

Date: Tuesday 25 March 2025
Time: 10:00 am
Meeting Room: Ground Floor – Hawiti Building
Venue: 6-8 Munroe Lane
 Albany

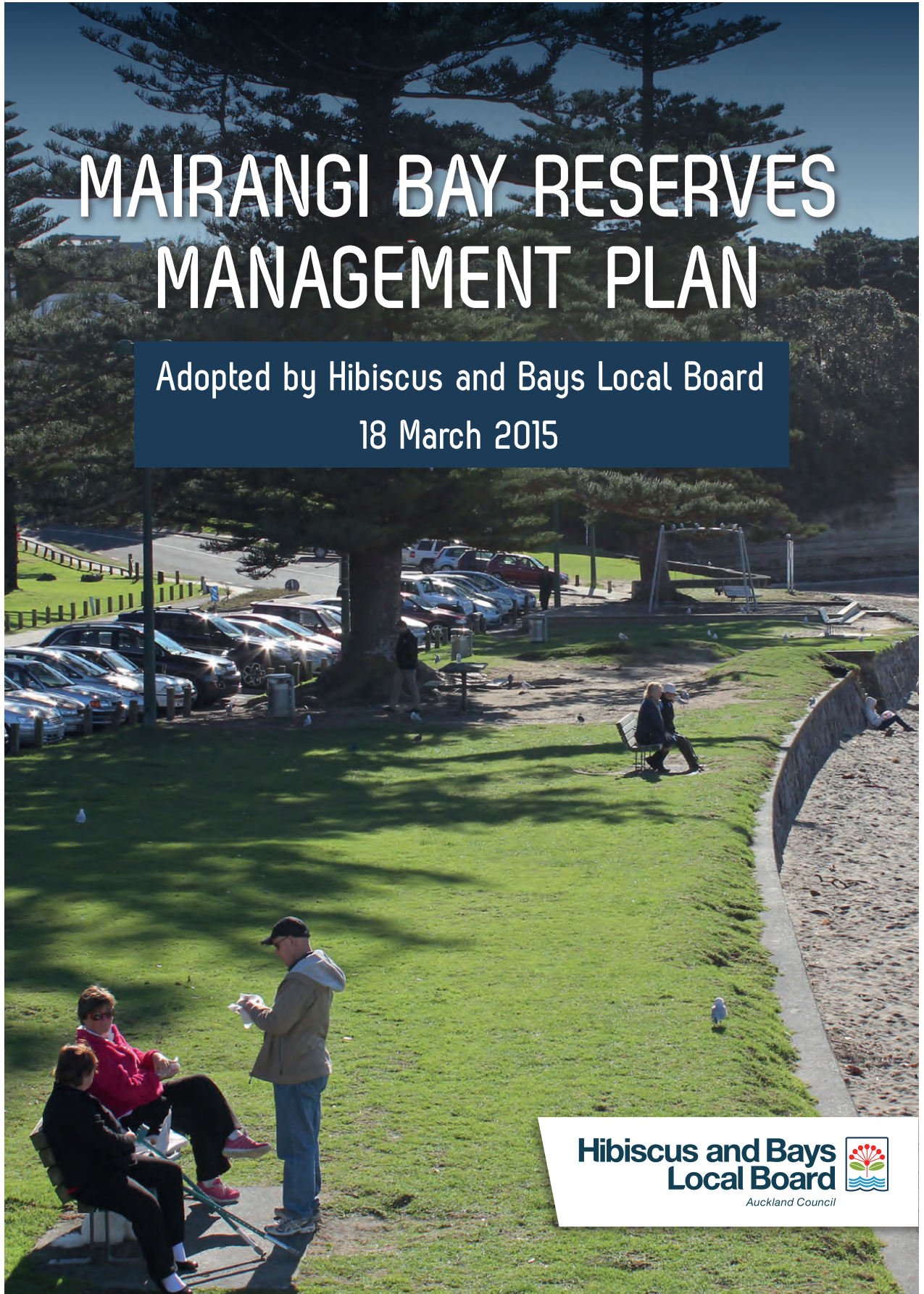
Hibiscus and Bays Local Board

OPEN ATTACHMENTS

ATTACHMENTS UNDER SEPARATE COVER

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Note: The attachments contained within this document are for consideration and should not be construed as Council policy unless and until adopted. Should Councillors require further information relating to any reports, please contact the relevant manager, Chairperson or Deputy Chairperson.



MAIRANGI BAY RESERVES MANAGEMENT PLAN

Adopted by Hibiscus and Bays Local Board
18 March 2015

Hibiscus and Bays
Local Board
Auckland Council

Item 11

Attachment A

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Mihi

E toko ake rā e te iti, whakatata mai rā e te rahi.
Kia mihi koutou ki ngā kupu whakarei
a te hunga kua tīpokotia e te ringa o te wāhi ngaro,
engari e kaikini tonu nei i ngā mahara i te ao, i te pō.
Ngā oha i mahue mai i tērā whakatupuranga,
kia āpitihia e tātou ki ngā tūmanako o tēnei reanga,
hei mounga waihotanga iho ki te ira whaimuri i a tātou.
Koina te tangi a ngākau māhaki, a te wairua hihiri me te hinengaro tau.
Oho mai rā tātou ki te whakatairanga i ngā mahi
e ekeina ai te pae tawhiti, ka tō mai ai ki te pae tata.
Ka noho au ki uta o Tikapa Moana, ki te Whanga o Oho Mairangi,
ūnga mai o Te Arawa waka,
whakamāhorahoratanga ki ngā pūmanawa kua whakakāinga ki roto i a koe.
Ka titiro whakateraki ahau ki te puna o te ora,
ki te Pūkaki o Taiorahi.
Kei te pueanga o te rā, ko ngā maunga tipua o Rangitoto me te Motu-tapu a Taikehu.
Ka mutu taku mātaītanga ki runga i a Pupuke,
hua a te riri o Mataoho, papa rēhia mō te tini.
Kua tau te whakaaro i roto i a au,
Nō konei tēnei whanga e matapoporehia ai e te iwi kāinga.
Kia ora huihui mai koutou katoa.

*Welcome to you all. Let me greet you with the eloquent words
of those who have long since been taken by the unseen hand of the unknown,
but for whom we still mourn.*

*Let us enjoin the legacy they left
to the hopes of this generation,
as our gift to those who will follow us.*

That is the pledge of the humble heart, the willing spirit and the inspired mind.

*Let us rise together and seek to do what is necessary
to draw distant aspirations closer to realization.*

*I sit inshore of Tikapa Moana at Mairangi Bay,
landing place of Te Arawa waka,
haven to those of us who shelter within your sanctuary.*

*I gaze northward to the spring that brings life,
to Taiorahi.*

Toward the rising of the sun are the magical mounts, Rangitoto and Motutapu.

My survey settles at Pupuke,

Aftermath of Mataoho's rage, now hub of recreation for many.

The thought dawns on me,

These are the fabric of the bay, so highly valued by the denizens.

Greetings to one and all.

VISION FOR THE MAIRANGI BAY BEACH RESERVES

Our vision for the Mairangi Bay Beach reserve land is a place that is connected to the sea and the associated coastal walkway which will continue as a valued place for both formal and informal water and beach activities, while protecting and preserving our environmental landscape features for enjoyment both now and in the future

1.0 Introduction

This management plan provides a guide for the future management of the Mairangi Bay beach reserves (including the associated coastal walk) which encompass Mairangi Bay Beach Reserve, Sidmouth Street Reserve and the Montrose Terrace reserve land.

Preparation of the plan is a statutory requirement under the Reserves Act 1977. The plan provides a general direction for management and expenditure by the council during the life of the plan. Budget allocation is carried out through the Long - term plan and annual plan processes.

This draft provides an opportunity for the community to have a say in the management of the reserve by making submissions to this plan. Communities and individuals can support initiatives outlined in the management plan during the Long-term plan and annual plan processes.

The management plan clearly states goals and objectives which will provide flexibility to respond to matters of detail. Management policies should be readily understandable by both the community and the council. This will assist council by providing clear statements of agreed policy designed to encourage consistency in decision-making and reduce the potential for ad hoc decisions.

1.1 Location

The Mairangi Bay Beach reserves are located on the east coast of Auckland's North Shore (Plan 1) approximately 17 kilometres from the central business district of Auckland. Murrays Bay is the neighbouring bay to the north with Campbells Bay to the south. The reserves are in a mainly residential area with houses fronting on to the reserves facing the coastline. The adjacent commercial centre of Mairangi Bay is located approximately 150 metres inland.

1.2 Structure of the plan

- Part one introduces the plan and the outcomes sought.
- Part two sets out the strategic and legislative context in which the plan is developed.
- Part three provides a description of the reserve including a brief history, site characteristics and recreational uses.
- Part four outlines issues that the management plan addresses.
- Part five discusses the potential development of the site and shows this graphically in a concept plan.
- Part six sets out the objectives and policies for managing the reserve.

