Motukino Island, Motuharakeke Island, Pokohinu Island, Motupapa Island, Hokoromea Island, and Atihau Island. All of the islands are extremely important for a range of seabirds and native lizards. • Pokohinu Island (Burgess Island) is a scenic reserve owned by Council and is classified as iceplant, glasswort, herbfield with a border of pōhutukawa-dominated coastal forest). Seabird species known to utilise this island include little penguin, little shearwater, fluttering shearwater, and Cook's petrel. In addition to several species of threatened lizards, the island supports a population of Mokohīnau gecko which is only found within this island group. The other islands belonging to this group are nature reserves and protected wildlife sanctuaries that require a permit from DOC to access.

Unit	Summary of ecological features and values: Unit Scale
2	Unit 2 includes the southern section of Aotea Great Barrier from Whakatuatuna Point to Whangaparapa Esplanade Reserve. • Awana Road Reserve and Awana Hill Reserve surround Awana Bay and comprised regenerating kānuka forest (VS2). There are records of egg-laying skink, moko skink, raukawa gecko and shore skink near these reserves (Department of Conservation, n.d.). The Awana Stream is recognised as internationally significant habitat for brown teal. • Kaitoke Beach is one of the only two places in the region in which the three native sand binding plants (spinifex, pīngao and the sand tussock) are found growing together. There are regionally important ecological sequences found within this area, with active dunes. grading into dune plains (DN5) and regenerating kānuka forest. In the estuary, saline vegetation grades from saltmarsh (SA1.3) to mangrove forest (SA1.2), and finally into a large freshwater wetland complex (Kaitoke Swamp). The Kaitoke Swamp comprises mānuka, tangle fern, scrub fernland (WL12 – Regionally Critically Endangered) and raupō reedland. A variety of threatened avifauna have been recorded within the wetland and coastal environment, including spotless crake, fairy prion, banded dotterel, New Zealand dotterel and little penguin (Anderson & Ogden, 2003; iNaturalist, n.d.). Some of the largest populations of fernbird are also found within margins and upper reaches of this wetland complex (Auckland Council, 2018). • Windy Hill Sanctuary is a community-led conservation project which involves pest animal control across 770 hectares of private and public land on the southwestern side of this unit. Black petrel and grey-faced petrel burrows have been found during seabird surveys within the area (Windy Hill Sanctuary, 2024). • Shoal Bay Esplanade Reserve is characterised by coastal broadleaved forest (WF4) which continues into Shoal Bay Reserve and Gooseberry Flat – all of which are reserves that surround Tryphena Harbour. There are many native lizards recorded within these reserves and adjacent coastal vegetation, including chevron skink, copper skink, ornate skink, shore skink, and several other species (Department of Conservation, n.d.). Several threatened avifauna also utilise the habitats surrounding the Tryphena Harbour, including banded rail, brown teal, variable oystercatcher, New Zealand dotterel, and white-fronted tern. • The township of Okupu and Blind Bay are located further north of Tryphena. The Okupu Reserve, Blind Bay Recreational Reserve and Blind Bay Esplanade Reserve comprise regenerating kānuka forest and coastal broadleaved forest. Duvaucel's gecko, chevron skink, forest gecko, and Pacific gecko have been recorded within vegetation surrounding these coastal reserves (DOC 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 Aotea Great Barrier 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

The resident population of this SAP area is approximately 1,000 and primarily located on Aotea Great Barrier Island (Units 1-2). The median age is 53, older than the regional median age of 36. Within the SAP area, 92% of the population identify as being of New Zealand European ethnicity which is significantly higher than the regional proportion of 54% (Statistics New Zealand, 2018). Other ethnicities include Māori (19.3%), Pacific Peoples (2%), Asian (1.1%), Middle Eastern, Latin American, and African. The Māori population in this area is greater than the Auckland regional proportion of 13%.

Community groups and organisations

Based on desktop research, approximately 13 active community organisations[5] have been identified within Aotea Great Barrier. This review of organisations will be supplemented by consultation and engagement feedback that furthers understanding of the range of activities that the community is involved in.

