Long Term Strategic: Action Plan

Placemaking:
ŌTARA WATERWAYS
AND LAKE PROJECT

(The community working together)

Table of Contents

Introduction

Vision

Te mauri o te rangi
Te mauri o te whenua
Te mauri ora o Tara

'Everything is connected'

'When the lake, waterways and wildlife flourish, the people flourish.'

Mission of the Placemaking: Ōtara Waterways and Lake Steering Group

Through alignment, mobilisation, advocacy, inspiration, consultation, engagement and action, we will lead the restoration of the mauri of the Ōtara waterways and lake and the pride and reconnection of our people to this place.

Purpose of plan

The purpose of this Placemaking: Ōtara Waterways and Lake Project Strategic Plan is to provide a generational planning framework and 'call for action' that will lead to the restoration of Ōtara Lake the Ōtara stormwater catchment and the surrounding environment. The plan is also divided into two action areas; actions that can be taken over the short term and actions needing prioritisation over the long term. The approach towards resolving these issues also primarily takes a top of catchment downwards view using the analogy of 'turning the contaminant taps off' prior to cleaning up the lake and a process of re-introducing our community to the waterway and lake by being informed, visually connected and over time leading to a phasing in of contact recreation (secondary water contact then primary water contact).[1]

The Strategic Action Plan will be the tool for transforming the water quality of these waterways (some of the lowest overall water quality gradings[2][3][4] in Auckland) into a place of restored mauri, where people can fish, gather food, swim and use boats, a place of pride and connection. The Strategic Action Plan aims to help make the world's most 'liveable city a reality for the people of Ōtara, Howick and South Auckland.

History of concern and action

[1] Secondary contact recreation is where there is direct contact but swallowing water is unlikely e.g. wading, boating, fishing. Primary contact recreation is when users are in direct contact with water, and can fully immerse their body and swallow water e.g. diving, swimming, water skiing.

[2] http://stateofauckland.aucklandcouncil.govt.nz/freshwater-report-card/howick-reporting-area/

[3] http://stateofauckland.aucklandcouncil.govt.nz/marine-report-card/tamaki-estuary-reporting-area-2014/

[4] http://stateofauckland.aucklandcouncil.govt.nz/freshwater-report-card/manukau-reporting-area-2014/

This plan is underpinned by nearly 50 years of recent history, beginning in 1968 when the Electricity Commission of New Zealand constructed the Otahuhu Power Station. A weir was placed across the waterway forming the Ōtara Lake to provide a reservoir of cooling water for the plant. The tidal function of the waterway was disrupted and sediment and contaminants from the 3,500 hectare stormwater catchment began to accumulate in the 50 hectare lake. In the order of 45 billion litres of rainfall lands within the catchment each year and the displacement of rainfall is undermined by the rapid loss of permeable surfaces due to industry and housing development. The waterways are impacted by extreme water flow events causing erosion and flushing away habitat and ecosystems. Where waterways have been channelized, increased water temperature is also contributing to an unsustainable environment and the accumulation of a range of contaminants make it unsafe for secondary and primary water contact. Within one generation the community and mana whenua have lost the ability to fish, swim, recreate and enjoy the lake and waterway system.

Local community concern was first registered in 1974 when Sir Edmond Hillary Collegiate wrote to the government highlighting environment related issues of the Ōtara waterways and lake. In 1994 an Accord was signed[5] by the Auckland Regional Council, the Electricity Commission of New Zealand and Manukau City Council setting out a plan to remediate the lake, meanwhile the Ōtara Community initiated community led activities such as stream clean up days. However there remained a lack of support to undertake a wider programme of work and address significant water quality and environment issues associated with the catchment, the Ōtara waterways and lake restoration. An example of this was a 1996 strategy targeting the development of the lake into an amenity that was supposed to be "both aesthetically attractive and a valued community resource"[6] however due to a lack of support was not implemented.

Local Boards

The Ōtara stormwater catchment is within the two political boundaries (50/50) of the Ōtara-Papatoetoe Local Board and Howick Local Board. The rapid development of the area will mean ongoing detrimental pressure on the catchment and without intervention, a continuing cycle of water quality and environment degradation and community frustration. The Boards are working together on a response to the water quality issues of our streams and waterways. They are jointly advocating for improved measures to reduce overall pollution, contaminants and sediments in streams and estuaries.

Within the 2014 Ōtara Papatoetoe Local Board Plan and under the heading of 'Healthy Harbours & Waterways' the outcome "Ōtara lake is accessible and safe for recreational use" (page 29) is recorded. The Board also recognises in order for the programme to move forward, any future project would have to address more than just the environmental issues but also the social, cultural and economic issues of the Ōtara area and its catchment.

The 2014 Howick Local Board Plan also discusses having a priority on water quality improvement: *Currently, the quality of our streams and other waterways requires improvement. We will advocate for measures to reduce overall pollution, contaminants and sediments in streams and estuaries* (page 25).

[5] Otara Lake Action Plan & Accord 18 November 1994

[6] Otara Lake & Catchment Development Proposed Implementation Plan (Manukau Consultants 1996)

To help bring about change to the issues recorded above the Ōtara Papatoetoe Local Board sponsored the establishment of the Placemaking: Ōtara Waterways & Lake Steering Group who's key objective was develop a response to the water quality issues and prepare a Long Term Strategic Action Plan. This Strategic Action Plan is the primary output of the Steering Group.

Moving Forward

This strategy has adopted a Collective Impact model[7] approach involving organisations from different sectors agreeing to solve a specific problem. Representatives from the Ōtara Papatoetoe Local Board, Howick Local Board, Contact Energy, Auckland Council, Highbrook Trust, Manukau Institute of Technology, UNITEC, Greater East Tamaki Business Association, Rotary Club of Highbrook, Botany East Tamaki Rotary Club, Ōtara Network Action Committee, Howick Local Board, Tamaki Estuary Prevention Society, Hillary College, mana whenua iwi and many others have contributed to this plan.

In addition, the imperatives of the National Policy Statement for Fresh Water Management and expansive long term development plans within the Ōtara stormwater catchment area mean that pressures on water quality will increase. Growth without good controls and management and broader community support will likely contribute to a wider spectrum of detrimental effects including health, loss of pride and sense of place, lost economic and other development opportunities, and further diminished ecological and biodiversity resources. Doing nothing is not an option.