Plan 1 Location plan



Mairangi Bay Beach Reserves
Management Plan

Scale: 1:100,000 at A4
Date: March, 2014
Source: Auckland Council GIS

1.3 Extent of the plan

The management plan covers development of Mairangi Bay Beach Reserve (including the associated coastal walk), Sidmouth Street Reserve and Montrose Terrace reserve land (plan 2).

The coastal walkways included extend south of Mairangi Bay to the coastal reserve that borders 38 Whitby Crescent (a residential property) and north to the coastal reserve that borders 23 Bournemouth Terrace (a residential property) at the southern end of Murrays Bay.

The area covered by the management plan is approximately 8,500 square metres.

1.4 Public and Stakeholder Engagement

In 2009 the former North Shore City Council initiated the process for the development of this management plan prior to the amalgamation creating the Auckland Council. In November 2009 the notice of intent to prepare the reserve management plan was publically notified.

Seventeen individual responses and four group responses were received. The council also undertook stakeholder consultation with nine local community groups.

The main concerns raised in regard to the future management of the Mairangi Bay Beach Reserves at this time were:

- the possible impact on local residents through the reconfiguration of the reserves
- potential for the proposed redevelopment of the Mairangi Bay Surf Lifesaving Club's (surf lifesaving club) facility to dominate the reserve
- over commercialisation of the beachfront through incorporation of cafe facilities within the proposed redevelopment of the surf lifesaving club
- need for improved maintenance and management of the coastal walk.

1.5 Outcomes sought

The Mairangi Bay Beach reserves are used for both formal and informal recreation, that is land and water based activities. This management plan seeks to ensure that a variety of user groups can recreate together so that any potential conflict is minimised. Use of the reserves will be cognisant of the environmental impact of the use and seek to protect its valued landscape characteristics.

The following outcomes are sought:

- an open expanse of reserve which has effectively integrated the land purchased at Montrose Terrace and the existing reserves
- a reserve which is open and free of new structures other than those necessary for existing uses
- improved accessibility, connectivity to the coastline
- appropriate provision of infrastructure and services in accordance with the proposed concept plan included in this management plan
- provision for both formal and informal recreation whilst protecting the valued landscape characteristics of the reserve
- protection/enhancement of the coastal edge and the coastal walkway
- effective stormwater and wastewater management of the site.

Plan 2 Extent of management plan



2.0 Strategic and Legislative context

2.1 Legislative framework

National legislation

- Reserves Act 1977
- Resource Management Act 1991
- New Zealand Coastal Policy Statement 2010
- Historic Places Act 1993
- Hauraki Gulf Marine Park Act 2000
- Local Government (Auckland Council) Act 2009
- Local Government Act 2002
- Local Government Act 1974
- Biosecurity Act 1993
- Wildlife Act 1953
- Health and Safety in Employment Act 1992
- New Zealand Biodiversity Strategy 2000

Auckland Council plans and policies

- Auckland Plan 2012
- Proposed Auckland Unitary Plan 2013
- Long Term Plan
- Annual Plan
- Auckland Council District Plan Operative North Shore Section 2002
- Auckland Council bylaws
- Parks and Open Space Acquisition Policy 2013
- Auckland Regional Plans: Coastal, Sediment Control and Air, Land and Water
- Auckland Regional Policy Statement 1999
- Auckland Council's Indigenous Biodiversity Strategy
- Auckland Council Parks and Open Space Acquisition Policy 2013
- Auckland Council Weed Management Policy
- Strategic Action Plans: Parks and Open Space 2013 and Sport and Recreation 2013

Hibiscus and Bays Local Board plans and strategies

- Hibiscus and Bays Local Board Plan
- Hibiscus and Bays Area Plan
- North Shore City Council:
 - Coastal Esplanade Reserves Guideline 2002
 - Parks Network Ecological Enhancement Plan 2008
 - Playgrounds Network Plan 2009 – 2024
 - Historic Heritage Strategy 2009
 - Walking Strategy 2009

2.2 Reserves Act 1977

Auckland Council is the administering body of the reserve, and is charged with the duty of administering, managing and controlling the reserves in accordance with the appropriate provisions of the Reserves Act 1977. The Hibiscus and Bays Local Board has been allocated responsibility for most decisions on the reserve under the Reserves Act 1977.

Key responsibilities of the council are to:

- classify the land for its primary purpose (this is the means for determining the management focus and in turn the relevant objectives and policies)
- manage the land for its primary purpose
- prepare a management plan and keep it under continuous review
- put in place formal agreements for leases and licences

This plan fulfils the administering body's responsibilities to prepare a reserve management plan. A reserve management plan is a document outlining the objectives and policies for the development and operation of the reserves. The plan outlines council's general intentions for the use, development and maintenance of the reserves.

Once adopted by the council, a reserve management plan is kept under continuous review so that, if necessary, it may be altered in keeping with changing circumstances or in the light of increased knowledge.

Classifications

The majority of the land managed in the Mairangi Bay Beach Reserves Management Plan is classified as recreation reserve, with a small area classified as local purpose (esplanade) reserve (plan 3).

The classification and gazette notices for the Mairangi Bay Beach Reserve, Sidmouth Street Reserve and Montrose Terrace reserve land are outlined in Appendix A.

Recreation Reserves (section 17)

The purpose of these reserves is to provide areas for recreation and sporting activities. This is to provide for the physical welfare and enjoyment of the public, and for the protection of the natural environment.

The Act states that the public shall have freedom of entry and access to the reserve, subject to any leases and licences, and bylaws applying to the reserve, and such conditions and restrictions necessary for the protection and general wellbeing of the reserve and for the protection and control of the public using it.

Local Purpose Reserves (section 23)

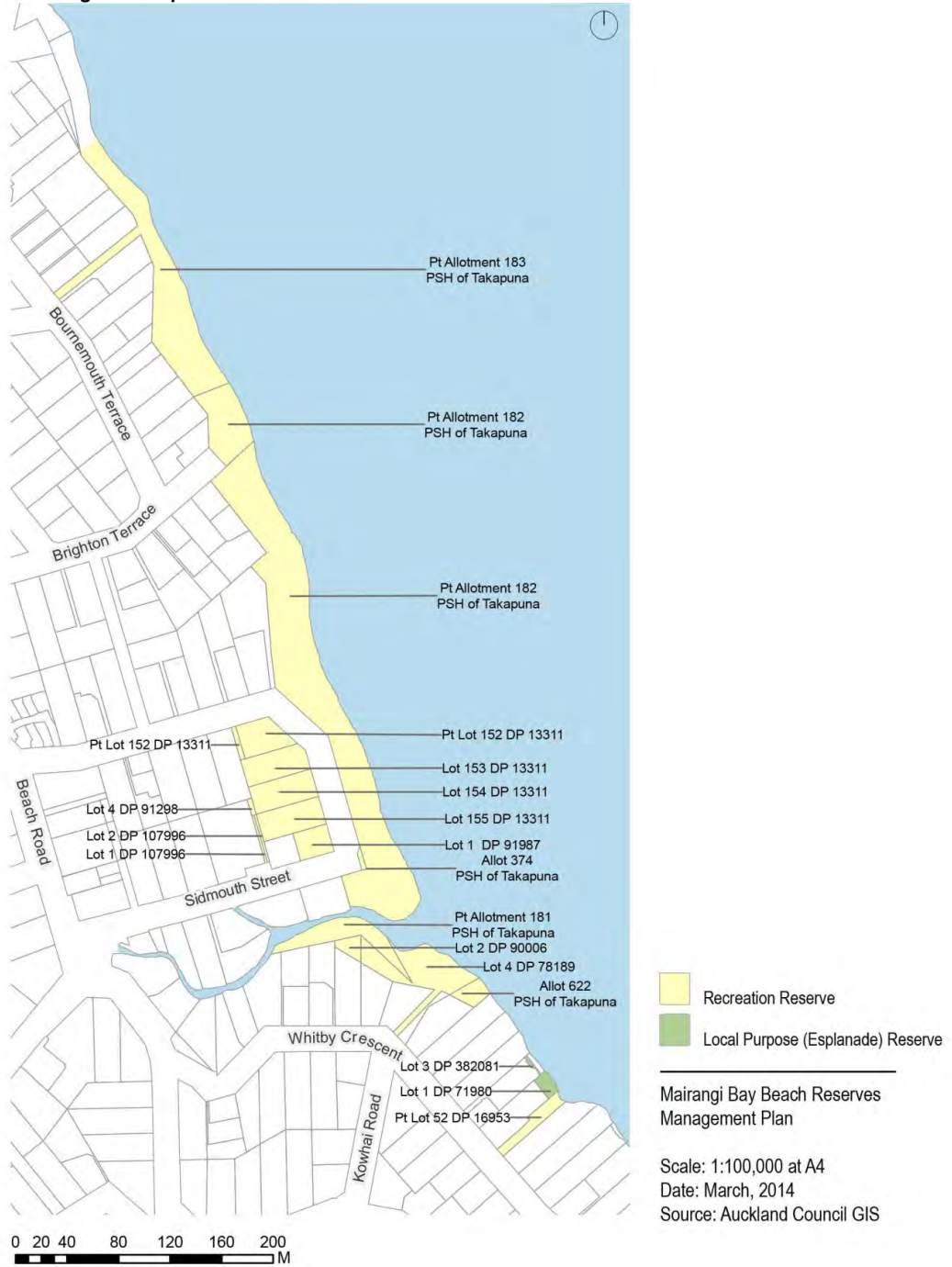
The purpose of these reserves is to provide areas for local use. These reserves are managed for the purpose specified in the classification of the reserve.

