

Greater Ōtaki Community Freshwater Vision



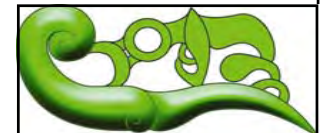
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For:

Kapiti Coast District Council



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- **A:** The Kapiti Coast District Council Plan (1999);
- **B:** Greater Ōtaki Freshwater Resources: Supplementary Consultation and Research: p.64
 - *Greater Wellington Regional Council: Waitohu Stream Study*
 - *Preliminary consultation findings from the 'Greater Ōtaki Project'*
 - *Te Horo Beach Water Working Party research.*



1. Background to the Vision

“Kia pakari te tinana, kia oho te wairua, kia piki te kaha o te tangata. Sustaining life is the most important aspect of all water-bodies. A healthy resource gives rise to diverse life forms and therefore increases the mana of that place.”

“Rivers are ecological lifelines and define our environmental priorities.”

The freshwater resource is important for its continued ability to exist in an unpolluted state and sustain/supply the overall community of humans, flora and fauna, because everything depends on this [water] for good health and life.”



The *Greater Ōtaki Community Freshwater Vision* has been developed over the past ten months through a consultation process that has encouraged the participation of the public, hapū, and key community groups between Pukehou hill in the North, and Te Horo in the South. The freshwater resource for this vision include Rivers and Streams, Lakes, estuaries, groundwater, Springs, and Wetlands the community identified as being significant to them.

Overwhelmingly the community identified Rivers and Streams as being the most important aspect of the freshwater resource. However, many participants also commented on the interconnected nature of the entire freshwater resource and valued each and every Wetland equally. Examples of these community values are expressed with quotes such as: “all of our water bodies are important and can’t be separated as they are part of a whole system” and “all water sources need to be nurtured for the various qualities that they impart in our lives, be it water we drink, animals, birds, and insects that we watch, and all creatures of the food chain.”

Inclusive of Rivers, Streams & Lakes...

For this project the community identified twelve water bodies as being significant. Again, the majority of these were surface water bodies, but there were many comments that linked the surface water with the ground water. The links between the surface water and ground water were obvious when people talked about puna (fresh water Springs) and their importance to the well being of the catchment. Members of the community also related the flow in Rivers to the groundwater level, and the pressures that development and extraction have on the health of our major waterways.

Statistically, the Ōtaki River and the Waitohu Stream were identified as the most significant water bodies. Other important community water bodies included Lakes Waiorongomai, Ngā Tōtara, and Waitawa, and the Mangaone, Ngātoko, Mangapouri, Rangiuru, and Pāhiko Streams. The Tasman Road and Rangiuru Road bores which supply the majority of the Ōtaki community with potable water were also identified as highly important. The Katihiku Marae bore, and bores in the Te Horo Beach area were also mentioned as being significant. The dependence of the southern part of the community on shallow ground water for drinking water that does not undergo any form of treatment is an example of how important ground water/puna really is. The community is also well aware of the risks associated with drinking this water, as the Te Horo Beach Water Working Party in conjunction with the Kapiti Coast District Council performed a risk assessment exercise in mid 2004, which confirmed some water quality problems with shallow ground water.

Vision Statements & Values

Community consultation identified that *freshwater values* are important to the community with an emphasis on sustaining all life in the area, as well as maintaining regional health and integrity (mana). These values helped shape seven key themes that consistently emerged through the consultation process, and can be used as ‘umbrella statements’ that apply to the freshwater resource. The key themes could also be considered as ‘community management priorities’:

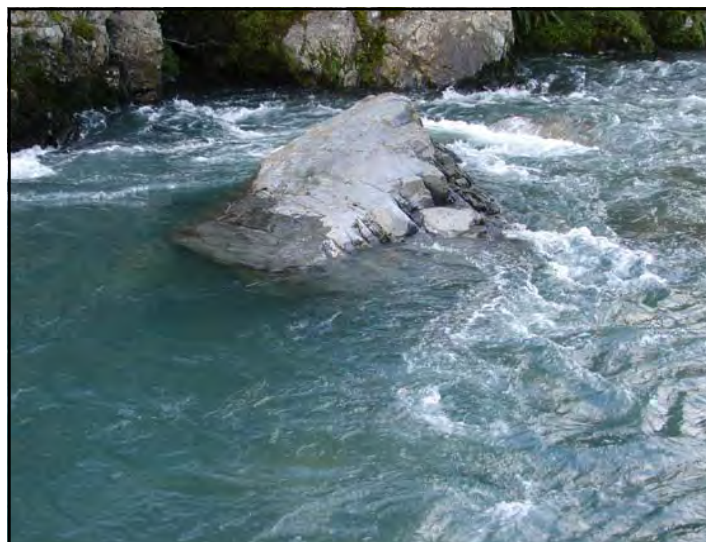
- **that waterways are protected and maintained for future generations**
- **our Rivers and Streams are clean for swimming**
- **fisheries and fishery habitats are restored and enhanced**
- **that Māori have an inherent connection to freshwater and their role as kaitiaki is enhanced**
- **water is clean for drinking and the supply is never compromised**
- **freshwater ecology is protected and enhanced.**

Comments about the significance of the local Rivers and Streams were numerous and again demonstrated the intimate connection that many in the community have with their waterways. People recognised their dependence on the freshwater resource for their survival, which is identified through a number of quotes and themes in the following freshwater profiles (see section 3).

Structure of this document

This freshwater vision is divided into four sections:

- 1. Background to the Vision:** The introductory section explains the scope and structure of this vision document.
- 2. The Freshwater Vision in Context:** The legislative context of how this community freshwater vision emerged is explained, including a brief explanation of how local government and communities aim to work collaboratively via the Local Government Act 2002. A brief summary of previous research and consultation on community values regarding freshwater resources in the greater Ōtaki area is provided.
- 3. Freshwater Profiles and Community Consultation:** Twelve freshwater profiles are presented that include key categories such as *significance*, *pressures*, *values*, *health indicators* and *vision statements*. Excluding the Pāhiko, Paru-ā-uku and Ngā Tōtara water bodies, each freshwater profile contains a map of the catchment that identifies recreational areas, ecological areas of significance, restoration work currently under-way, and areas in need of further restoration.
- 4. Freshwater Vision – Future Directions:** Combining community consultation and local knowledge of each water way, a number of practical steps are put forward that will enable this document to become a reality and improve the way we work with our water resources.



2. The Freshwater Vision in Context

In creating a *Greater Ōtaki Community Freshwater Vision*, it is important to use information that has been previously produced in relation to the Ōtaki freshwater resources. Taking into account and referencing legislation, the District Plan, consultation, and research helps to focus and consolidate work previously done in this area (see Appendices A and B). Including a brief overview of this previous work illustrates how this Freshwater Vision contributes to an existing body of knowledge regarding Ōtaki's water resources. Therefore, the Local Government Act (2002), the key legislative framework for this vision will be explained here. This Act provides new ways in which local bodies and communities can work co-operatively together – a key foundation for this vision.



Legislative Setting: Local Government and Community

The Local Government Act (2002) (LGA) is the key piece of legislation that “clearly states the purpose of local government and gives it the necessary powers to achieve that purpose, within the law” (Local Government New Zealand, 2003, p. 15). Therefore, under the LGA, the purpose of local government is twofold (Ibid, p. 15):



1. *to enable democratic local decision-making and action by, and on behalf of, communities; and*
2. *to promote the social, economic, environmental and cultural well-being of communities, in the present and for the future.*

The Greater Ōtaki Community Freshwater Vision directly relates to the purposes of local government, and it forms one part of a broader Kapiti Coast District Council community consultation and participation initiative in Ōtaki, namely the *Greater Ōtaki Project*. Through regular consultation with the Ōtaki community, this initiative aims to gauge and encourage residents to ‘have their say’ and participate in a future vision for Ōtaki. As part of this project, but focusing especially on the future use and vision of the Ōtaki freshwater resource, this vision has conformed to important consultation guidelines outlined in the LGA (2002) including (Ibid, p. 37):



Provision of information: The ten-month consultation process provided members of the Ōtaki community with existing information and research on local water issues. Information regarding the progress of the community consultation was given throughout the ten-month project, particularly through public workshops, regular letters, phone calls and face-to-face communication. Throughout the consultation process people were given opportunities to feed into community themes and statements.