Environmental protection and restoration is a key theme for many community groups in this SAP area. Key community volunteer organisations are largely location specific. However, the Hauraki Gulf Alliance (2023), Hauraki Gulf Guardians (Auckland Foundation, 2022), and Friends of the Hauraki Gulf (2024), are groups formed to support the restoration and regeneration of the area in its entirety, and to advocate for legislative protection from activities like bottom trawling. Other key environmental groups/ initiatives on Aotea Great Barrier include but are not limited to: Ahu Moana, Anamata, Aotea Trap Library, Aotea Great Barrier Island Environmental Trust, Awana Bay Conservation Project, Cecelia Sudden Bay Project, Glendern Sanctuary, Manta Watch New Zealand, Ōkiwi Community Ecology Project, Okune Ecology Group, Okupe Ecology Group, Oruawharo Medlands Ecovision, Tu Mai Taonga, Windy Hull Sanctuary[6].

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5 These were identified through a community organisation mapping exercise that included reviewing maps and desktop based research

6 https://ecologyvision.co.nz/

Key community groups dedicated to looking after the environment and advocating for environmental protections include the Ōkiwi Community Group, Windy Hill Sanctuary and the Aotea Great Barrier Environmental Trust. Many groups also coordinate community activities (such as working bees and education programmes) and work in partnership with DOC and mana whenua groups.

Community groups providing social services on Aotea Great Barrier include Aotea Family Support Group (Family Services Directory, 2024), providing social support, counselling, and out-of-school programmes in Tryphena, and the Great Barrier Island Sports & Social Club (Destination Great Barrier Island Trust, 2024b), located in Claris in a multi-use venue.

Relevant Policy

Understanding the regulatory and policy context applicable to the area helps us understand previously expressed issues by the communities, as well as their values, objectives and aspirations. The following are key plans and documents of relevance to the Aotea Great Barrier SAP development. Key documents are identified as applicable to the programme in Volume 1 and at a unit scale in Volume 3.

Several strategies and management plans are of relevance to this SAP area. This includes plans from the Aotea / Great Barrier Local Board, as well as the Hauraki Gulf Marine Park Act 2000 and Coastal Management Framework (Auckland Council, 2017c). Further detail as relevant to specific units and stretches has been integrated into the relevant report sections.

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

- New Zealand Coastal Policy Statement
- Auckland Unitary Plan – Operative in Part (Auckland Council, 2016)
- Hauraki Gulf Marine Park Act 2000
- Sea Change - Tai Timu Tai Pari (Seanchange Stakeholder Working Group, 2017)
- Tāmaki Makaurau Recovery Plan (Auckland Council, 2024c)
- Auckland Council Long Term Plan 2024 - 2034
- Open Space Strategic Asset Management Plan 2015 - 2025 (Auckland Council, 2015)
- Aotea / Great Barrier Local Board Plan (Aotea / Great Barrier Local Board, 2023)
- Aotea Great Barrier Destination Management Plan (Tātaki Auckland Unlimited, 2023)
- 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).

Community use

This section provides an overview of the key land uses within Aotea Great Barrier SAP area. Although this includes uses and activities outside Council or CCO-owned land, this aids with providing an understanding of the wider context, the potential levers that influence development, and how the area is used by communities.

The islands can be broadly split between Aotea Great Barrier and the surrounding, smaller islands within the Aotea Local Board area which are uninhabited and used primarily as nature or recreational reserves. The latter group (including Te Hauturu-o-Toi/Little Barrier and several smaller islands) have very minimal infrastructure, usually limited to paths, wharves, and a few buildings used for rangers, visitor accommodation, or kept for historic significance.

Aotea Great Barrier has the only resident population and the vast majority of the land area is native forest, much of it protected, with coastal settlements scattered across the island. These settlements are primarily comprised of low-density 1-2 storey homes, and most have a shop, community space, and wharf/pier. Tryphena and Claris are the main commercial and social centres for the island.