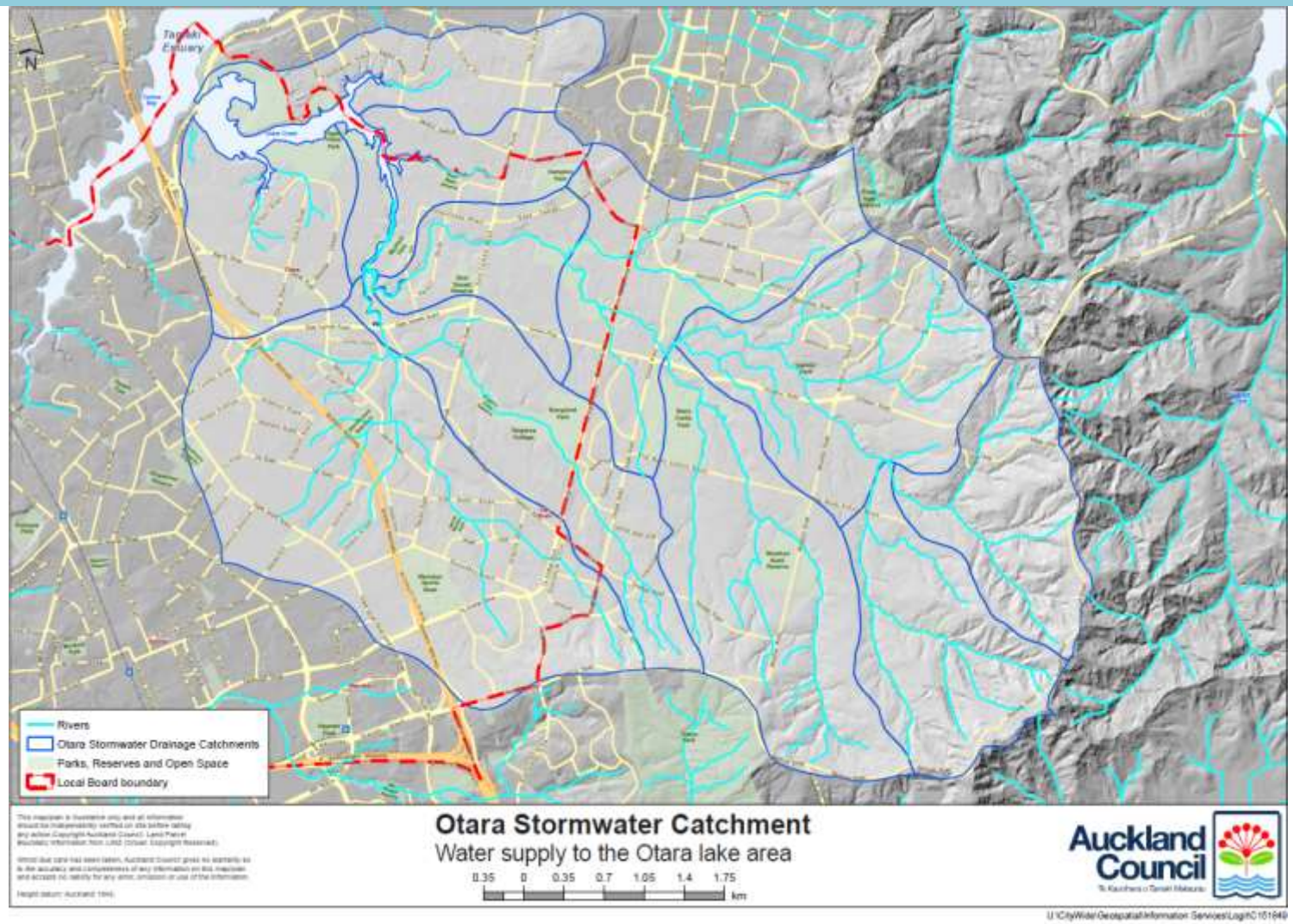
The Placemaking: Ōtara Waterways & Lake project steering group are committed to seeing this strategic action plan implemented and welcome new partners and contributors to join us in this visionary venture.

Signed

Stephen Grey
Chairman Placemaking: Ōtara Waterways & Lake Steering Group

[7] Collective Impact Stanford Social Innovation Review Winter 2011(John Kanier & Mark Kramer)

Map of Ōtara stormwater catchment



Ownership of this plan

This Strategic Action Plan will direct the strategy, priorities and actions of the Placemaking: Ōtara Waterways and Lake Steering Group (appendix 1) and subsequent organisation developed to implement this plan.

There are over 28 different organisations who have a varying levels of interest in this strategic action plan, government agencies and local community groups along with a partnership with mana whenua. This plan is not binding on those organisations but is anticipated it will influence to a significant degree the organisations plans, policies, budgets and priorities for all matters concerning the Ōtara waterways and lake.

The plan has been developed through a series of public workshops and has drawn on the extensive research and consultation that has previously taken place for this area.

The plan is a living document, intended to be actively consulted on and regularly reviewed including an opportunity for the people of Ōtara and Howick to contribute to its implementation, review and evolution.

Mana whenua

References for this section can be found in Appendix Two

For Maori everything in the universe is connected through its own whakapapa to Ranginui and Papatuanuku and beyond, to a creation that joins the night and the day and weaves all the strands of life forces (mauri) of the known and unknown universe into one single united strand that is interdependent.[8]

The central themes of the Placemaking: Ōtara Waterways and Lake strategy and the land, air and waterways themselves are of critical interest to mana whenua as kaitiaki.

Iwi and hapu with mana whenua interests in the Ōtara Papatoetoe and Howick Local Board area include:

Ngai Tai Ki Tamaki Te Wawerau a Maki Ngati Tamaoho Te Akitai Waiohua Ngati Te Ata Waiohua Ngati Paoa	Ngati Maru Ngati Whanaunga Ngati Tamatera Te Patukirikiri Waikato-Tainui

The document *Te Kohao O Te Ngira* informed the development of the Auckland Plan provides foundation principles relevant to our strategy:

- *Manaakitanga* valuing people and ensuring they are valued.
- *Kotahitanga* strength and diversity being united with a sense of purpose, direction and identity.
- *Kaitiakitanga* sustaining the mauri of the land, water, air and people.
- *Whakamana* enabling, empowering and restoring the mana of whanau to realise their potential.
- *Whanaungatanga* fostering and maintaining relationships
- *Rangatiratanga* a state of wellbeing expressed in how 'we do things'.
- *Wairuatanga* ensuring that the spiritual needs of all things are nurtured.

The Maori and Policy Strategy paper[9] informed the development of the maori section of the Auckland Plan and Long Term Plan 2012 – 2022 makes reference to Te Kohao O Te Ngira. In addition the value 'Whakamana' (enabling, empowering and restoring the mana of whanau to realise their potential) is included as a key foundation principle.

[8] Matua Rereata Makiha

[9] Maori Policy and Strategy in the Auckland Plan

Mana Whenua and Matāwaka submitters to the inaugural Auckland Plan and Long Term Plan 2012 – 2022 noted the following priorities of relevance to this strategy:

- Integrated and effective planning for the management of waterways, harbours and marine and coastal areas and an integrated approach to the management of rural and urban land adjacent to water
- Restoration and protection of waterways and harbours, including improvements to water quality and ecological value of streams
- Provision, advocacy and resourcing for the expression of kaitiakitanga and associated values in the built and natural environment
- Improvement to stormwater and wastewater management to reduce effects on waterways including preventing the disposal of wastewater into water bodies and the minimisation of the discharge contaminants carried by stormwater.
- Co-management and co-governance of natural resources and sufficient funding.Support the Auckland Plan vision for biodiversity restoration across the Auckland region, including a requirement that all planting on public land to be native
- Strengthening Māori involvement and values in natural and built and natural environment activity areas

The Independent Maori Statutory Board prepared the Maori Plan for Tamaki Makaurau. At the core of the Māori Plan is the cultural, social, economic and environmental wellbeing of Mana Whenua and Mataawaka. Under the wellbeing heading of Environment, the following key areas are of relevance to this strategy:

Te Taiao (Environment)

Whanaungatanga	Rangatiratanga	Manakitanga	Wairuatanga	Kaitiakitanga
Te Taiao is able to support ngā uri whakatipu: • Mahinga kai and wāhi rongoā • Wāhi tapu and wāhi taonga	Māori are actively involved in decision-making and management of natural resources: • Co-governance of natural resources • Resource management planning processes and activities • Mātauranga Māori and natural resources	The mauri of te taiao in Tāmaki Makaurau is enhanced or restored for all people: • Access to clean parks and reserves • Sustainable energy use • Water quality	Taonga Māori are enhanced or restored in urban areas: • Māori urban design principles • Indigenous flora and fauna	Māori are kaitiaki of the environment: • Investment in Māori environmental projects • Capacity of tangata whenua to support the environment

Situational analysis

History

Each of our areas has evolved over time and our maori ancestry provides a richness unique to Aotearoa. For some, Ōtara means 'the place of Tara' - either Tara-mai-nuku, a Te Ākitai ancestor and taniwha connected to the Manukau Harbour; or Tara-Te-Irirangi, a Ngāi Tai rangātira. Also Te Puke Ō Tara was once one of Ōtara's prominent volcanic cones. The 3,500 hectare-catchment of the Ōtara waterways was once a green and productive land, supporting clean waterways filled with fish and used for drinking, food, transport, portage and recreation.

Today the catchment is home to tens of thousands of people and the land use a diverse mix of housing, commercial, retail, industry, roads, park land, rural properties, closed landfills and sports grounds. The population is youthful and ethnically and culturally diverse.