The Act also states that for local purpose reserves, where scenic, historic, archaeological, biological, or natural features are present on the reserve those features shall be managed and protected to the extent compatible with the principal or primary purpose of the reserve.

2.3 Legal Status

The legal descriptions and the status of land under the Reserves Act 1977 for the Mairangi Bay Beach Reserve, Sidmouth Street Reserve and Montrose Terrace reserve land are outlined in Plan 3 (more information is provided in Appendix A).

Plan 3 Legal description and Reserves Act 1977 classification



3.0 Reserve description

This section introduces the Mairangi Bay beach reserves by outlining briefly the history of the site and describing the current features and uses of it.

3.1 History

Māori first occupied Auckland's North Shore centuries ago. The coastal environment provided an abundance of food that was sourced from the local streams and the coastal fishing grounds. The fertile land provided further sources of food and the coastal location provided opportunities for lookout points and transportation routes.

The coastal strip between Campbells Bay (south of Mairangi Bay) and Murrays Bay (to the north) was named by Māori 'Waipapa Bay'. Translated this means water over wood. The name referred to quantities of logs and timber thought to be the remains of a fossilised forest that were revealed at low tide.

Iwi who have identified with the area at the time of developing this management plan include Ngāti Whātua o Orākei, Ngāti Paoa, Ngāi Tai Ki Tāmaki, Ngāti Maru and Te Kawerau a Maki.

In the 1880s the first European settler (Mr Joseph Murray) arrived in Mairangi Bay and purchased land for pastoral farming. The natural vegetation of the area at this time is described as gum land. This is typically low growing vegetation that includes manuka and native flax. Gum unearthed in the development of the land funded improvements to the pastoral farm. Mr Murray cleared six to eight acres per year planting corn and wheat. In 1891 he erected a windmill in what is now Scarboro Terrace. This windmill was used by incoming ships as a landmark when entering Auckland.

At this time Mairangi Bay was called Little Murrays and Murrays Bay was known as Big Murrays. By 1900, the East Coast Bays area was becoming popular for holiday homes due to its coastal location. The sale of Murray's coastal farm in 1912 resulted in developers subdividing the land and sections were sold for holiday homes.

After Mr Murray left the district, a solicitor drew up a petition to rename Little Murrays Bay Awatea Bay. However, upon finding that there was a beach with this name in the South Island, Mairangi Bay was decided on. There is discussion on the full meaning of Mairangi. Translations include 'from the heavens', 'song from heaven', 'hidden (or sheltered) arm' and 'maire tree'. It is thought the residents ultimately chose the name as they understood it to mean 'welcome sun'.

The first store was opened in 1916 by a Mr Pond on the beachfront. In 1925 it was replaced further west away from the beach after the first store was washed away in a high tide. Buildings and general supplies for Mairangi Bay were shipped in by sailing scows, which were unloaded on the beach at low tide.

The road from Milford to Mairangi Bay was completed by 1925. At this time Mairangi Bay served primarily as a holiday resort with only a few permanent residents. By 1928 Montrose Terrace and Sidmouth Street were named.

Sites for property homes sold steadily up until the beginning of World War II. In 1942 efforts were made to fortify the New Zealand coast against possible invasion during World War II. The East Coast Bays would have provided a suitable landing area for an enemy wishing to

seize Auckland. Therefore machine gun emplacements and other materials were placed along the coast. One such emplacement was located to the north of Mairangi Bay Beach Reserve. Now obliterated it was located on the slope above Montrose Terrace on the inland side of the commencement of the walking track.

After the war permanent homes began to be built. In 1954 the Mairangi Bay Surf Lifesaving Club (surf lifesaving club) was formed and the clubhouse was built on Mairangi Bay Beach Reserve. Over the years the clubhouse has been extended as the club has grown.

The completion of the Auckland Harbour Bridge in 1959 meant easier access to Auckland's East Coast Bays and therefore the area became popular for permanent residents.

Urban growth in the area placed pressure on the Mairangi Bay Beach Reserve. As a result the former North Shore City Council purchased three properties on Montrose Terrace with the aim to extend the beachfront reserve. Sites 15, 17 and 19 Montrose Terrace were purchased between 2007 and 2010.

The houses at 15 and 17 Montrose Terrace have been removed to provide a greater grassed area. The vendor of number 19 Montrose Terrace has occupancy rights that expire on 26th September 2015 at the latest.

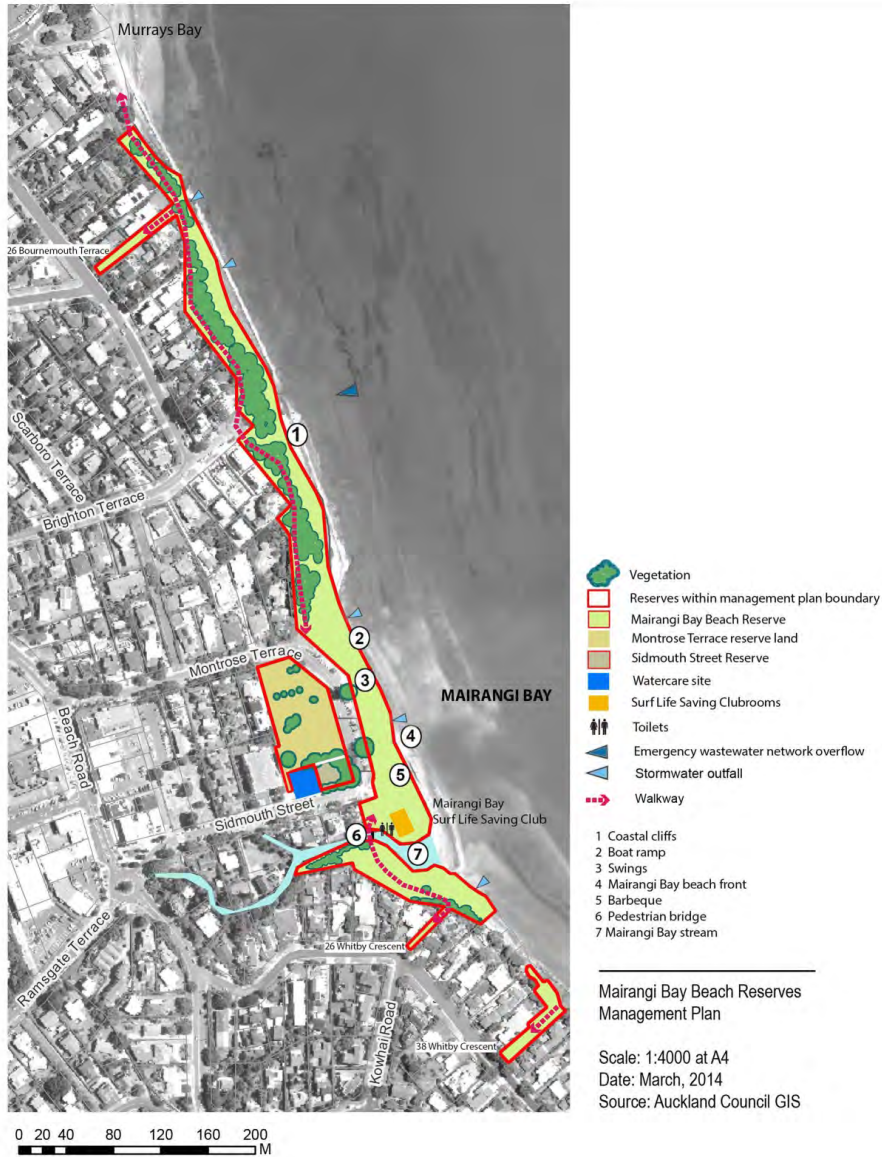


Looking south from Montrose Terrace over the beach settlement of Mairangi Bay Beach Reserve (formerly known as Little Murrays Bay) in the 1920s. Whitby Crescent provides access to baches on the hill in the background. (Auckland Libraries – North Auckland Research Centre ID# 233)

3.2 Reserve characteristics

The reserve area is primarily east coast beachfront and land adjacent to coastal cliffs (Plan 4). The area is a dynamic environment subject to coastal inundation, high winds and sea spray. There are no recorded archaeological sites registered by council, however early settlement of the area by Māori means that it could be possible that there are archaeological sites within the reserve area.