Surrounding the settlements of Ōkiwi and Claris/Medlands Beach are areas of pasture and farming. Also adjacent to these settlements are the island's two airstrips. Aotea Great Barrier's limited industrial uses, such as the transfer station, are located near Claris, just north of the island's primary airstrip.

Community buildings / assets

Social infrastructure is relevant to the consideration of adaptation strategies across the SAP. Note that while the adaptation strategies relate to Auckland Council-owned land, infrastructure and assets, the wider social context of the area has been considered when determining strategies in terms of understanding how the community use and value the area.

Most social infrastructure on Aotea Great Barrier is clustered around Claris and Tryphena (Unit 2). Claris contains the island's only library, medical centre, and pharmacy, as well as several shops, NZ Post Centre, recycling centre, and the airport. Within Tryphena are several shops, a community hall, a social club, and one of the two main wharves for the island (the other located at Port Fitzroy in Unit 1). Grocery shops are in Tryphena, Claris, and at Port Fitzroy. Two marae are located north of Port Fitzroy, on the west coast of the island.

Emergency services, facilities or key infrastructure

The Aotea Great Barrier SAP area can be described as mostly rural and relatively remote. Aotea Great Barrier has a low population base and is not expected to see much growth. As such, no large infrastructure projects are proposed in this SAP area, and self-sufficiency is likely to remain a key part of life on these islands, with two key airports located on Aotea Great Barrier Island.

Infrastructure projects currently underway or proposed include repairs to Tryphena, Okupu, and Whangaparapara wharves (Auckland Transport, 2024), road sealing extension/improvements and electric vehicle infrastructure on Aotea Great Barrier Island (Auckland Council, 2022b). The Aotea / Great Barrier Local Board is also investigating a community-led public transport system, a new cemetery (centrally located), and new housing and accessways/linkages across the island.

Landscape features and character

Portions of the SAP area are scheduled as Outstanding Natural Landscapes (ONL), High Natural Character (HNC) areas, and/or Outstanding Natural Features (ONF). There 6 ONFs, 2 ONLs, and 13 ONCs identified within the Aotea Great Barrier SAP area. These areas contribute to the natural character of the coastal environment and are identified under the AUP:OP. Listed on the following page are locations designated as outstanding natural features or landscapes. These may hold significant community and regional values associated with their preservation and appreciation (Auckland Council, 2016a).

Outstanding natural features or landscapes:

- Aotea Great Barrier Island, Man o' War Passage [Unit 1, ONF]
- Aotea Great Barrier Island, Waterfall Bay Miocene intrusions [Unit 1, ONF]
- Aotea Great Barrier Island, Whangapoua sand spit & tsunami deposits [Unit 1, ONF]
- Harataonga Bay conglomerate [Unit 1, ONF]
- Kaikoura Island – west [Unit 1, ONC]
- Kiwiriki Bay [Unit 1, ONC]
- Kotuku Point [Unit 1, ONC]
- Maunganui Point [Unit 1, ONC]
- Mokohīnau Islands (including Fanal Island, Burgess Island, Atihau Island) [Unit 1, ONC]
- North & South Rakitu Island [Unit 1, ONC]
- North Great Barrier [Unit 1, ONC]
- Rakitu Island obsidian breccia [Unit 1, ONF]
- Te Hauturu-o-Toi/Little Barrier [Unit 1, ONL/ONC]
- Whangaparapara – western coastline [Unit 1, ONC]
- Whangapoua Estuary [Unit 1, ONF]
- Aotea Great Barrier Island (Includes Kaikoura, Broken & Rakitu (Aria) Islands) [Unit 1/2, ONL]
- Beacon Point [Unit 2, ONC]
- Ross & Cecilia Sudden Bay [Unit 2, ONC]
- Ruahine – eastern coastline [Unit 2, ONC]
- Windy Hill – eastern coastline [Unit 2, ONC]

There are also a significant number of features listed as heritage sites or features under the Auckland Unitary Plan (AUP:OP) (Auckland Council, 2016a). These include historic buildings, plaques, and middens. This SAP area is home to 9 historic heritage sites identified in the AUP:OP (Auckland Council, 2024d) and 11 sites scheduled though the Auckland Council District Plan – Hauraki Gulf Islands Section – Operative 2018 (HGI:DP) (Auckland Council, 2018b). Those scheduled under the AUP:OP are primarily coastal (or coast-adjacent), and those scheduled under the HGI:DP are largely clustered towards the centre of Aotea Great Barrier.