Encourage parties to present views: During consultation, all participants were welcomed to present their similar and differing views on how the Ōtaki freshwater resources are currently provided for and could be managed in the future. Public advertising in the form of public notices, letters, e-mails and large billboards were used to promote the consultation rounds and encourage participation. In conjunction with the Kapiti Coast District Council, four rounds of public consultation were organised and facilitated so that face-to-face discussion with the care groups, hapū/iwi and general public could take place during June and July 2006.

Explain the scope of consultation: The scope and purpose of the community consultation was clearly articulated through sending out an initial survey late in 2005 outlining the project and asking what types of water bodies people valued. Subsequently, regular letters were produced that up-dated Stream/River care-groups and hapū/iwi on our consultation processes. Members of the public were able to gauge the scope and progress of the Vision through participating in each publicly advertised consultation round.



Give reasonable opportunities to present: All members of the public, inclusive of care-groups and hapū/iwi, were given opportunities to present their views throughout the consultation process. Alongside face-to-face communication, at each consultation event the people were encouraged to write their beliefs and views next to each water-body that concerned them most. This allowed participants to 'pick and choose' what water resource they wanted to comment on or were concerned about, while also giving them flexibility in terms of the time they committed to each event.

Keep an open mind: Due care and respect was given to all community members participating in the consultation process. Their varying views and opinions were encouraged throughout. Valid representation of the community's views was gained through sending out a draft Vision document to groups that signalled an interest in commenting on the document prior to general distribution and publication. This process enabled the project to remain open, flexible and accountable to all individuals and/or groups involved.

Give reasons for decisions: While this consultation principle relates to justifications for decisions made by local authorities, its relevance for this project concerns how this community vision will be applied in practice and its subsequent influence on future Council decisions regarding Ōtaki freshwater resources. Therefore this vision will inform future local body decisions regarding freshwater resources in Ōtaki.

The Local Government Act (2002) is a key legislative framework for local bodies, as it highlights the importance of community involvement, while also creating the means for local decision-making processes. The Greater Ōtaki Community Freshwater Vision, as part of the Greater Ōtaki Project, is an example of local people creating a community owned vision for their water resources.



Previous Research and Consultation: A summary

Legislation such as the Local Government Act (2002) provides new ways for local government and communities to work together for the benefit of the environment and the District's residents. The Greater Ōtaki Freshwater Vision, alongside other community-based consultation initiatives, is one example of this democratic principle in practice. The District Plan, falling under the statute of the Resource Management Act (1991), also offers clear directions in terms of Council commitment to managing the District's freshwater resources and wider environment in a sustainable way. Both sets of legislation create the legal context in which this vision is possible.

Previous research and consultation into Greater Ōtaki's freshwater resources identifies common community beliefs and concerns regarding the local freshwater resource. In summary, these beliefs and concerns include:

- Strengthening Council support for Stream/River care-groups
- Improve and maintain water quality
- Concerns about impacts of flood protection and capital works on River/Stream flows
- Better management of roof-water tanks
- Re-plant Riverbanks and riparian margins
- Improved co-ordination between the Kapiti Coast District Council, Greater Wellington Regional Council and community groups
- Control stock access into Streams/Rivers, Lakes and Wetlands
- Strong concerns about farm and stormwater run-off into waterways
- Opposition to Ōtaki pipeline



Many of the above themes also emerge throughout the following section, *freshwater profiles and consultation*. The consistency of the themes from the community provides continuity and clear direction for decision-makers when considering future management of the freshwater resources in the Greater Ōtaki area.

3. Freshwater Profiles & Consultation

Throughout the creation of this document, local people have been encouraged to provide comments/statements and visions about what they believed important in the process of enhancing the Rivers, Streams, Lakes, Wetlands and groundwater in the Ōtaki area. As a result, twelve freshwater profiles have been organised to include key categories such as water body *significance, pressures, values, health indicators* and *vision statements*. These categories assist in understanding the character of individual catchments, while also including information that the community shared about how to improve the state of these water resources, particularly for recreational and ecological use. Finally, nine freshwater profiles identified include a *catchment map* that identifies recreational areas, ecological areas of significance, restoration work currently under-way, and areas in need of further restoration.