In 1968 the Electricity Commission of New Zealand constructed a stop weir across the mouth of the Ōtara creek where it meets the Tamaki Estuary. A lake was formed providing a reservoir of cooling water for the Otahuhu powerstation. At that time the concept of creating a lake was received positively, some recall an 'aquatic paradise' was promised. However the natural breathing tidal function of the waterway was disrupted and a chemical reaction between freshwater mixing with salt water causes suspended material to sink to the bottom of the lake. Contaminants including significant quantities of zinc, copper and lead[10][11][12][13] are trapped within the 50 hectare estuarine lake, along with an estimated 230,000 m3[14][15] of sediment and a thriving mangrove infestation.[16]

The accumulation of detrimental effects within the lake results in there being an inequitable distribution of contaminants detained within Ōtara. The ongoing development of the upper catchment also means that without any targeted interventions the inequity will continue. The steering group rejects a proposal of doing nothing until growth stops as this option will likely result in an ecosystem that will cost more to restore and may also increase the risk of any reasonable efforts to restore the waterways being out of reach for the community.

Having a sustainably managed environment is a critical plank for this strategy which first starts by ensuring that the wider community is made aware of the issues and the need to care for our environment. The Collective Impact approach will bring people together in a structured way and

[10] Benthic sampling from Otara Lake and upper Tamaki Estuary (Kingett Mitchell 1992).

[11] Otara Lake Water Quality Technical Report (Worley Consultants Ltd March 2000)

[12] Otara Creek Catchments (GHD February 2001)

[13] Otara Lake Bathymetry and Sediment Survey (Golder & Associates September 2010)

[14] The Dredging and Disposal of Sediment From Otara Lake – A Scoping Study (Kingett Mitchell July 1995)

[15] Sediment Contributions to Otara Lake May 2011(Golder & Associates)

[16] Otara Lake Bathymetry and Sediment Survey (Golder & Associates September 2010)

focus people and resources towards a common agenda applying principles of empowerment and leverage.

It is also noted that the issues have been more than a generation in the making and it is generally accepted it will likely take a generation or more to resolve. The Ōtara community has a level of understanding that the remediation of the lake will likely be one of the last activities undertaken. However this being the case it is also important that a programme of initiatives is concurrently supported within the Ōtara urban community

Around 45 billion litres of rain falls within the catchment each year and due to the ongoing loss of permeable surfaces, increasing volumes of stormwater and contaminants are being flushed into the waterways. This has meant that within one generation the community has lost the ability to fish, swim, recreate and enjoy the lake and waterway system.

In terms of legislative and regulatory functions, national policy statements are made to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the Resource Management Act 1991. In relation to water bodies, the imperative to act is strong. Not only do the communities of Ōtara and Howick desire the restoration of the waterways and lake, the National Policy Statement for Freshwater Management (NPSFM) 2014 provides a statutory context for the assessment and management of water quality in freshwater environments. The NPSFM includes two compulsory national values (ecosystem health and human health for recreation) and nine water quality attributes that must be managed to meet these values.[17]

The National Objectives Framework provides the context for these nine water quality attributes. The nine attributes are specified in Appendix 2 of the NPSFM. The National Bottom Line is considered the minimum acceptable state for that attribute to meet the compulsory values.

Every council must manage freshwater resources to meet the relevant minimum acceptable state for all water bodies, subject to a narrow set of exemptions specified in Policy CA3. Where this is not met, councils' are directed to set targets and implement methods to assist the improvement of water quality (Policy A2) and make rules to prevent or minimise any actual or likely adverse effect of any discharge of a contaminant into freshwater (Policy A3).

Defining factors

This strategy has been shaped by the collective and deep understanding of our place including the following defining factors:

- Resolving water quality problems may be technically challenging, costly and take a generation or more to see results. Understanding these difficulties makes us realistic but determined. We realise we must start immediately to prevent the challenges from growing even bigger.
- Other water quality issues may be solved within a generation. Diminished dissolved oxygen concentrations - one of the more pressing water quality parameters requiring improvement in Ōtara Waterways, can be achieved relatively quickly by increasing stream shade. That is, a stream's habitat potential may be improved for fish and invertebrates just by achieving

[17] . It is noted the NPSFM 2014 applies to fresh water systems whereas the assessment of sediment within an esturine environment uses the ANECC 2000 Sediment Guidelines.

'satisfactory' water temperature reductions and increases in dissolved oxygen levels. In small streams (less than 4 metres wide) this may be achieved inside five years where both banks are planted with shade bearing tree species.

- The catchment is the focus of planned significant growth within the next generation.
- The communities of Ōtara and Howick desire the restoration of the waterways and lake.[18][19]
- Everyone has a part to play. Problems, solutions and opportunities are shared, improving our chances of powerful results.
- There is a matrix of policies, regulations and opportunities to support action including: the NPSFM; New Zealand Coastal Policy Statement, Unitary Plan; Auckland Plan; Ōtara Papatoetoe Local Board Area Plan and its Local Board Plan; Howick Local Board Plan; planned commitments by Watercare and Stormwater Unit; and the resolution and commitment of many other partner organisations.
- The issue of clean water is not an isolated environmental issue. As set out within the NPSFM it is is essential to New Zealand's economic, environmental, cultural and social well-being. We must think of this holistically and in doing so we will be able to bring about broader benefits to the community including skills, training and development, employment, infrastructure investment and capital development, resilience, individual and community pride.

Our kete

The kete of this plan aims to weave together the strengths and commitment of around 35 organisations together with the people and communities of Ōtara and Howick. Woven into the plan is our commitment to work across the social, cultural, economic and environmental well-beings, along with a strong science base and locally meaningful story-telling.

[18] Otara Papatoetoe Local Board Plan 2014

[19] Howick Local Board Plan 2014

Vision, mission and strengths

Vision

Te mauri o te rangi
Te mauri o te whenua
Te mauri ora o Tara

'Everything is connected'

'When the lake, waterways and wildlife flourish, the people flourish.'

Mission of the Placemaking: Ōtara Waterways and Lake Steering Group

Through alignment, mobilisation, advocacy, inspiration, consultation, engagement and action, we will lead the restoration of the mauri of the Ōtara waterways and lake and the pride and reconnection of our people to this place.

Strengths of the Placemaking: Ōtara Waterways and Lake Steering Group

The Steering Group includes representation from local government, mana whenua, community groups and businesses, all with an interest and a stake in the health and wellbeing of the Ōtara Lake, waterways and local community.

These members in themselves have powers of regulation, planning and policy setting, and access to research, funding and experts. Collectively, if there is a meeting of the minds, the Steering Group has exceptional capacity for outreach, influence, networking, priority setting and communication.

If the Steering Group's collective resources are aligned and focused on the strategies and actions outlined in this plan, then the opportunity will be realised to restore the mauri of the Ōtara waterways and lake and to reconnect people to this place.

Values and Principles

In addition to the foundation principles recorded within Te Kohao o Te Ngira and reflected within the Auckland Plan, the following values and principles were tabled as being important to the community.[20]

Values	*Principles*
• Healthy ecosystems • Accessible places • Clean water • Sustainability • Valued and protected waterways • Aware communities • Inter-connected spaces • Community controlled and led • Strong biodiversity • Safe environment, place, water, food • Valuing education of all, by all.	• Shared power • Promises kept • Partnership • Community buy-in • Accountable • A resourced kaupapa

[20] Otara Network Action Committee Meeting 25 February 2015

Themes

The Placemaking: Ōtara Waterways and Lake Steering Group has a long term vision to restore the mauri of these waters and reconnect people to this place. This vision has three themes: Mauri, Connection and Pride - all three themes are interconnected. For example, Pride will come through connecting people and working together to restore clean and healthy waterways; connecting people to the water will motivate them to clean it up and maintain it sustainably; a clean and healthy Waterways and lake will build pride.