Heritage features are identified at a unit and stretch level in Volume 3. Engagement with Heritage New Zealand may be needed to understand whether any heritage features are exposed to climate hazards or are likely to be impacted by the implementation of adaptation strategies

3.6 Community Feedback

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

Community engagement for the Aotea Great Barrier SAP ran in parallel to the development of the Waiheke SAP and was open from 7 August - 7 October 2024. 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 below.

In-person events:

- Aotea Growers and Makers Market
- Aotea Local Board Office
- Downtown ferry terminal
- Mulberry Grove Store & Café
- Ōkiwi school Orama
- Rakino Wharf
- Warkworth Library

Digital engagement:

- AK Have Your Say
- Social Pinpoint
- Webinars: Coastal Hazards 101

Feedback was received via the 'AK have your say' survey, social pinpoint and email submissions. Refer to the community engagement report for full details of the feedback received and to Volume 1 for more on the methodology used to plan and undertake community engagement. Community feedback (in-person and digital) was analysed alongside that which has been received from Local Boards and key stakeholders. This included:

- 52 pindrops on the interactive Social Pinpoint map
- 28 'AK Have Your Say' Feedback forms
- Individual community submissions.

Key themes were identified from the feedback and findings at an SAP scale are discussed below. Volume 3 includes a more detailed analysis of specific feedback at a location-specific scale, alongside any quantitative community views of the draft adaptation strategies that were provided for engagement.

Who did we hear from

Feedback was received via several different platforms. Of those where statistics were gathered (optional), the following profiles can be identified:

Age and gender

- Of those who responded (optional question), the general age and gender provided was 41% male and 56% female; 33% 25-54 years, 30% 55-64 and 33% 65+.
- Gender and age differences were evident in responses, with females focused on ecosystems and social connections, while males are more concerned with access to water and fishing.
- Older groups (55-74) prioritise ecosystem preservation, recreation, and fishing, while younger groups (25-34) focus on water access and general enjoyment.

Community uses/ values

During community engagement, respondents were asked, "*when thinking about the coastal areas they use in the Aotea Great Barrier, which values matter the most to them*". Key values identified included ecosystem and biodiversity preservation, recreational activities such as swimming and water sports, access to water infrastructure (e.g. boat ramps, wharves, jetties), cultural and social connections to the coast, and the ability to gather kaimoana (fishing). Older respondents (ages 55–74) valued ecosystem preservation, recreation, and fishing, whereas younger respondents (ages 25–34) focused more on access to water and general enjoyment.