Plan 4 Existing site conditions



Mairangi Bay Beachfront

The beachfront Mairangi Bay provides a level area of approximately 4,000 square metres of grass covered ground that is retained at the coastal edge by a structural seawall. This generally flat land is composed of alluvial soils.

Four Norfolk Island pines (two on the road reserve and two on Montrose Terrace reserve land) provide identity to the coastal location and protection from the weather. They are a remnant of colonial navigation identification markers. Pohutukawa on the site are large and mature, softening the appearance of the buildings on site and on the neighbouring Watercare site.

The land is bisected at the southern end by the Mairangi Bay stream. A small pedestrian footbridge connects the main area of reserve with a smaller area of open space. This path connects to the coastal walk to the south. An assessment of the stream in 2009 identified five species of fish: inanga; banded kokopu; bullies; shortfin and longfin eels; and freshwater shrimp. Upstream of the footbridge on the true right bank of the stream is a mix of native and exotic vegetation with a canopy of predominantly pohutukawa.

Sidmouth Street Reserve and Montrose Terrace reserve land

Sidmouth Street Reserve and the Montrose Terrace reserve land provide an area of approximately 5,300 square metre of generally flat land that is bisected from Mairangi Bay Beach Reserve by legal road. Vegetation on this land includes two Norfolk Island pines and mature Pohutukawa. Two Phoenix canariensis located at the south end of the Montrose Terrace reserve land are on the schedule of notable trees in the District Plan. The remainder of the Montrose Terrace reserve land has limited vegetation. The northern end of this land slopes gently up to the road.

Bisecting the northern beachfront land is a public boat ramp. It is a small ramp with access limited by soft sand and/or low-tide access only to the water.



Mairangi Bay stream looking east to the sea from the footbridge.



View from the Montrose Terrace reserve land to the Mairangi Bay beachfront reserve.

Coastal cliffs

The Mairangi Bay coastal walk follows the coastal cliffs to the north. The exposed coastal cliffs are a feature of this coastline and are composed of rocks belonging to the Waitemata Series. The cliffs are prone to instability and there is evidence of soil failures in the area. Cliff erosion is a natural ongoing process with rates estimated at two to six metres per century. This has management implications for activities such as coastal planting and setbacks for any public facilities such as pathways.

The rocks of the Waitemata Series are the familiar buff to grey sandstones and siltstones which form many of the cliffs around Auckland. The sea cliffs of the East Coast Bays, Hibiscus Coast and most of Waitemata Harbour all show similar exposures of Waitemata sandstone.

The Waitemata sandstones and siltstones accumulated in the Lower Miocene, some 20 million years ago, on the floor of the sea in a deep marine basin. The rocks that are now exposed were buried as sands and silts beneath a large depth of additional Waitemata Group sediments and under their weight, were compressed and hardened into the rocks we see today. Later they were faulted, gently tilted, uplifted, and the overlying rocks eroded away.¹



Coastal cliffs - looking south along the foreshore between Mairangi Bay and Murrays Bay

¹ The information in this section is taken from the Auckland Regional Council's Regional Parks Management Plan: Volume 2 Resource Inventory. 2003. P31

3.3 Reserve use

The reserves primary use is for recreation. There is infrastructure in the reserves that provides the community with utilities that are ancillary to recreational use and for essential services. Reserve use is described under the following categories: formal and informal recreation, coastal and marine recreation, coastal walkway, and infrastructure.

Formal and informal recreation

The main public interface and access to the Mairangi Bay beach reserves is from Montrose Terrace and Sidmouth Street. Formal and informal recreation takes place on within the reserves.

The Mairangi Bay Surf Lifesaving Club has clubrooms located at the southern end of the Mairangi Bay beach front reserve. The club provides a professional and experienced life guard service from Long Bay to Takapuna and runs a safe water education programme for schools, public and surf lifesaving club members.

Mairangi Bay is typical of the smaller bays along the east coast of the northern region of the city where informal recreation activities can be enjoyed such as picnicking and games e.g. frisbee, beach cricket, ball games. At present the narrow grass verge adjacent to Mairangi Bay beach creates various pinch points and currently a swing set obstructs access and visually dominates this section of the beach. Mairangi Bay Beach Reserve provides opportunities for access to the coastline for swimming and other summer activities. Future development of the reserve will aim to consolidate reserve land to maximise open space and concentrate different activities where possible in specific sections of the reserve. This will help to minimise conflict between different activities and users of the reserve.



Grass verge at the Mairangi Bay Beach Reserve (looking north)



The public barbeque is located 20 metres from the surf club and public toilets

Coastal and marine recreation

Mairangi Bay Beach Reserve provides important access to the coast for marine recreation i.e. sailing, kayaking and other water based activities.

The surf lifesaving club has been in existence for over 50 years and currently holds a community lease with Auckland Council. The club has plans to redevelop their facilities after 2013 to keep pace with the growth and demands of their club and the expectations of the community (refer to section 4.2.1).

The public boat ramp located at the northern end of Mairangi Bay beach is suitable for small trailer boats. A shortage of suitable boat launching facilities within the north shore supports the retention of this valuable public asset. The usability of the existing boat ramp is compromised somewhat by the current road configuration.

The boat ramp, launching and mooring facilities survey (2014) concluded that the users of the boat ramp were more likely to use the ramp for canoe, kayak, waka and dragon boating launching and less likely to use it for trailer boat launching compared to the overall average in the Hibiscus and Bays Local Board area and the Rodney Local Board area.



Mairangi Bay Surf Lifesaving Club



Mairangi Bay beach looking south to the Mairangi Bay Surf Lifesaving Club



Access to beach from boat ramp



Looking south with entrance to the boat ramp just beyond the vehicles

Coastal walkway

The reserve includes a 950 metre uninterrupted segment of Te Araroa walkway. Te Araroa (New Zealand's trail) is a 3000 kilometre route stretching from Cape Reinga in the north of New Zealand to Bluff in the south. The section from Mairangi Bay to Murrays Bay offers a cliff top walkway experience taking in vistas of Hauraki Gulf. It is bordered to the west predominantly by residential properties. A pedestrian access way at 15 Bournemouth Terrace connects to the cliff top walkway.

South of Mairangi Bay Beach Reserve, Te Araroa follows a section of pathway "Forde Way" from Montrose Terrace to Whitby Crescent. There are pedestrian access ways to the coast located at 26 Whitby Crescent and bordering the residential property at 38 Whitby Crescent.

A coastal walk (tide dependant) can be taken between Mairangi Bay and Murrays Bay to the north and Mairangi Bay and Campbells Bay to the south.



Start of cliff top walkway from Montrose Terrace



Te Araroa between Mairangi Bay and Murrays Bay



Interface of Cliff Top Walkway and residential properties



Coastal edge walk between Mairangi Bay & Murrays Bay

Infrastructure

The reserves contains infrastructure that provides the community with utilities that are ancillary to recreational use and for essential services

Infrastructure ancillary to recreation use

The surf lifesaving club has club rooms located to the south of the main section of the beach front reserve. There are public toilets and limited changing facilities located adjacent to the surf club. Approximately 20 metres from the surf club is a public barbecue.

A coastal seawall is located at the beachfront with two sets of steps and two boat ramps providing access to the beach. The boat ramp at the northern end of the beach front reserve provides for high tide launching of boats. The boat ramp at the southern end of the beach is narrow, and fenced off which restricts use. A swing set is located close to the seawall.

Seating is provided along the beach front reserve and is located to take advantage of the sea views. Street lighting on Montrose Terrace provides lighting for this area.

A bridge provides access across the stream at the southern end of the beach front reserve.

Infrastructure for essential services

Infrastructure for each of the three waters: water, stormwater and wastewater is located within the reserves.

Water: Water pipes are located mainly within the existing road corridor. A further line connects the main line to the surf club.

Stormwater: There are a number of stormwater pipes which cross the reserves. There are approximately eight outfalls.

Wastewater: Watercare owns the site immediately to the west of Sidmouth Street reserve and borders the Montrose Terrace reserve land. The Watercare site houses a wastewater pumping station and Watercare infrastructure (including a biofilter) is situated across part of the Sidmouth Street reserve. Underground trunk lines also go through the reserves.