1. MAURI

The issue

Mauri is the life force of all components of this place, the living plants and animals, the waters and rocks, and the energy which binds it all. Mauri is essential for being and for well-being. It is a symbol of vitality, life and health.

Currently the mauri of the Ōtara waterways and Lake is depleted through excessive sediment, contaminants, bacteria, heat and litter that together degrade the water quality, it's ecology and the connections of people to this place. We (the Placemaking: Ōtara Waterways and Lake Steering Group and subsequent organisation developed to implement this plan) will take a leadership role in seeing these issues addressed.

Generational outcome

> **Within one generation the Ōtara waterways and lake will be restored and safely used for swimming, fishing, food gathering and boating and native species will have re-established connections to historical habitats and generally increased their range within the catchment.**

Focus areas

Our work to restore the mauri of Ōtara waterways and lake will focus on the four primary issues of poor water quality: sediment, contaminants, water sensitive design & waste water overflows, litter and pest, plants and animals.

2. CONNECTION

The issue

Currently, the people of Ōtara cannot safely access the Ōtara waterways and lake, often cannot see them and cannot safely use them. The waterway system is no longer known as places to be valued and enjoyed.

Connectivity involves the development of walkways, cycleways, landscaping, ecological and green corridors and connecting town centres and business hubs.

Through the years we have also severed ecological connections preventing native plants and animals dispersing throughout the Ōtara catchment. This applies equally to terrestrial (land-based) flora and fauna as it does to freshwater fauna (fish and aquatic insects).

We will work to reconnect people and ecology to the Ōtara waterways and lake and ensure they have the pride, commitment and resources to be effective kaitiaki.

Generational outcome

> **Within one generation Ōtara waterways and lake will be restored and central to our sense of place and will be actively used to connect different parts of our community including the re-establishment of native species.**

Focus areas

Our work with connection will have two focus areas: Pathways (providing safe access to the water, strong linkages incorporating cycle and walkways to town centres and business hubs); and Living (bringing the water closer to our everyday lives through good planning, ecology establishment, community gardens and other initiatives).

3. PRIDE

The issue

Restoring the mauri of the Ōtara waterways and lake will require people to change behaviours that are currently contributing to the degradation of the water, to act in positive ways that protect these places and to feel rewarded and blessed as a result of the changes. These will all require pride of place.

Generational outcome

> **Within one generation the people of Ōtara and Howick will be regularly celebrating the waterways and lake, rewarded by their active kaitiakitanga of this place.**

Focus areas

Pride will be achieved by focussing on three areas: knowledge, motivation and enabled. By having a focus on these areas will contribute to the capability building of our community and enabling them to do the right thing. This in turn needs to be acknowledge and celebrated so the ongoing cycle of positive change is reinforced.

Strategies and actions
Theme 1: MAURI

Generational outcome

Within one generation the Ōtara waterways and lake will be restored and safely used for swimming, fishing, food gathering and boating and native species will have re-established connections to historical habitats and generally increased their range within the catchment.

Focus area 1: Sediment

ISSUE

At the present time over 170,000m3 of sediment has settled within the Ōtara Lake.[21] Sediment from the Ōtara stormwater catchment is transported via the waterway system and at the point where the suspended sediment in fresh water meets salt-water, it is then deposited in Ōtara Lake. Erosion, inadequate riparian vegetation and poor land use practices that expose soil to rain (such as clearing land for development, inferior road construction, poor land management in horticulture, forestry and riparian management, and cattle in streams) greatly increase sediment loss from the land.

Sediment impacts may also be expected from the Ōtara waterway's pest fish populations. Koi carp re-suspend river bed and stream bank sediments as they feed increasing turbidity and internal nutrient loads.

Excessive sediment causes major ecological problems for waterways. For Ōtara these problems include sediment smothering stream habitats and aquatic life and the transporting and accumulation of contaminants. The expanding distribution ofmangroves is a direct response to increases in sediment inputs to freshwater . Mangroves (a native New Zealand tree) play an important ecological role in waterways but their expansion due to excessive sedimentation is altering the ecological balance of estuarine environments. Mangroves can displace seagrass and shellfish and the wading birds that feed on the small animals that live in sandy substrates. However, mangroves introduce an additional native ecotone to otherwise open estuarine environments and in doing so provide habitat for secretive wetland bird species and three dimensional cover for bait fish and their marine predators.

Whether there is potential for people's perceptions around mangroves to change or not, the answer to mangrove spread lies not in our potential to cull mangroves (because the mangroves will return), but in our capacity to reduce sediment inputs to freshwater at a catchment scale.

[21] Sediment Contributions to Otara Lake May 2011 (Golder & Associates)

Excessive sedimentation can be controlled by:

- Technical solutions to prevent soils from entering waterways in the first place
- Enforcing existing policies and regulations for sediment control
- Improved on-site management for construction, during development, and improved stormwater management during and after development
- Improved riparian management and farming practice
- Reducing the pest fish biomass in targeted waterways
- Managing the effects of peak stormwater inflows into receiving environments.

STRATEGY

We will work closely with partner organisations, particularly Auckland Council Parks, Environmental Services and Stormwater Unit, consenting and enforcement teams, Auckland Transport, NZTA, schools, developers and agencies that represent farmers and horticulturists to ensure best practice measures for controlling sedimentation are understood and enforced. Where effective and practical we will encourage, support and consult with mana whenua and community engagement in implementing measures that can help to control sedimentation. Our work will be informed in part by the Auckland Council's Watercourse Assessment Report: Ōtara Catchment.

OUTCOMES BY 2018

1. Key partner agencies (Auckland Council Parks and Stormwater, the Environmental Services Unit (ESU includes the Biodiversity, Biosecurity, Sustainable Catchments, Solid Waste and Land and Water teams) Consents and Regional Services departments, New Zealand Transport Authority and Auckland Transport) are fully aware of Ōtara community and mana whenua concerns about sedimentation and have significantly improved the control and enforcement of sedimentation measures for roading, development and riparian management.
2. Sediment from individual development sites is significantly reduced
3. Areas needing riparian revegetation are identified and plans are drawn up. Up to five of these are planted primarily in natives and work is undertaken through community engagement and ownership.
4. Understand clearly the complete picture of where sediment is coming from and how it is related to rainfall intensity & quantity and transported into the waterway system.
5. An appreciation and balance of mangrove growth is achieved.

ACTIONS

1. Develop a landscape design programme that co-ordinates planting, identifies linkages and access and provides for safe public space. This would include working with organisations such as Auckland Council Parks, Unitec and Manukau Institute of Technology.
2. Engage with and seek regular reports from Auckland Council Regional Services Consents and Enforcement to:
    - Achieve a meeting of the minds about sedimentation concerns
    - Encourage improved control and enforcement of sediment control conditions for development.

3. Engage with Auckland Transport to achieve mutual understanding of roading stormwater volumes, contaminant loadings and sedimentation issues, to identify key problem sites and to have underway at least one retrofit road runoff treatment for a priority site.
4. Work with Auckland Transport to target and remediate stormwater from those roads that have the worst contaminant loadings.
5. Select between three and five watercourse enhancement opportunities identified in the Watercourse Assessment Report: Ōtara Catchment and support their implementation through community replanting via willing partners.
6. Convene a panel of experts to discuss and develop a response to how sediment loss from individual sites (as opposed to large development sites/roading projects) occurs.
7. Set up a network of water quality and flow monitoring sites at key points within the catchment. Locations will be determined through consultation with RIMU, Babbingtons and local residents/volunteers.
8. Engage with Auckland Council Parks department to propose and reduce the need for spraying by planting riparian margins with native plants in replacement of existing species.