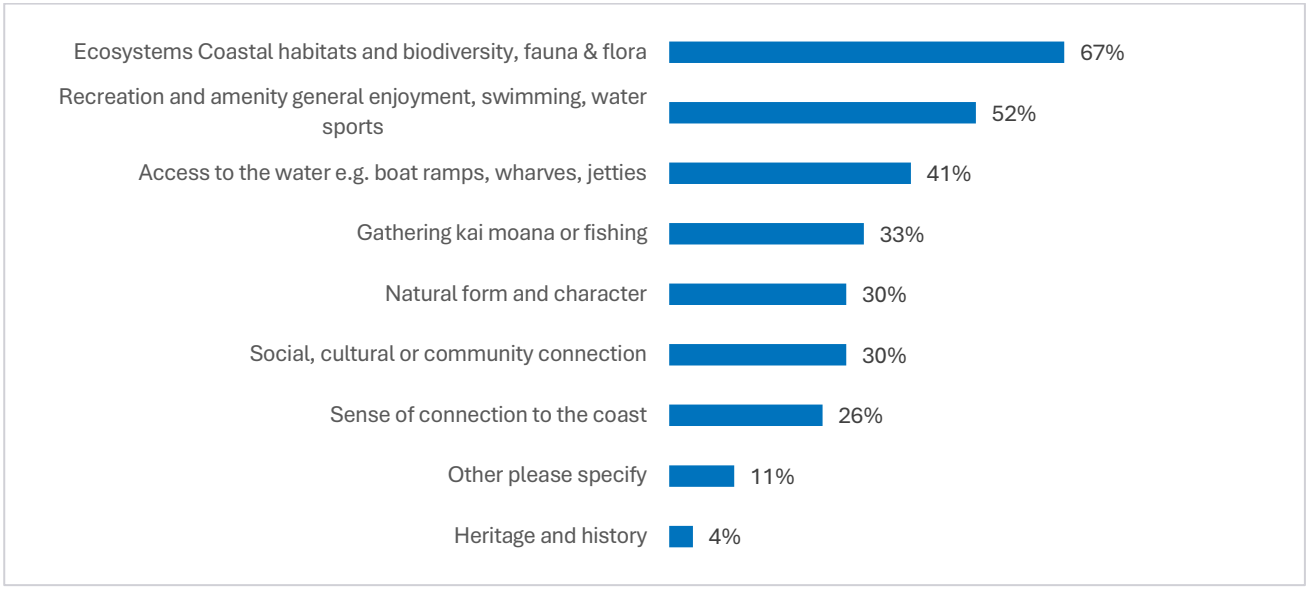

Figure 3-3: Community feedback regarding community uses and values. Source: AK Have Your Say Aotea Great Barrier Feedback Form

Respondents were also asked which beaches and/or coastal parks they visit within this SAP area. Medlands appeared to be the most preferred location, particularly popular among those aged 65-74 (57%). Tryphena, Port Fitzroy Wharf, were similarly amongst the most popular coastal locations.

Activities enjoyed were quite varied within the SAP area, covering a combination of active and passive recreation, such as water-based activities, open-water activities, walking / cycling and nature-watching, etc.

Community cultural values / comments

Aotea Great Barrier Island and surrounding areas are valued for their natural beauty and recreational opportunities, with limited development and restrictions on seafood gathering.

Community feedback indicated respect for mana whenua to retain control over their land and culturally significant sites, advocating for the incorporation Māori cultural and spiritual values in coastal management plans.

There was concern expressed about the loss of traditional access due to erosion or development.

There is a strong desire to preserve intergenerational experiences in nature and to improve public access and education about the benefits of protecting islands, coastlines, and marine environments.

Community values of ecosystems and impacts of climate change

Themes of feedback for the Aotea Great Barrier area included:

- Incorporate nature-based solutions to mitigate climate change impacts, such as flooding and coastal erosion, and minimise artificial structures such as seawalls except where necessary to protect vital infrastructure.
- Recognition that changes in the Whangapoua Estuary have altered its course, leading to shellfish stock depletion, disrupted bird habitats, and unsafe crossing conditions due to strong currents and multiple access points. A desire to protect ecosystems and biodiversity, including shellfish and marine habitats, to restore ecological balance
- Emphasis on the importance of preserving breeding grounds and coastal habitats critical to species survival and concern expressed for the protection of native species such as shorebirds, petrels, moko skinks, inanga, and kororā/little blue penguins.
- Community members are actively engaged in environmental initiatives, such as wetland restoration, noting that wetlands behind beaches on Aotea Great Barrier Island are perceived to currently help mitigate flood impacts but are increasingly under strain.

Community experience of hazards / concerns

When reflecting on coastal hazards, 46% of residents reported noticing an increased frequency of coastal inundation. Other commonly observed changes included land erosion (29%) and loss of sand or dunes around Aotea Great Barrier (25%). Residents also described notable shifts in how they interact with the coast, driven by environmental changes and extreme weather events.