Playground swing set located midway along Mairangi Bay Beach Reserve beachfront (looking south)



Public toilets adjacent to the surf club

4.0 Management issues

Mairangi Bay beach reserves are a key part of Auckland's North Shore network of east coast beach reserves valued for their water and land based recreational opportunities. They are strategically located between Murrays Bay and Campbells Bay creating one of the longer sections of uninterrupted coastal walkway within the East Coast Bays. These characteristics coupled with the natural beauty of the reserve have made it a favourite with locals and walkers across the city.

This plan provides the framework for managing the Mairangi Bay beach reserves. It will allow the beach to accommodate the more unstructured recreational uses of the public with the formal ones of the surf club. It will try and balance requirements for vehicle access with pedestrian needs and community recreational users

Competing demands for recreational space has placed pressure on the Mairangi Bay beach reserves. The purchase of residential properties on Montrose Terrace is intended to assist in alleviating pressure. Closure or realignment of Montrose Terrace would consolidate these landholdings to achieve an extended beach front reserve. This presents the most significant challenge of this plan.

4.1 Balancing competing uses

One of the main issues facing the reserves is the ability to balance the need for land for informal and formal recreation activities and required infrastructure. Mairangi Bay is a popular destination for land and sea recreation activities. This is placing pressure on the reserves and adjoining environments. Increased population densities will put extra pressure on the reserves for unstructured activities and there is the possibility of more events when the reserves have been consolidated.

The existing road layout is a safety issue and restricts use of reserve land. The amount of reserve land on which to provide all these activities is not large and parking during events and at peak times is limited.

4.2 Land use agreements

Mairangi Bay Surf Lifesaving Club

The surf lifesaving club has a community lease over the area that their clubrooms are situated on, being part of Pt Allot 182 Parish of Takapuna.

The club is valued by the community providing for their safety in the East Coast Bays from Takapuna beach to Long Bay and providing surf lifesaving education to the younger generation.

The community lease agreement covers the building including the associated concrete pad outside the garage door and does not include any of the surrounding land. The community lease is for a term of 10 years commencing 1 June 2013 until 30 May 2023. There is no right of renewal. Public toilet and changing facilities are located adjacent to the building.

The clubs current clubrooms are dated and need to be redeveloped to provide for the expanding community in the medium to long term and additional boat storage is required.

Sidmouth Street Reserve is used for temporary boat storage (shipping containers) by way of an informal arrangement with the council.

The club is in the process of developing a plan for a new facility. This management plan contemplates an extended lease area to provide for redevelopment of the clubrooms and for boat storage. A refreshment kiosk, public toilets and changing facilities are contemplated as part of the redevelopment of the clubrooms. A refreshment kiosk that is operated by the surf lifesaving club is considered appropriate in the recreation reserve to provide for the benefit of the club members. Details of the lease arrangement are to be in accordance with the Reserves Act 1977 and council policies and guidelines.

Watercare

Watercare Services Limited (an Auckland Council controlled organisation) owns 10 Sidmouth Street. This site borders Sidmouth Street Reserve to the east. Watercare was granted landowner consent in 1996 for use of approximately a third of Sidmouth Street Reserve for a bark biofilter

An impending infrastructure upgrade is placing pressure on the Watercare site and significant works are planned for their site and part of Sidmouth Street Reserve. It is proposed that a similar footprint will be required of Sidmouth Street Reserve as is currently used for the existing infrastructure and that the redevelopment will include an underground storage tank and a new biofilter. This may require a variation to their existing agreement with council.

4.3 Transport and access

One very important issue for the management of the reserve is the future of Montrose Terrace, in particular the section parallel to the beach front. When the three properties on Montrose Terrace were purchased by the former North Shore Council the intention was to consolidate the existing reserve area. The road in its current location bisects the reserve land leaving it fragmented and disconnected from the coast.

Other transport and access issues relate to the car parks and boat ramps. Parking is currently limited at the reserve especially during events and at peak times. The boat ramp in its current state is suitable for small trailer boats and handheld craft but its useability is compromised by the current road location.

This plan needs to manage the use of the reserves to accommodate both vehicular and pedestrians' needs.

4.4 Consideration of mana whenua values

Local iwi with historical and cultural links with Mairangi Bay were involved in the drafting of this management plan. Iwi identified management issues important to them and opportunities for the future management and development of the reserves.

The following shared management issues have been identified:

- Environmental health is protected, maintained and /or enhanced. The protection and improvement of water quality is important as it provides a source for food. It is necessary to monitor stream health and manage stormwater outfalls;

- Mana whenua significant sites and cultural landmarks are acknowledged. Opportunities have been identified for consideration that include the inclusion of iwi history within or as part of cultural design elements, incorporating cultural elements in the design, and the installation of appropriate site interpretation;
- Sites and items of significance and value to Māori who have a history with the area are protected. Appropriate precautions are required during earthworks i.e. accidental discovery protocols, should items of importance be discovered;
- The natural environment is protected, restored and /or enhanced. The planting of native vegetation and eco-sourcing is a priority. It provides a sustainable solution for planting.

4.5 Protecting and enhancing the natural environment

Mairangi Bay and the surrounding coastal environment possess many natural values. Increased use and development of the reserves will place greater pressure on this natural environment. This management plan seeks to appropriately manage the reserve by protecting the natural character and landscape values while allowing the use and enjoyment of the spaces. Any adverse effects from use or development of the reserve will, to the extent possible under the Reserves Act 1977 be avoided or mitigated.

Specific issues that need to be addressed include the instability of the coastal cliffs north of the reserve, the water quality in the stream, the coastal seawall and odour issues associated with Watercare infrastructure.

The walkway will need to be maintained, managed and monitored due to its position on these cliffs. The cliffs could also affect the low tide walkway option along the beach.

The Mairangi Bay stream estuary to the south of the surf lifesaving club is generally affected by the natural formation of sand bars which block flows and tides resulting in the stagnation of water behind the sand bars. Issues arising from long periods of stagnant water are mitigated by excavating a channel through the sand bar to allow tidal flows which flushes the stagnant water out to the gulf. The Mairangi Bay beach is one of the beaches monitored under the Safeswim water quality monitoring programme. Sampling and testing of beach water quality is carried out regularly over the summer months from November to March.

A programme is being worked out to prepare Consolidated Receiving Environment (CRE) Plans including one for the Hibiscus Coast covering all catchments with outfalls to the Hibiscus Coast. The CRE will identify measures necessary to mitigate flooding, enhance water quality, recreational amenity and the attractiveness of the beach.

A coastal seawall protects the Mairangi Bay beach front reserve including social, recreation and essential infrastructure such as the surf club facility, public toilets and Watercare assets. Consideration of the seawall structural integrity may be required in the future as it protects the valued foreshore reserve area. Ongoing management of the coastal edge may also include investigation of the use of alternative treatments.

Watercare has pollution controlling infrastructure (a biofilter) located on part of Sidmouth Street Reserve and odour issues arise periodically. This infrastructure will soon be improved as part of a wider upgrade to the pump station and installation of a new underground storage tank and biofilter.

5.0 Future Development

The management plan gives a general indication of the intended use and management of the reserve and proposed development during the life of the plan. Budget allocation is carried out through the long term plan and annual plan processes. Communities and individuals can support initiatives outlined in the management plan during these processes.

A concept plan provides direction for the future development of an area where intensive community use occurs. This includes the Mairangi Bay beachfront, Sidmouth Street Reserve, the Montrose Terrace reserve land and a small section of existing legal road on Montrose Terrace (plan 5).

5.1 Concept plan

Activities and uses identified in the concept plan will be considered to be “contemplated” under the Reserves Act 1977 which means that the Act expressly provides for the activity and uses to be carried out in the reserve if incorporated in an approved reserve management plan.

A North Shore City Council resolution (CSP-161) provides for the closure of the portion of Montrose Terrace between Montrose Reserve, Sidmouth Reserve, 15-19 Montrose Terrace and the existing Mairangi Bay Beach Reserve subject to the outcome of the reserve management plan public process. Other mechanisms may need to be investigated to achieve the road alignment.

A detailed traffic engineers report will be required to inform the detailed design of the proposed road through the reserve prior to development. This will consider issues that include traffic flow options, road width and access for buses, events and essential services.

It is proposed that the road will be developed as a parks asset. This will provide flexibility around the design of the road. The road will not be a legal road; therefore adjoining properties will not be able to acquire access to their properties from the reserve road.

Background

In November 2009 the North Shore City Council publically notified the intention to prepare a management plan for the Mairangi Bay beach reserves.

In 2014 Hibiscus and Bays Local Board updated the draft management plan and undertook informal stakeholder consultation regarding concept design options. All options included parking at the northern end of Montrose Terrace reserve land with two options providing further parking. The concept design options considered included:

- closing the beachfront section of Montrose Terrace
- closing the beachfront section of Montrose Terrace and providing a connecting road through the back of the reserve with angle parking
- a narrow road along the beachfront section of Montrose Terrace with angle parking.