Bright Ideas

- Explore with Auckland Council Finance department, an off-set mitigation fund from Council Owned Organisations for facilitated stream works to remediate sedimentation issues and use these funds locally
- Build community and mana whenua skills to develop plant nurseries and associated infrastructure works with Work and Income New Zealand and Parks support.
- Engage with local schools to perform water quality testing, undertake restoration projects including riparian planting
- The community is empowered to undertake watercourse monitoring along with Wai Care coordinators and local volunteers with support from RIMU
- Investigate more effective strategies for retaining sediment on site during development phases. Auckland Council specialists and industry leaders (e.g. Todd, Fletchers) could be approached and new procedures explored
- Re-design and re-plant failed riparian plantings in watercourse areas to ensure peak flow events are controlled and the impact from low rainfall events is reduced
- Prepare media releases about sediment and effects on aquatic life, health of waterways and Ōtara lake
- Provide information resources that bring balance to the mangrove debate and create green routes through mangroves that allow the public to interface more with and have meaningful exchanges with mangrove environments.

Focus Area 2: Contaminants

ISSUE

In the urban catchment environment of Ōtara, Howick, Botany, Flatbush and Ormiston, contaminants such as chemicals, metals, hydrocarbons and nutrients are transported by rainwater into the waterways either across the land surface or through stormwater pipes. The detrimental effects of the catchment flow down and accumulate within the Ōtara urban area and are then largely trapped within the Ōtara lake. The presence of the weir creates the Ōtara Lake and this Strategy recognises the fact that the weir and lake will remain in situ for at least the foreseeable future.

The issues are complex:

1. Ongoing vs historic: acknowledging there have always been contaminants impacting the waterways however the degree, type, intensity and frequency of contamination has changed
2. Persistent vs intermittent: ie contamination from land development is ongoing whilst peak rainfall events causing erosion, sewerage overflows is intermittent
3. Partially protected vs older areas where there are no protection measures in place: ie TP10 land development standards through the resource consent process allowed for a controlled percentage of sediment escape in comparison to earlier periods of development where few protection measures were provided.

The contaminants come from a wide variety of sources including: faecal material; unpainted zincalume roofing; particulates from vehicles (e.g. oil based waste, exhaust, brake grindings, tyre particles) and road run-off; washing waste from concrete; cess pit overflows and direct discharge of waste from industry or residential contaminants into water or stormwater drains. In the upper rural parts of the catchment, nutrients can enter the waterways through stock access to streams and poor stock and fertiliser management practises. Land development and poor civil earth works management practices has seen significant volumes of sediment washed into the waterways along with domestic rubbish being discarded into waterway areas. Peak water flow events place a strain on pipe infrastructure shared by both stormwater and raw sewerage and on occasion mixing of the both waters occurs. Illegal connections can also result in sewerage discharges into stormwater systems along with broken or poorly maintained infrastructure.

Contaminants can be prevented from entering waterways through the application of water sensitive design practices, repair and maintenance of the stormwater and sewerage systems, the construction of offline stormwater wetlands and the maintenance of stormwater detention ponds, cess pits, swales, rain-gardens and roof gardens, painting zincalume roofs, and the use of sucker trucks and appropriate safe storage and waste disposal of waste for businesses and industry. They can also be prevented by individuals committing to safeguard the quality of stormwater drains and not using them to dispose of contaminants. In rural parts of the catchment, nutrients entering the waterways can be reduced by fencing of streams, effective management of stock during winter and ensuring fertiliser applications do not exceed plant demands. For example, to function effectively, online stormwater ponds need to be maintained . Auckland Council research shows however that even properly maintained ponds can increase water temperatures by up to 6 degrees Celsius over summer maxima. This has the effect of producing water temperatures that are lethal for stream life extending well beyond the footprint of the pond. The water quality and ecological issues associated with stormwater ponds would suggest an alternate approach where ponds are converted into wetlandsmay well be a better stormwater detention solution.

STRATEGY

There are project opportunities to investigate further within the Watercourse Assessment Report: Ōtara Catchment. We also need to clearly understand the types and sources of contamination which will provide a deeper understanding of the issues and contribute to the development of subsequent action plans.

Our strategy for disposal of waste from industry and transport sector contaminant reduction will focus on supporting the safe storage and disposal of industrial and road wash waste, particularly through

industry support agencies such as the Greater East Tamaki Business Association, NZTA and Auckland Transport. The stakeholders to this strategy will be more effective advocates and facilitators if we are well informed, We therefore need to source good information and take an evidenced based approach that will enable us to make better and targeted decisions when responding to contamination issues.

We will take a balanced approach towards the action and resolution of the stormwater catchment water quality issues. A narrow approach would solely focus on working from the top of the catchment downwards to the lake.

OUTCOME BY 2018

We have an effective understanding of contaminants having the largest effect in our waterways and have used that information to positively change the contaminatant storage and disposal practices of a majority (80%) of all contaminant-producing sectors in the catchment.

ACTIONS

1. Commission or seek support for research that will inform us of:
   - The contaminants that are present in our waterways
   - The sources of those contaminants
   - The most effective approaches to avoid or remedy contamination in our waterways
   - Most effective approaches for changing industry practice of contaminant maintenance, storage and disposal
   - Identify best practice technology for preventing contaminants entering waterways and
   - Practical options for removing contaminated sediment from waterways.
   - Ensure the council compliance team are alerted about contaminant breaches.

2. Through the Greater East Tamaki Business Association and other agencies, support a broad Industry Pollution Prevention Programme that uses the above information to inform, motivate and activate industry in the Ōtara catchment to safely store and dispose of waste. Extend this to include a celebration and acknowledgement of pollution prevention activity and effectiveness
3. Work with NZTA and Auckland Transport to develop enhanced water quality improvement measures
4. Promote Auckland Council's Pollution Hotline to the community.

Bright Ideas

- Establish local board prizes and awards to best complying local industry
- Develop a best-practice kit for industry contaminant storage and disposal
- Ask Auckland Council's compliance section to visit car sales yards and car wreckers and ensure that oily residues[22] from steam cleaning/de-greasing operations are treated appropriately and not sluiced down stormwater grates and into streams
- Engage with industry sectors such as concreting, carpet washing and moss killing contractors
- Encourage Hazmobile use

[22] Polycyclic aromatic hydrocarbons

- Develop and support industry ambassadors
- Find out if leachate from local landfills is impacting waterways
- Determine type and concentration levels of heavy metals in the lake and the most effective and efficient method of addressing these issues
- Work with Auckland Transport and the Stormwater Unit to ensure appropriate swales, wetland and other water sensitive design elements are incorporated into new roading development upgrades of the roading network
- Work with the farming sector to reduce contaminants entering waterways
- Consider installing end of pipe wetland swales alongside streams (to help polish stormwater inflows from major roading infrastructure).

Focus Area 3: Water Sensitive Urban Design & Waste water overflows

ISSUE

The Ōtara community was formed in the early 1950′s as part of the central government policy to provide low cost housing and relocate inner city Maori and new immigrant Pacific workers into the area. Relatively little thought was given to environmental planning in comparison to today where water-sensitive urban design (WSUD)[23] is used. WSUD is a land planning and engineering design approach that aims to integrate the urban water cycle, including stormwater, groundwater and wastewater management and water supply, into urban design to minimise environmental degradation and improve aesthetic and recreational appeal. The challenge therefore is to integrate newer planning techniques and tools into an existing infrastructure network.

Waste water pipes are intended to remove sewerage and other wastes from the catchment and pump it to treatment stations. If these pipes are broken or incorrectly connected to stormwater pipes (cross connections), or if heavy rainfall triggers overflow events, they will discharge sewerage and other waste into the waterways. This can cause serious contamination including high loads of dangerous bacteria, viruses and other human pathogens that makes use of the waterways unsafe for contact recreation.

The stormwater system is also flushing contaminants into the water catchment. It is important that stormwater flows are managed and that contaminants and rubbish are removed from the system where possible before reaching receiving waters.