Coastal erosion, dune loss (i.e. loss of lower foredunes at Medlands Beach) and sedimentation emerged as key concerns, impacting both beach access and local ecosystems. For instance, Whangapoua Estuary has experienced shellfish depletion and disruption to birdlife, while dune erosion at Medlands Beach is affecting rare species such as the New Zealand dotterel. Community feedback also highlighted that sediment in the marine environment around Aotea Great Barrier (and the development of Caulerpa) have severely impacted the enjoyment of coastal areas by limiting access to the water for fishing and collection of kaimoana over extended periods. There was some

feedback that indicated a perception that coastal inundation and rainfall flooding are worsened by poorly maintained drains and culverts on the islands.

Respondents during community feedback highlighted the impact that severe storms, including Cyclone Gabrielle, have had on the coastline across the SAP area, leading to road erosion (concern expressed for resilience of road networks/ access, with some road networks already reduced to one lane since the Auckland floods, raising serious concerns about losing access entirely — affecting transport, supplies, and livelihoods), flooding, and coastal infrastructure damage (including wharves, risk of isolating communities), making access more difficult—particularly for elderly and disabled community members.

It was also reported that increased flooding and sediment build-up have reduced opportunities for activities such as fishing and kayaking. As a result, residents have had to modify their recreational use of the coast, with growing concern about the long-term resilience of coastal infrastructure.

Many expressed concern for ongoing environmental impacts on ecosystems with more frequent and intense weather events putting additional pressure on fragile coastal ecosystems, along with community safety, and access to vital resources.

More investment in transport and coastal infrastructure, alternative road routes and public transport were strongly advocated for during engagement, with some commentary on the disruption of walkways and coastal access for pedestrians, again highlighting the threat of erosion to infrastructure and assets.

Community values and aspirations

Respondents were asked, when considering overall how they access and use their coastal areas, and what they value about them, what type of values they'd like to see maintained, enhanced, or restored in the coastal areas. At a high-level, respondents emphasised the importance of protecting and maintaining coastal access, with a strong focus on preserving natural ecosystems and addressing the impacts of climate change. Key priorities identified include restoring sand dunes, planting native vegetation, and enhancing wetlands to help manage water levels and reduce erosion.

At the same time, respondents expressed the need to balance conservation with accessibility, ensuring that roads and pathways remain safe and usable for both residents and visitors. Concerns were raised about access routes such as Pūriri Bay Road, which are crucial for community connectivity and emergency services.

Respondents were also asked if they had any aspirations specifically for access, facilities or uses at the coast across this SAP area. Key themes included:

- Support for maintaining safe and accessible infrastructure, particularly for boats and community spaces, while balancing it with the preservation of natural areas.
- Environmental protection and restoration (replanting native species and controlling pollution, were emphasised, along with the importance of public involvement in these efforts).
- Providing community facilities for meeting points (i.e. public halls).
- Concerns about over-regulation affecting local livelihoods.
- Strong advocacy for sustainability and environmental responsibility.

In further detail, responses highlighted the importance of maintaining access to coastal areas and upgrading facilities to better serve both residents and visitors. They called for greater community involvement in environmental initiatives such as replanting native vegetation, managing algae blooms, and protecting marine life, including fish stocks and shorebird habitats. Key concerns also included the need to enhance boat launching facilities, improve communication and support from local councils, and restore community spaces.

Some respondents advocated for simplified, cost-effective regulations to ensure continued access and enjoyment of the coast, while others stressed the importance of exploring managed retreat strategies to address ongoing coastal erosion and protect local ecosystems.

Community suggestions for management and feedback on strategies

Community feedback emphasized that coastal spaces across Aotea Great Barrier Island are valued for a variety of uses, including water-based sports, recreational activities, fishing and community events. However, the usability of these spaces is increasingly affected by natural hazards such as erosion, sedimentation, and accessibility issues, noting that locals and visitors alike are seeking solutions to maintain or restore these spaces for current and future use.