Feedback was gathered from the Hibiscus and Bays Local Board Expo at Browns Bay and two meetings with key stakeholders who were involved in the initial consultation in 2010. After due consideration of the different concept design options and all the feedback received the Mairangi Bay Beach Reserves Concept Plan on page 28 is the preferred option of the Hibiscus and Bays Local Board.

Plan 5 Extent of concept plan



Plan 6 Concept plan



Mairangi Bay beach reserves concept plan

6.0 Objectives and policies

6.1 Administration and management

Discussion

Auckland Council is the administering body, and the Hibiscus and Bays Local Board is charged with the duty of administering, managing and controlling the reserves in accordance with the appropriate statutory requirements of the Reserves Act 1977. This part of the plan identifies the council's objectives for monitoring the plan and the basis on which it would make changes to the plan.

Objective 6.1

To ensure that this document reflects the council's goals for the development and management of the reserves as required under the Reserves Act 1977.

Policies

6.1.1 The plan will be kept under review as required by the Reserves Act 1977. However any review is subject to priority resourcing and funding.

6.1.2 A plan change may be initiated for any one of the following reasons:

- any proposed new use, activity, facility or development that is in conflict with the management objectives and policies of this plan
- any proposal for a new lease or concession operation on the reserves not contemplated in this plan
- any statutory or legislative change which would render the plan inoperable or illegal
- any major change in recreation needs or any other factor that Council sees as warranting a change to the plan
- plan changes will be made in accordance with the Reserves Act 1977.

6.2 Informal and formal recreation

Discussion

The pressure from competing demands on Mairangi Bay Beach Reserves is expected to grow in the coming years, due to the relatively small size of reserves and anticipated growth in the area. A potential increase in net area through consolidation of the disjointed reserve area will enable different activities to be managed better, reducing conflict between user groups.

Objective 6.2

To provide for use of the reserves in a way that has limited impact on the natural environment or the enjoyment of park users.

Policies

- 6.2.1 The following uses and activities on the reserve land are considered appropriate:
- informal recreation that is land based such as picnicking, sun bathing, walking, jogging, ball games
 - low key play elements (recognising the close proximity of the the Mairangi Bay Village Green playground)
 - informal recreation that is water based such as swimming, sailing, surfing, kayaking, small motor craft etc.
 - formal recreation activities associated with the surf lifesaving club as agreed with the council.
- 6.2.2 All activities on the reserve shall be conducted in a way to minimise adverse effects on the neighbourhood.

6.3 Land use authorisations

Discussion

This section identifies the formal uses provided within the Mairangi Bay beach reserves. It outlines all activities on the reserve which require an authorisation from council. These include Reserves Act 1977 concessions such as leases, licences and easements and events which require landowner approval. Some of these are a continuation of existing arrangements while others may be contemplated new leases. It is expected that leases and licences will be kept to a minimum.

Objective 6.3

To contemplate leases, licences, easements and events which facilitate the use of the reserves without compromising the function and character of the reserve.

Policies

- 6.3.1 Any leases and licences will be issued and managed in accordance with relevant council policies and guidelines, in accordance with the Reserves Act 1977 and with the objectives and policies of this management plan.
- 6.3.2 Any decision regarding landowner approval for a lease, licence or easement will include consideration of matters such as:
- recognition of existing use
 - effects on the reserve, beach and surrounding area
 - benefits to the reserve and beach users
 - demonstrated need of the activity
 - degree of exclusivity
 - precedent and cumulative effects
 - consideration of possible compromise of future linkages and future park use
 - safety and passive surveillance
 - access

- 6.3.3 This plan contemplates an increase in the area occupied by Watercare on Sidmouth Reserve and Montrose Terrace reserve land for the purpose of impending infrastructure upgrades.
- 6.3.4 Terms and conditions of leases will be consistent with the need to maintain reasonable access for the public, mitigate the impact on the surrounding area and provide reasonable tenure for organisations.
- 6.3.5 This plan contemplates an increased lease area for the Mairangi Bay Surf Lifesaving Club for new clubrooms (that includes a kiosk) and for boat storage (single storey facility).
- 6.3.6 Commercial uses may be considered where they facilitate and meet the recreational needs of the community without compromising the function and character of the reserve and are consistent with council policy on the commercial use of reserves e.g. equipment hire, sale of refreshments.
- 6.3.7 Commercial leases will be charged at the comparative commercial/market rate.
- 6.3.8 Landowner approval will be required for all events seeking to locate on the reserve.
- 6.3.9 Event guidelines for the Mairangi Bay beach reserves must comply with any future Auckland Council event strategy and region-wide policies. Any decision regarding landowner approval will give consideration of matters such as:
- relevant provisions of the Reserves Act 1977 for temporary use in accordance with the reserve classifications
 - the sustainable level of impact from activities on the physical environment
 - the range of events considered suitable for the coastal environment
 - programming, maximum participation numbers, duration and frequency
 - the booking system
 - application procedures for event organisers
 - costs and cost recovery
 - remediation to original condition at the conclusion of the event
 - protection of access for the general public
 - public safety
 - management of adverse effects
 - provision for temporary built structures
 - approvals or consents required from other agencies
 - temporary closure and public notification procedures
 - public liability and other relevant insurances
 - prioritisation of events based on their benefit to the local community.
- 6.3.10 Any events that would negatively impact other users' enjoyment of the reserve for a sustained period of time are prohibited.
- 6.3.11 Temporary installation of structures for events will be permitted subject to council policy, landowner approval and/or district plan permitted activity standards or resource consent requirements.
- 6.3.12 Filming will be permitted in accordance with Auckland Council's policy and guidelines

6.4 Physical development

Discussion

The Mairangi Bay beach reserves are divided by a road corridor that limits the best community use of the available space. Best use of the reserves is through consolidation of the disconnected sections of land adjacent to Mairangi Bay beach front reserve land, potentially increasing its net area and reducing competing demands by different user groups.

The relatively small size of the Mairangi Bay beach reserves means that limitations need to be placed on parking, new buildings, and structures within the reserves. The concept plan will help guide the placement of facilities in accordance with the stated objective below.

Objective 6.4

To promote the integrated development of the reserves for formal and informal recreation, whilst protecting and enhancing the recreational, environmental and visual amenity of the reserves.

Policies

- 6.4.1 The concept plan in section 5.1 of this reserve management plan will guide the physical development for the Mairangi Bay beachfront reserve land. The plan provides a spatial layout for the realignment of the existing road, provision of car parking and future development locations for Watercare infrastructure and the Mairangi Bay Surf Lifesaving clubrooms and boat storage areas.
- 6.4.2 A detailed traffic engineers report will be required prior to development of the proposed road on the reserve to inform detailed design.
- 6.4.3 No further buildings or extensions to existing buildings will be considered unless they are ancillary to activities occurring on the reserves or they show clear and direct links to:
- the outcomes sought in this management plan
 - land use arrangements contemplated in this plan
 - recognition of the historical location of existing facilities.
- 6.4.4 Permanent buildings will be co-located/clustered on the reserves so as to preserve the character and unobstructed open space of the reserves.
- 6.4.5 Built elements are to be sympathetic to the key elements, features and patterns of the natural landscape and environment.
- 6.4.6 Usability of and access to the boat ramp will be improved as part of the consolidation of reserve land and road realignment. It will continue to cater for small trailer boats only.
- 6.4.7 Park furniture provided on the reserve will be in accordance with councils design standards and be sensitive to the character of the reserves.

- 6.4.8 Low impact infrastructure such as picnic tables and barbecues will be clustered on site to maximise the reserve land that is unobstructed and free for more active recreational activities.
- 6.4.9 Unique structures or artworks that celebrate the character or history of the area will be considered where appropriate by the local board for placement within the reserves.

6.5 Natural environment

Discussion

Mairangi Bay is highly valued for its coastal environment. The rocky shore, marine environment, sandstone cliffs, and sandy beach provide a range of ecosystems in which there is a diverse assemblage of animals, birds and plants. This plan seeks to protect these natural values and maintain and enhance the wider coastal environment.

Council will look to preserve the open vistas along the coastal walk and develop an open grassed Mairangi Bay beachfront.

Other mechanisms such as Resource Management Act 1991 and Hauraki Gulf Marine Park Act 2000 also protect the reserves qualities and values.

Objective 6.5

To maintain and enhance the natural values of Mairangi Bay beach reserves, and protect ecological and geological significant features.