In rural parts of the catchment, malfunctioning, poorly maintained or inadequate septic tank systems can result in sewerage entering waterways. These issues can be resolved by fixing and upgrading the waste water piping system, upgrading and fixing septic tank problems. Detention of larger volumes of rainfall on-site will help reduce the frequency and intensity of peak stormwater flows.
Water quality and ecological values are also affected by how we manage the stream beds. Piping and channelising of natural streams that occurs as part of land reclamation however can destroy their ability to support life. Channelising streams (lining them with concrete) destroys fish habitat and food sources, and allows the water to heat up depleting oxygen. Both processes also cause water to flow faster, increasing downstream erosion and possibly flushing out anything that might live in the stream. Ideally stormwater should be managed as close as possible to source. However, it might be that end of pipe solutions present the best (and in some cases the only) opportunity to treat stormwater before it enters receiving waters. This may include installing constructed riverine wetland swales which perform the double function of intercepting contaminants and dissipating energy (and so reducing stream erosion).

Historically piping streams (as part of reclamations) has led to many kilometres of stream habitat being permanently lost in the Auckland region. Part of the problem has been to the mitigation of stream loss rather than the avoidance of stream loss.

[23] Auckland Design Manuel Water Sensitive Design He Tauira Aronga Wai

While there may be opportunities for stream daylighting (removing culverts to re-expose) of piped streams and naturalising channelized streams in the Ōtara catchment, this can be an expensive exercise. Therefore as a priority it is far more effective to retain existing open channels. The Ōtara Strategy stakeholders will need to be vigilant on discouraging further stream loss in the catchment.
It is noted that greenfield areas higher up in the Ōtara catchment fall within a proposed SMAF area (Stormwater Management Area) under the Proposed Auckland Unitary Plan. SMAF areas are zones in which stormwater developmental rules will set limits on impervious surfaces and require prescribed levels of groundwater soakage to be achieved, the object being to minimise erosion in receiving freshwater environments affected by stormwater inflows. Maximising stormwater soakage and groundwater recharge will also help sustain flows in our small coastal streams including during the summer low flow period and potentially sustain permanent flows in upper (otherwise intermittent) stream sections.

STRATEGY

We will work with the Parks, Environmental Services and Stormwater Unit, Resource Consents and Watercare to influence the retention of remaining streams. We will also advocate for the alignment of capital development projects and maintenance and renewal projects that impact the waterway system. Where appropriate we will advocate for opportunities where the community can contribute to the process and outcome of the projects.

We will engage with Watercare, Resource Consents and Storrnwater Unit at Auckland Council with the aim of improving knowledge and understanding of piping and channelizing. We will promote alternate solution options along with advocating to leverage off planned investment towards stormwater upgrades, sewerage systems, parks development and planning further improvements and upgrades where appropriate.

Guided by the Watercare and Stormwater asset management processes on pipe management, and the Watercourse Assessment Report: Ōtara Catchment, we will select between one and five enhancement opportunities that address problem pipe and stream issues. We will work with the appropriate partners to see them implemented.

Watercare is currently planning a $20 million upgrade of the Ōtara trunk sewer system which aims to provide for growth in the area and reduce sewerage discharges into the water way system. Further research needs to be undertaken to identify and consider alternative approaches for sewerage discharge to land as well as continue to identify wider sources of contamination of the waterways.

OUTCOME BY 2018

There is a meeting of the minds between the catchment communities of Ōtara, Howick, Botany, Flathush and Ormiston, Watercare, Stormwater and Parks Unit about issues linked to waste water pipes and watercourse management with regular productive joint meetings that lead to prioritised action. Between one and five priority problem pipe issues identified in the Watercourse Assessment Report: Ōtara Catchment will be resolved.

ACTIONS

1. Request at the highest levels for Watercare and Stormwater representation at our meetings

2. Achieve mutual understanding and knowledge between Watercare, Stormwater and the Ōtara community of sewerage overflow problems and stormwater management
3. Closely engage with Watercare over the $20 million pipe upgrade to leverage multiple opportunities for community enhancement
4. Closely engage with the Stormwater unit regarding the issues identified within the Watercourse Assessment Report: Ōtara Catchment
5. Ensure there is ongoing monitoring of contaminants in the Ōtara catchment by RIMU or other scientifically based organisations
6. Ōtara Strategy stakeholders to submit on consent applications that seek to infill streams (as part of reclamations).Advocate that when developers signal their intent to pipe streams as part of reclamations that Council prioritise and fully exhaust "avoidance" approaches rather than default straight to mitigation
7. Promote the development of wetlands over detention ponds
8. Ensure targeted sections of the waterway system is shaded to help control water temperature.

Bright Ideas

- Our long term goal is that all water entering natural waterways should be treated before it is discharged.
- Wai Care will monitor streams for E coli levels using equipment provided by NIWA. Samples could also be collected by trained volunteers and submitted to Watercare lab for analysis.
- Develop and implement water sensitive design for targeted areas of the catchment
- Support on-site water collection/retention and slow release
- Investigate alternative approaches to sewer waste discharge to land or sewer waste management on site.

Focus Area 4: Litter

The overall degradation of water quality in the waterways and lack of access and inviting connection to these spaces, the Ōtara waterways and lake have become a convenient dumping ground for litter and waste. This occurs when litter is blown unobstructed from the street into waterways and also the deliberate dumping of both small and large items such as whiteware, product packaging, shopping trolleys, and bags of rubbish. Not only is this visually unappealing and dangerous, it can also attract vermin and more litter thereby contributing further to the disconnection between people and the place. Streams corridors and streams with rubbish are often perceived by the public as also having poor water quality which therefore discourages interaction and meaningful exchanges with waterways.

STRATEGY

A whole-of-community action plan responding to litter will focus on improving knowledge of the issue, building commitment to avoid discarding litter and motivating people to do the right thing.

OUTCOME BY 2018

A litter-free Ōtara waterways and lake, with strong community support for on-going action and commitment.

ACTIONS

1. Draw up a whole-of-community action plan on littering, led by the community, that includes the following components:

    - A 'social marketing campaign' that engages schools, marae, churches, sports clubs and businesses to increase awareness and understanding of the issue, painting a picture of what it should be
    - A volunteer brigade, supported by Auckland Council, mobilised to clean up existing litter, with different groups adopting different areas to keep them clean long-term
    - Support local resource recovery initiatives (recycling and up-cycling areas)
    - One-on-one engagement in litter trouble spots to explain how to do the right thing
    - More bins and other good waste disposal options
    - Serious litterers held to account for their actions
    - Event clean-up plans including zero waste policy
    - Incentives such as annual awards
    - Monitoring of the waterways including community initiatives of "ownership" and pride of place
    - Strategic planting to trap windblown litter as it moves from the street to the waterway.

2. Resource and implement this whole of community action plan for litter with support of partners.

Bright Ideas

- Kids will engage their parents through information from schools.
- Let's have a zero tolerance for litter
- That future land developments address and incorporate the streams and waterways (view shafts, access, fencing, building relationship).

Focus Area 5: Pest Plants & Animals (land-based and aquatic)

Pest plants and pest animals are two of the most pervasive biological factors preventing urban streams from reaching their full habitat potential. Pest weeds in riparian (streamside) areas out-compete native plant species and may prevent native plants from naturally replacing themselves. This is called natural succession, and is a process that allows native streamside vegetation to survive and prosper. Likewise, invasive submerged plant species (including oxygen weed) choke stream channels, degrading water quality and physically excluding native plants, fish and pollution sensitive aquatic insects.

Many riparian and aquatic pest weeds spread vegetatively, which means adult plants can regenerate from the smallest viable fragments transported downstream in floods. Waterborne fragments carried repeatedly down to managed stream sections from upstream areas makes the removal of pest plants difficult. Fortunately, because urban streams are often short, it may be possible to not only control riparian weeds down to low levels, but sometimes eradicate pest weeds completely by beginning at a stream's upstream end and working our way downstream, removing weeds as we go.

However, for this to be possible requires that weeds on adjacent properties are also controlled and that adjacent landowners no longer use neighbouring stream corridors as dumping grounds for pest weeds and litter. By creating a physical and visual barrier, solid fences encourage an "out of sight out of mind" dumping culture.