Among the units for which quantitative results were available, the majority of respondents were in support of the proposed adaptation strategies, with opposition generally low as shown in Figure 3-5.

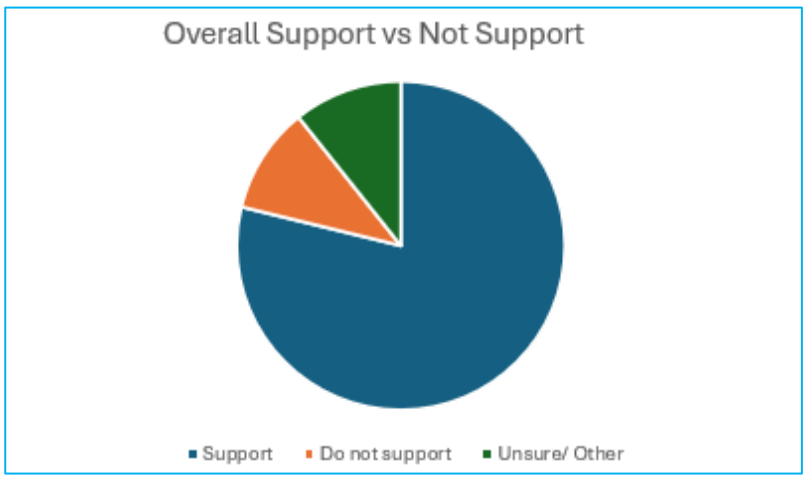

Figure 3-4: Summary of feedback received for Aotea Great Barrier (source: AK Have Your Say)

For Aotea Great Barrier, feedback on strategies during consultation highlighted the importance of tailored risk management, particularly around stream outlets at Medlands and dune walkway maintenance. Concerns were raised about the environmental impact of heavy traffic, with calls for public transport solutions and restrictions on non-pervious surfaces. Respondents also stressed the need for clearer definitions of intervention strategies such as ‘limited intervention’ and ‘managed retreat’, alongside consistent erosion management, limits on coastal development, native planting, and wetland preservation. This has been responded to by the updated naming of the adaptation strategies (no active intervention/ maintain/ protect/ adaptation priority).

Key feedback from communities and local boards has been the need for further and ongoing conversations regarding adaptation and further work on adaptation options alongside decision-making responsibilities. There was general acknowledgement that this is a long-term intergenerational conversation. Furthermore, comments provided for each coastal area expressing aspirations, changes and concerns, were identified and considered in the development of the final strategies and pathways in Volume 3.

Community objectives for the Aotea Great Barrier Island SAP area

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

Coastal connections, use and access	• Work to provide continued access to coastal areas for all residents and visitors, prioritising the safety, usability and resilience of key infrastructure (e.g. roads, paths, boat ramps), with specific attention to critical access routes (such as Pūriri Bay Road on Aotea). • Integrate conservation goals with the need for safe, inclusive public access, ensuring infrastructure upgrades and pathways support both environmental protection and community connectivity.
Social and cultural	• Maintain and improve community infrastructure, including public halls and boat launching areas, to support social cohesion and preparedness, with specific focus on restoring highly valued community facilities. • Empower iwi, communities and stakeholders to lead and actively participate in coastal adaptation planning, working to support locally driven and culturally grounded responses to change that match the needs of locals.
Responding to risk	• Prioritise investment in road networks, wharves and alternative routes that support community connectivity, reduce isolation during extreme weather events and enhance long-term resilience to coastal hazards. • Upgrade and maintain drains, culverts and stormwater systems to mitigate coastal and rainfall-related flooding, particularly in areas where poor drainage is perceived to exacerbate impacts. • Develop locally relevant indicators and signals to guide timely adaptation decisions in response to changing coastal conditions and sea-level rise, ensuring that communities can respond proactively to environmental shifts.
Environmental	• Work with local iwi and community groups to incorporate nature-based solutions (e.g. wetland restoration, revegetation) into coastal management to mitigate the impacts of climate change, including flooding and coastal erosion, minimizing (where appropriate) the use of hard coastal protection structures to maintain natural landscapes and protect biodiversity. • Facilitate revegetation efforts on coastal cliffs and dunes using native species to enhance biodiversity, stabilize land and support long-term ecosystem resilience.