Policies

- 6.5.1 Manage all use and development within the extent of the management plan area to ensure that it does not compromise the integrity of the natural coastal environment.
- 6.5.2 Stormwater discharge will be managed through the range of interventions to be identified by the Stormwater team. This includes measures necessary to mitigate flooding, enhance water quality, recreational amenity and the attractiveness of the beach and its cliffs.
- 6.5.3 Any new coastal protection structures or steep embankments are prohibited where these would promote greater wave run-up and therefore wave overtopping, causing accelerated erosion.
- 6.5.4 New built structures are to take account of predicted sea-level rise and increased inundation level of an additional 0.8 metre by the year 2100. For any proposed development involving seawalls or steep embankments, site specific assessments shall be undertaken.
- 6.5.5 The coastal cliffs will be regularly monitored for erosion, which could impact on the cliff top, as well as low tide walkway. If the monitoring programme indicates that the walkway is at risk, the walkway will be temporarily closed and if practicable, realigned.
- 6.5.6 The coastal walkway will be maintained to a high standard. Weed species will be controlled and replaced with appropriate plants, whilst protecting the views across the Hauraki Gulf.

- 6.5.7 A vegetation palette will be established that is relevant to the coastal setting.
- 6.5.8 Planting should be limited to small groupings or individual specimen trees to preserve the open space quality of the reserves and the expansive views from the reserves.
- 6.5.9 Landscape planting will be considered where it doesn't compromise the open space or activities contemplated in this plan.

6.6 Collaboration with mana whenua

Discussion

There are no recorded archaeological sites registered by council, however early settlement of the area by Māori means that it is likely that there are archaeological sites within the reserve. The council seeks to work with associated iwi and hapu to ensure that Māori connections and spiritual values are recognised and protected within the reserves.

Objective 6.6

To work collaboratively with mana whenua representatives who have a customary interest in the reserve land on issues of importance to Māori.

Policies

- 6.6.1 Mana whenua representatives will be given the opportunity to contribute in decision-making on management issues of importance to Māori and the development of the park.
- 6.6.2 Ensure that the appropriate protocols are in place, should any items of importance to mana whenua be discovered on the site.
- 6.6.3 A tikanga Māori approach to knowledge and wisdom to the sustainable management of the natural environment will be fostered, including sustainable management practices and appropriate native, eco-sourced plantings.
- 6.6.4 Work with mana whenua to agree on appropriate interpretation of Māori heritage on the reserves (this may include carvings, signage and interpretation boards).

6.7 Partnership with the community

Discussion

The Mairangi Bay beach reserves are valued by the local community and it is important that council develops strong relationships with the local community and schools including, but not limited to, the Mairangi Bay Business Association, Mairangi Bay Surf Lifesaving Club and the Mairangi Bay Arts Centre.

Objective 6.7

To foster involvement of the local community and schools with the management of the Mairangi Bay beach reserves.

Policies

- 6.7.1 Community input will be sought regarding development decisions on the reserves where appropriate.
- 6.7.2 Participation and involvement of local community and schools in the care of the reserve through volunteer programmes will be encouraged.

6.8 Design and amenity standards

Discussion

This reserve management plan does not specify design in any detail. Design standards will be determined through a range of documents principal of which is the Auckland Design Manual (or successor documents). All design on site will be encouraged to follow these design documents to ensure cohesive development and design of the reserve.

Objective 6.8

To support the creation of design standards for the Mairangi Bay beach reserves that acknowledge and reinforce its coastal character and integrate design and design standards.

Policies

- 6.8.1 Future development will be guided by the concept plan included as part of this management plan.
- 6.8.2 Design decisions for development on the reserves will be guided by the Auckland Design Manual.
- 6.8.3 Material choice of any built elements should ensure cohesive design to create a sense of place within the reserves. This also applies to the Mairangi Bay Surf Lifesaving Club and Watercare developments. Design of the reserves shall reflect mana whenua's association with the site and make use of iwi design and values.
- 6.8.4 The following design principles will underpin design decisions for the reserve.
 - respond to and reinforce the coastal character
 - make visible and express past histories and cultural heritage values
 - consider scale, colour, form and rhythm
 - adopt quality design standards relevant to the urban context of Mairangi Bay
 - ensure integration with the surrounding area
 - ensure an efficient use of the finite land resource
 - use Crime Prevention Through Environmental Design (CPTED) principles
 - protect and reinforce natural character
 - integrate with the coastal character
 - choose local materials where possible
 - reinforce native plantings
 - make natural processes visible where possible.

Appendix A - Legal description and status of land

Table 1 Legal description and status of land

Street Address	Legal Description	CT	Area (ha)	Reserves Act 1977 Classification	Gazette Notice
Mairangi Bay Beach Reserve					
	Pt Allot 183 Parish of TAKAPUNA	NA26C/789 cancelled	On DP 13312 As The Spa	Recreation	Reclassified 1998 p.1591
	Pt Allot 182 Parish of TAKAPUNA	NA26C/789 cancelled	On DP 13312 As The Spa	Local Purpose (Esplanade) Recreation	1981 p.499 Reclassified 1998 p.1591
	Pt Allot 182 Parish of TAKAPUNA,	NA26C/789 cancelled	On DP 13311 As The Spa	Local Purpose (Esplanade) Recreation	1980 p.1429 Reclassified 1998 p.1591
	Allot 374 PSH of Takapuna	NA2038/65	58 sq m	Recreation	1998 p.1591
	Pt Allotment 181 PSH OF Takapuna	NA26C/789 cancelled	On DP 13311 As The Spa	Recreation	Reclassified 1998 p.1591
	Lot 2 DP 90006	NA47B/256	264 sq m	Recreation	Vested on subdivision
	Lot 4 DP 78189	NA28B/757	2078 sq m	Recreation	Vested on subdivision – Deemed classified
	Allot 622 Parish of TAKAPUNA,	NA33A/1331	365 sq m	Recreation	1998 p.1590
	Lot 3 382081	328309	35 sq m	Local Purpose (Esplanade)	Vested on subdivision
	Lot 1 DP 71980	NA28B/757	191 sq m	Local purpose (Esplanade)	Vested on subdivision Deemed classified
	Pt Lot 52 DP 16953	NA31A/862	530 sq m	Recreation	1925 p.471
Sidmouth Street Reserve					
	Lot 1 DP 91987	NA48D/108	601sq m	Recreation	1998 p.1590
Montrose Terrace reserve land					
	Pt Lot 152 DP 13311 SO 68653	NA496/258 cancelled	907	Recreation	1998 p.1174
	Pt Lot 152 DP 13311	NA496/258	104	Recreation	1998 p.1590
15	Lot 153 DP 13311	NA74A/137 & NA452/281	1,081 sq m	Recreation	2010 p.3597
17	Lot 154 DP 13311 & Lot 4 DP 91298 & Lot 2 DP 107996	89C/136	1230 sq m	Recreation	2010 p.3597
19	Lot 155 DP 13311 & Lot 1 DP 107996	89C/135	1182 sq m	Recreation	2010 p.3848

Item 11

Attachment A



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Whakakāhoretanga

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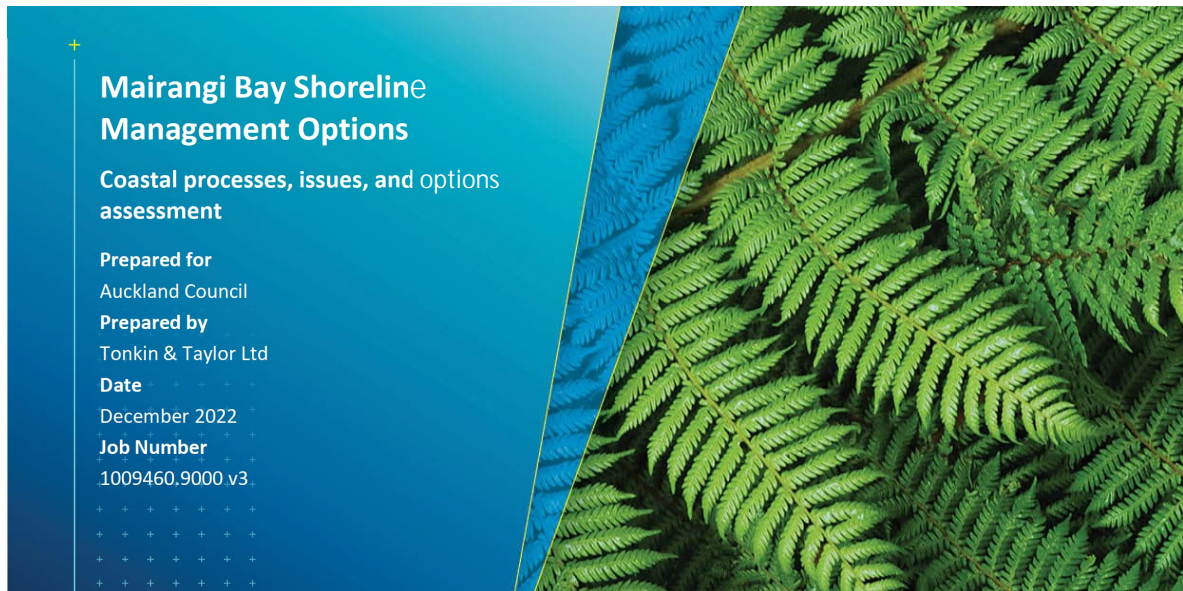
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REPORT