In these same neglected stream environments it is easy for rats, wild cats and aquatic pest fish species populations to swell undetected. Land-based predators (rats, mice, hedgehogs and wild cats) feed on native animals occupying riparian areas including lizards, birds and insects. Vermin also feed on the eggs of native fish including whitebait species that spend a period developing on land. Pest fish species either feed on native fish and aquatic invertebrate species or indirectly impact native fauna by degrading water quality. Pest fish including koi carp, which have been introduced illegally into Ōtara Stream, are beginning to impact on water quality because of the way they feed. Koi carp are reaching high numbers in parts of Ōtara Creek and while eradication of the species is not possible presently, managing the pest fish biomass down to low levels could help moderate the impact of pest fish.

By shading streams with native tree species, we can significantly reduce the quantity of light loving submerged pest weeds (including oxygen weed). Shading has multiple benefits, not least that it provides ideal conditions for native fish and aquatic invertebrate species to thrive and may make habitat less suitable for undesirable pest species.

STRATEGY

A whole-of-community action plan responding to Ōtara waterways pests will focus on:

- Improving knowledge of the key pests, plants and animals effecting Ōtara waterways
- Building commitment and resources and forming community-run pest removal programs that, with help from Council and sponsors will sustain an enduring pest weed and pest animal removal program.

OUTCOME BY 2018

- Communities living in and around the Ōtara waterways become familiar with pests impacting the Ōtara waterways catchment
- That community groups allied to neighbouring stream sections are formed to control pests
- That pests are removed from waterways and if not eradicated completely, maintained at low levels such that stream function, natural succession and other riparian processes are restored.

ACTIONS

3. Draw up a whole-of-community action plan on Ōtara waterways pests, led by the community, that includes the following components:

    - A 'social marketing campaign' that engages schools, marae, churches, sports clubs and businesses to increase awareness and understanding of waterway pests, painting a picture of what streams should look like in a pest free, restored state
    - Community groups supported by Auckland Council, mobilised to clean up existing pests, with groups adopting neighbouring stream sections to build empowerment and give groups ownership of empowering and to keep them clean long-term

- Incentives such as annual awards
- Monitoring of the waterways including community initiatives of "ownership" and pride of place
- Koi carp populations are managed.

4. Resource and implement this whole of community action plan for waterway pests with support of partners.

Bright Ideas

- Encourage council to choose Ōtara waterways as potential trial sites for new biological control agents.
- Help care groups access council run initiatives that incentivise pest removal including for example providing free weed bags, use of council supplied weed skips and herbicides, appropriate native replacement plants and traps for vermin.
- Kids will engage their parents through information from schools about waterway pest plants and animals.
- Explore the use of other novel weed reduction approaches including for example using chicken tractors to control riparian weeds like tradescantia.

Strategies and actions
Theme 2: CONNECTION

Generational outcome

Within a generation Ōtara waterways and lake will be central to our culture and sense of place and will be actively used to connect different parts of our community and provide connections for flora and fauna.

Focus area 1: Pathways

ISSUE

The Ōtara waterways and lake form a natural corridor through our community for walking and cycling, linking houses, shopping areas, recreational space, schools, work and friends. This potential is not being met currently as the existing pathways are overgrown, do not provide for both walking and cycling, are unsafe and don't connect with each other or the places we would like to visit. We plan to ensure these pathways are made safe, connect people and places and in the process make the waterways and lake a visible, popular and enjoyable asset. With daily interaction with the water in this manner, the community will notice its ecology and how it improves and be more motivated and knowledgeable about its needs and its care.

Severed ecological connections prevent native plants and animals from moving throughout the catchment. As forest areas become fragmented birds bats, lizards and insects are no longer able to move between seasonal food sources. Furthermore, as headwater habitats have become disjointed, fish migrating back into freshwater from the ocean are no longer able to reach adult habitat. Pipes placed in streams that now run beneath road crossings and land reclamations have made many kilometres of upstream habitat off limits to native fish species.

STRATEGY

We will work closely with partners (including Auckland Council Parks, Auckland Transport, NZTA, Watercare and Contact Energy) and community organisations to plan, resource and implement walking and bike paths around the waterways, including the Ōtara Heritage Trail and connections to bordering communities. We will work to reconnect people and ecology to the Ōtara waterways and lake so they have the pride, commitment and resources to be effective kaitiaki. We will also work to overcome ecological barriers associated with Ōtara waterways to improve freshwater and terrestrial biodiversity outcomes and to nurture ecological resilience within the Ōtara catchment

OUTCOMES BY 2018

1. Plans completed for both walking and cycling carriage ways, safe landscaped well-maintained pathways linking Ōtara township to the lake, including the Ōtara Heritage Trail and Kaitawa stream
2. At least one priority section of the pathway completed
3. Targeted removal of selected mangrove areas
4. Explore opportunities where mangroves may also provide new connections for fauna and that for example may allow obligatory wetland species to radiate out to adjacent wetland (salt marsh) habitat
5. Investigate provision of jetty/boat ramp area
6. Ecology has been re-connected throughout the catchment.

ACTIONS

1. Commission plans for pathways, including the completion of the Ōtara Heritage Trail, in consultation with the community and mana whenua.
2. As a priority, select easily completed links for implementation including leveraging opportunities with Watercare's planned pipe upgrade.
3. Seek resources for implementation from partners and organisations .
4. Name the un-named stream listed within the Watercourse Assessment Report: Ōtara Catchment
5. Develop connections of open space locally and across local board borders.
6. Identify strategic ecological points and re-connect severed ecological links that have prevented native plants and animals from moving throughout the catchment.
7. Many of the engineered barriers preventing the movement of native plant and animal species are remediated.

Bright Ideas

- Mana whenua and community ownership and participation is central
- The Ōtara Heritage Trail is a learning walkway including art and sculpture
- Where possible align green ways with natural features such as waterways and mangrove fringed sections of shoreline to help build public appreciation for these habitat types.

Focus area 2: Living

ISSUE

Land and space beside Ōtara waterways and lake holds great potential for increasing people's connection to the place. Making the water prominent in planning and everyday living will bring it to our attention on a daily basis so we notice its health and any improvements. We are restored by being near its energy and ecology, and we are encouraged to use and enjoy it regularly. These aspirations can be achieved through attention to making the waterways accessible and visible, and through thoughtful water-friendly housing renewal, park management and use of public space (such as community gardens). Critically, the links between the waterways and our shared cultures will need to be strengthened and highlighted.

STRATEGY

We will prioritise access issues including strategic and ecologically sensitive removal of mangroves to allow for water viewing places and access for boating. We will engage with a wide range of partners to share ideas on how the waterways can be better included in design and development and how they can be better understood and noticed. To draw people back to the lake we will develop practical and cost effective plans to beautify and clean up the area.

OUTCOME BY 2018

A significant increase in the numbers of people aware of waterways and lake and using them for recreation, health improvement and enjoyment.

ACTIONS

1. In consultation with the community and mana whenua, request pollution warning signs for the waterways to be placed at critical points, along with information about how they will be improved
2. Seek out approvals and resources for strategic removal of some mangroves to allow access to and views of the waterways. This would include appropriately skilled enterprises and community volunteers to be part of the removal process
3. Develop a plan for the return of waka ama and other small craft to the lake
4. With support of partners, develop a beautification plan for the Lake including clean-up actions and additional thinking into how the keep the area safe
5. Landscape design drawings are developed for key sections of the waterway
6. Encourage landowners adjoining streams to maintain or improve visual connections with waterways (i.e. discourage people from turning their backs on streams as occurs when solid fences are installed along stream boundaries)
7. Developing a plan that over time sees the visual contact restored, then physical contact to the water and finally able to safely immerse in the waterways and lake.