4 What can we do about it?

Summary of adaptation strategies per unit

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

Climate scenarios

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

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

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

Auckland Council's adaptation strategies

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

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

-

Unit	Stretch	Adaptation Strategy		
		Low	Moderate	High
1 - Aotea Great Barrier North	1.1: Central west Aotea	No Action	No Action	No Action
	1.2: Port Fitzroy wharf	Protect	Protect	Protect
	1.3: Glenfern Sanctuary Regional Park	Maintain	Maintain	Maintain
	1.4: Kotuku Point	No Action	No Action	No Action
	1.5 Orama/ Karaka Bay/ Waikaraka	Maintain	Maintain	Maintain
	1.6 Maunganui / Separation Point	No Action	No Action	No Action
	1.7 Moanauriuri Bay (Kawa Marae)	Maintain	Maintain	Maintain
	1.8 Tuukari /Reef Point	No Action	No Action	No Action
	1.9: Motairehe (Whakaruruhau Marae)	Maintain	Maintain	Adaptation Priority
	1.10: North east to Whangapoua	No Action	No Action	No Action
	1.11: Ōkiwi	Maintain	Adaptation Priority	Adaptation Priority
	1.12: Harataonga Coastal Walkway	No Action	No Action	No Action
	1.13: Te Hauturu-o-Toi Little Barrier Island & Pokohinu Mokohinau Islands & Rakitu / Arid Island	No Action	No Action	No Action
	1.14 Broken islands (Ngāti Rehua islands)	No Action	No Action	No Action
	1.15 all other near shore islands off the coast of the northen area of Aotea	No Action	No Action	No Action
2: Aotea Great Barrier South	2.1: Whakatautuna Point to Palmers Beach	No Action	No Action	No Action
	2.2 Kaitoke bay/ Claris Waiparera	Maintain	Maintain	Adaptation Priority
	2.3: Oruawharo Medlands Beach	Maintain	Maintain	Adaptation Priority
	2.4: Southernmost Aotea Great Barrier	No Action	No Action	No Action
	2.5: Rangitawhiri Tryphena wharf	Protect	Protect	Protect
	2.6: Shoal Bay Road to Mulberry	Maintain	Maintain	Maintain
	2.7: Mulberry Grove School reserve	Maintain	Maintain	Adaptation Priority
	2.8: Mulberry Grove	Protect	Maintain	Adaptation Priority
	2.9: Shoal Bay Road central	Maintain	Maintain	Maintain
	2.10: Gooseberry Flat Beach	Maintain	Maintain	Adaptation Priority
	2.11: Pā (Pah) Point Putuwhera	Maintain	Maintain	Maintain
	2.12: Tryphena Rangitawhiri (Pā Beach)	Protect	Protect	Adaptation Priority APA
	2.13: Puriri Bay Road (Tryphena north)	Protect	Protect	Adaptation Priority
	2.14 Te Rangitawhiri road/hill	No Action	No Action	No Action
	2.15: Schooner Bay Te Kurae o Turi	Maintain	Maintain	Maintain
	2.16 Shag Point	No Action	No Action	No Action

	2.17 Blind Bay Okupe (Okupu Reserves)	No Action	No Action	No Action
	2.18: Blind Bay (Okupu Wharf)	Protect	Maintain	Adaptation Priority APA
	2.19: Open west coast	No Action	No Action	No Action
	2.20: Whangaparapara ferry connection	Protect	Protect	Protect
	2.21: Whangaparapara east	Maintain	Maintain	Maintain
	2.22: Whangaparapara west	No Action	No Action	No Action
	2.23 all southern islands immediately offshore of the southern area of barrier	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 Aotea Great Barrier 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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