Item 11



Mairangi Bay Shoreline Management Options
Coastal processes, issues, and options assessment

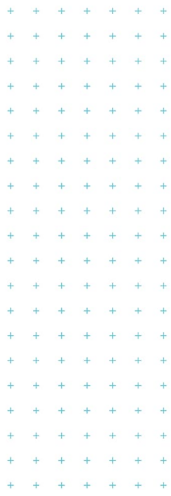
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Attachment B



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Document control

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Executive summary

Auckland Council (AC) commissioned Tonkin & Taylor Ltd (T+T) to carry out a coastal processes, issues, and options assessment to assist with the implementation of the Development Plan at Mairangi Bay. This project builds on the coastal hazard assessments T+T carried out for the Mairangi Bay Surf Club in 2016, the updated coastal hazard assessment for the Mairangi Bay Pump Station in 2018, and identifies options for future reserve edge management in response to climate change effects and coastal hazards over time. The identified options are:

Option 1 – Do nothing

- Used as a baseline to compare other options and gauge their benefit.

Option 2 – Maintain existing defence

- Considered the status quo option with periodic repairs as and when required from continued deterioration and storm damage.

Option 3 – Renew existing defence

- Replacing the existing masonry seawall with a properly engineered seawall.
- Raising the reserve to mitigate inundation from the sea.
- Replacing the rock armour along the stream edge with a properly engineered revetment.
- Placement of a rock toe along the East Coast Bays Branch sewer to the north of the beach to mitigate the effects of wave reflections and beach lowering.

Option 4 – Realign shoreline

- Alternative softened reserve edge throughout the central area of the beach.
- Relocation of the surf club outside of the erosion susceptible area.
- Constructing a stream training seawall at the southern end of the beach to control the stream mouth dynamics.
- Replacing the rock armour along the stream edge with a properly engineered revetment.
- Sand transfer and nourishment to increase the high tide beach.
- Option to replace the northern section of seawall to mitigate beach lowering and inundation from wave overtopping.

Option 5 – Advance shoreline

- Not considered a viable option due to frequent maintenance and obstruction from control structures but discussed in the report.

Options 3 to 5 would require resource consent under the Auckland Unitary Plan as a discretionary activity. A resource consent application for this scale of works would involve a range of technical inputs and stakeholder engagement. Public or limited notification of any necessary resource consent application may be required depending on the attitudes and responses of stakeholders.

Whilst support can be found in the provisions of the New Zealand Coastal Policy Statement for the utilisation of soft defence measures to address coastal hazard risk, this must be balanced alongside the requirement to maintain and enhance public accessibility and natural character and landscape values of the coastal marine environment. Therefore, options to advance the shoreline have been excluded as viable options but are discussed for comparison.

The below table summarises the options providing an estimated design life, its effects on the beach system, resilience to climate change, indicative costs, and consenting implications.

Option	Design life (est.)	Effect on the existing beach system	Climate change resilience			Initial cost estimate (\$)	On-going maintenance	Consenting
			Short term (0 to 10 years)	Medium term (10 to 50 years)	Long term (50 to 100 years)			
1 Do nothing	0 to 10 years	Negative	Uncertain	Unlikely	Unlikely	n/a	Approx. 45k for removal of debris (20% of seawall assumed)	n/a
2 Maintain existing defence	10 to 30 years	Beach lowering	Yes	Uncertain	Unlikely	175k	Approx. 40k post storm repairs and maintenance (yearly estimate)	Permitted
3 Renew existing defence	>50 years	Beach lowering	Yes	Yes	Uncertain	4M	n/a	Discretionary
4 Realign shoreline	>50 years	Positive	Yes	Yes	Uncertain	4M	Re-profiling beach as required	Discretionary
5 Advance shoreline	Option discounted based on maintenance required to retain the beach and obstruction from control structures.							

With the surf club nearing both the end of its design life, and the end of its current lease, the opportunity to relocate it to elsewhere on the reserve, outside of the erosion susceptibility area, is recommended. Preferably this would be behind the 2120 erosion line to provide maximum resilience to future erosion but should not be seaward of the 2070 erosion line as a minimum. Similarly, the turning circle at the end of Sidmouth Street proposed in the Development Plan should be relocated landward of the 2070 erosion hazard line.

The space opened up by relocating the surf club allows for shoreline management options that enhance the natural character of the beach and provide for more open space for the public as well as providing future resilience to the effects of climate change.

It is therefore recommended that realigning the shoreline (Option 4) would be the most suitable option for Mairangi Bay in the long term. In this option, coastal erosion and inundation are managed by providing a wider buffer along the seaward edge that can be adapted over time to mitigate against the effects of climate change as required.

A staged approach to achieving the long-term shoreline management option may consist of:

- Continuing to maintain the existing seawall in the short term, as per Option 2, to allow time for the surf club relocation plans to be made and any necessary adjustments to the road and reserve layout made to accommodate the long-term plan.
- Relocation of the surf club elsewhere on the reserve outside of the erosion susceptibility area.
- Constructing the stream training wall and realigning the shoreline as per Option 4.
- Monitoring the beach plan and profile shape.
- In the medium to long term it may be required to import sand to replace any lost from the system. This would improve coastal erosion and inundation resilience.

1 Introduction

Auckland Council (AC) commissioned Tonkin & Taylor Ltd (T+T) to carry out a coastal processes, issues, and options assessment to assist with the implementation of the Development Plan, prepared by WSP Opus (2018), for Mairangi Bay. This assessment is the first step in the completion of a number of technical studies necessary to support the design briefs for the reserve and enable progress to the next stage of design.

1.1 Problem definition

This project builds on the coastal hazard assessment T+T in 2018 carried out for the Mairangi Bay Pump Station that built on studies carried out for the Mairangi Bay Surf Club in 2016 with additional data considered. Based on the results of the previous assessments the proposed development plan lies within the erosion susceptibility area and is dependent on the seawall being maintained to prevent erosion.

The concept plan, with the erosion susceptibility lines for the next 50 and 100 years overlain, is provided in Figure 1.1. The erosion assessments assumed a sand coast and backshore without the presence of seawalls. The report concluded that if the seawall is adequately maintained, then it could be expected that the shoreline position would remain, although beach levels fronting the seawall would likely lower to bedrock as material is lost due to erosion. If the seawall were to fail, shoreline retreat would likely occur as it reverts towards an equilibrium.

In accordance with the Unitary Plan, Ministry for the Environment coastal hazards and climate change guidance, and the New Zealand Coastal Policy Statement, the reserve development plan should consider the effects of climate change over a 100-year period. Therefore, this issues and options assessment is required to understand the longevity of the existing seawall, ongoing maintenance costs of this option and the potential alternative options that may be more cost effective and have more positive effects on coastal processes.

With the surf club nearing the end of its design life there are plans for it to be re-built in the near future. As it is currently located within the erosion susceptibility area, it is recommended that it is relocated landward, preferably behind the red line (i.e. 2120 erosion susceptibility) but no further seaward than the yellow line (i.e. 2070 erosion susceptibility) elsewhere on the reserve. Relocating the surf club will provide resilience to the effects of climate change in the future. On this basis, all future shoreline management options presented in this report assume that the surf club will be relocated.



Figure 1.1: Concept plan for the Development Plan overlain with the erosion susceptibility area for the next 50 and 100 years (adapted from WSP Opus, 2018)

1.2 Scope of services

The scope of this assessment includes:

- A coastal processes assessment identifying associated issues and constraints for Mairangi Bay Beach Reserve.
- A detailed condition assessment of the seawalls armouring the Mairangi Bay Beach Reserve. This includes the rock masonry seawall that extends north from the stream mouth, and the rock armouring at the southern end of the reserve bordering the bank of the stream.
- Identifying options for future reserve edge management, as informed by the above coastal process assessment, in response to climate change effects and coastal hazards over time.
- Stakeholder engagement (limited to the Surf Life Saving Club).

1.3 Report layout

Following this introductory section, the site is contextualised in Section 2 with the location, existing infrastructure and landscape described. The seawall condition assessment is given in Section 3 and Section 4 presents the coastal processes assessment identifying issues and constraints. Future options are explored in Section 5 and our recommendations are provided in Section 6. Supplementary drawings, figures, field test results and other information are given in the appendices.