Bright Ideas

- Strategically placed art work from members of the community and mana whenua (such as sandstone sculptures)
- Community gardens, medicinal plants and fruit trees on public lands
- Develop a nursery on public land growing seedlings and plants for revegetation projects
- Training and development centres for landscaping, seedling and plant nursery and resource recycling
- Linking Hillary College, Manukau Institute of Technology and other interested training providers to this project
- Designing places for people to gather and learn about the environment.

Strategies and actions
Theme 3: PRIDE

Generational outcome

Within a generation the people of Ōtara will be regularly celebrating our Waterways and lake and rewarded by their active kaitiakitanga of this place.

Focus area 1: Knowledge

ISSUE

If we are to restore the mauri of the waterway system and lake, the wider community needs to be informed and enabled to become knowledgeable about the Ōtara waterways and lake. Achieving an understanding of the issues will help in the process leading to restoring the mauri and changing current behaviours that might be degrading the water.

Knowledge needs to be accessible, based on storytelling and history, reflect the culture of our place and be relevant to the groups we are addressing (such as industry, business, residents, partners). It also needs to be effectively linked to behaviour change.

Everyone who lives in and impacts the catchment a needs to understand what the issues are for the waterways and lake, how they as individuals contribute to these issues, and what they need to change or to act on to improve water quality.

STRATEGY

Ensuring community understanding of the history, culture and ecology of the waterways and lake will become the background story to everything we do. All our work will emphasise and broadcast these stories.

OUTCOME BY 2018

There is measureable and widespread community understanding of the historical, cultural and ecological stories of the waterways and lake.

ACTIONS

1. Commission short pieces on the history, culture and ecology of the Ōtara waterways and lake and post them on a digital based medium e.g. facebook page
2. Develop an easily recognised ‘brand’ for our vision of a flourishing lake, waterways, wildlife and people that captures the essence of the stories
3. Engage mana whenua, Auckland Council and the community to provide signage names of all the streams and tributaries where they intersect with roads and paths

4. Make information widely available in compelling form to the community at events, schools, churches, sports clubs, marae and through the local media.

Bright Ideas

- Much of the catchment is outside of Ōtara and these areas need to be included in our work
- Investigate the reformation of the 'Stream Team'– local people employed to plant gaps in existing riparian zones near town and dispose of rubbish/litter along stream edges and support to school initiatives
- Ōtara neighbourhood stream improvement project to improve 'their' stream boundary
- Local volunteers trained and supported to propagate plants for riparian planting
- Create and set up signs near streams that tell the story of the stream (history, stream life, local project). Could use QR codes on signs to upload music and more information
- Include the Ōtara waterways & lake on the My Parx app
- Align restoration projects with connecting neighbourhoods and housing to foster community ownership of local waterways.

Focus area 2: Motivation

ISSUE

Being knowledgeable in itself will not make people act – motivation is critical. Motivation to act and to change is built from many things. Rules, regulation and enforcement can be critical. Potentially more important are community motivation and engagement tools.

STRATEGY

Our work will build motivation through:

- Peer support and leadership: Nobody wants to be the last person in their group to do the right thing. We will encourage leaders from all sectors, groups and communities in the catchment to support their people to act
- Awards and recognition
- A catchment-wide approach where the entire catchment is linked so people can see where their efforts fit into the whole
- Have community clean-up days where people can come together and contribute
- Celebrations.

OUTCOME BY 2018

A series of awards, actions and events have built a strongly motivated community.

ACTIONS

1. Plan and implement an annual festival of the waterways and lake with a focus on family and youth
2. Provide awards and recognition to community members and groups who excel in advancing the vision, potentially as a special awards night

3. Develop stickers and brand use for households and businesses that pledge to help clean up the Waterways and lake and make these available as part of each action in this strategy
4. Seek high-profile local celebrities such as sportspeople, actors and musicians, to front and champion the work.

Bright Ideas

- Investigate partnering with "Servolution," a group who's members have strong connections to Ōtara
- Support community group leadership.Support local pride by advertising the community's good work at the boundaries of the catchment, including to the fishing people of the Hauraki Gulf and the 80,000 people a day who drive down Highbrook Drive.

Focus area 3: Enabled

ISSUE

People may be motivated and knowledgeable but unable to act because they don't have the resources (of time or money). We will ensure that all our actions bear this in mind and we will seek to enable the community and mana whenua to act.

STRATEGY

We will develop and make available resources to support community and mana whenua actions that advance our vision.

OUTCOME BY 2018

Community and individual initiatives to do the right thing for the waterways and lake are supported with access to resources and volunteers. People are also acknowledged for their contribution and success is actively celebrated.

ACTIONS

1. Develop a resource kit that identifies sources of funding, volunteers and advice for community and individuals working to advance our vision
2. Make this kit available as part of the partnership building with community groups and organisations
3. Collaborate with partner organisations to share resources
4. Events are planned well in advance, people are acknowledged and success is celebrated

Monitoring and Evaluation

This section remains to be developed however likely to include consideration of:

- Monitoring & evaluation will be undertaken at a project and action plan level
- The water quality index is currently surveyed annually however the report card may be amended to reflect a 3 year cycle and incorporating the National Policy Statement for Freshwater Management parameters
- Collaboration between Auckland Council and Waicare and sharing the data with schools and the schools information will add to RIMUs
- Auckland Council to co-ordinate "before and after" surveys and taking into account the social, cultural, economic and environmental aspects.

APENDIX ONE: Members of the Ōtara Lake and Waterways Steering Group and Wider Group

Ōtara-Papatoetoe Local Board
Mana whenua
Contact Energy
Highbrook Park Trust
Highbrook Rotary Club
Botany East Tamaki Rotary
Ōtara Network Action Committee
Tamaki Estuary Environmental Forum
Howick Local Board
Manukau Institute of Technology
Greater East Tamaki Business Association
Transpower
Unitec Institute of Technology
Waicare
Stormwater Unit, Auckland Council
City Transformation Team, Auckland Council
Research and Monitoring Unit, Auckland Council
Parks, Auckland Council
Forest and Bird Protection Society
Neighbourhood Support
Ōtara Youth Unlimited
Tamaki Estuary Protection Society
East Tamaki Wildlife Clinic
Ōtara Lake and Creek Liaison Committee
NZ Police
Ministry for Environment
Department of Conservation
Watercare
NZ Native Freshwater Fish Society
Manukau Beautification Charitable Trust
Auckland Transport
(Engage with Fish and Game)

APENDIX TWO: Maori

Māori within Tāmaki Makaurau consists of are both mana whenua and mataawaka.

The Local Government (Auckland Council) Act 2009 states:

mana whenua group means an iwi or hapu that:

- exercises historical and continuing mana whenua in an area wholly or partly located in Auckland; and
- is 1 or more of the following in Auckland:
  - a mandated iwi organisation under the Maori Fisheries Act 2004:
  - a body that has been the subject of a settlement of Treaty of Waitangi claims:
  - a body that has been confirmed by the Crown as holding a mandate for the purposes of negotiating Treaty of Waitangi claims and that is currently negotiating with the Crown over the claims
  -

mataawaka means Māori who:

- live in Auckland; and
- are not in a mana whenua group

APENDIX THREE: References for Mana whenua chapter

- *Schedule of Issues of Significance to Māori in Tāmaki Makaurau*, Independent Māori Statutory Board, Auckland Council
- Maori Plan for Tamaki Makaurau
- Mana Whenua (Māori with tribal affiliations within the Auckland region) and Mataawaka (Māori with tribal affiliations outside the Auckland region)
- *Te Reo Taunaki, Parks and Open Space Strategy Compendium (Recommendations from Te Waka Angamua)* authored by Sam Noon, Auckland Council
- Independent Māori Statutory Board, 2011. *Schedules of issues of significance to Māori in Tāmaki Makaurau.*
- Auckland Council, 2011. *Auckland Plan Māori Technical Paper.*
- Auckland Council, 2012. *LongTerm Plan Submissions-Māori*
- Auckland Council, 2011. *Auckland Plan Submissions-Māori.*