It is important to note that the length of each profile depended on the amount of information that the community held or shared about individual water bodies. For example, as the Ōtaki River is the biggest in the Kapiti District and is of clear significance to the local people, this River received a lot of attention. The Waitohu Stream was similar. Conversely, smaller freshwater resources such as the Ngātoko Stream and the Waimanu, while inherently significant, received little attention, as some local knowledge was limited.



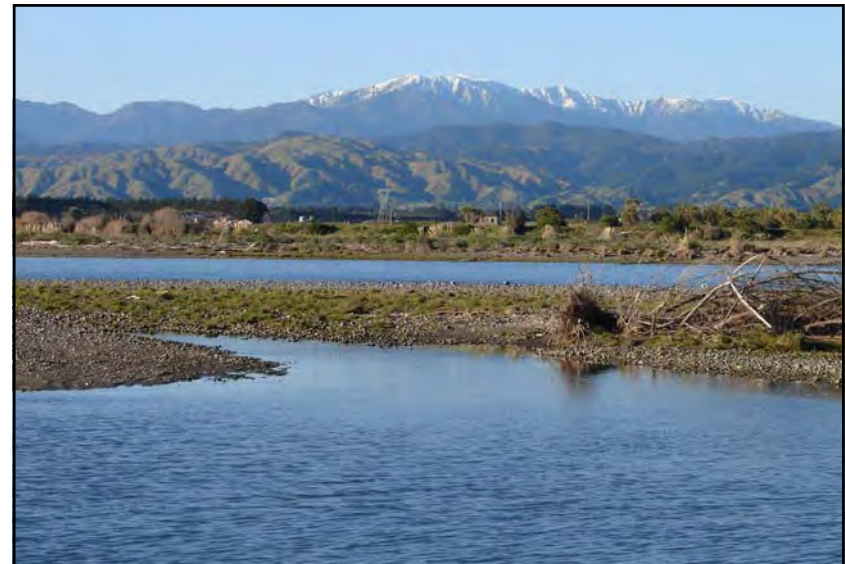
ŌTAKI RIVER

River Significance

The Ōtaki River is the largest River on the Kapiti Coast. The two major catchments for this River extend into the Tararua Ranges: one extends north toward Levin, the other south toward Wellington. These catchments are mixed with thick cut-over native bush that was extracted in the early 1900s down the Ōtaki River to the sea. The River has acted as an access point deep into the Tararua Ranges, which is often used by trampers and other recreational groups. The water catchments funnel water to the Ōtaki Forks where the waters converge to create one main water-course. At this point the Ōtaki River takes full shape forming a very powerful, high energy and vigorous water body attractive to canoeists, rafters and other white-water sports.

In the 1930s an area commonly known as the Hautere Plains was populated with unemployed families wanting to create a living out of the scrubland. At one stage this area was so heavily populated that there was a need for a local school, post office and other community services. The horticultural boom of the 1980s brought many growers to these plains, who grew berry crops, apples, pears, and kiwifruit. However, the climate was not ideal for these crops, and in the 1990s growers began to remove them to other areas. The horticultural initiatives during the 1980s and 1990s had a large impact on the River as surface and ground water takes from the Ōtaki River system increased immensely.

The River is very important to the local Māori community. Ngāti Raukawa recognises the Ōtaki River as one of the largest water bodies within their rohe (tribal area) and as such respect it greatly.



River Pressures

The land use surrounding the Ōtaki River diversifies as it travels west toward the coast. Down Stream there are increasing low-density lifestyle blocks, increasing pine forest blocks, and agricultural farming such as sheep and beef. The agricultural areas are known to produce significant pollution due to animal waste and fertilisers. Westward of the Hautere Plains the River gains momentum as it progresses toward ‘Chrystal’s Bend’, a major turn in the River. This turn has put Ōtaki township at risk of major flood events in the past. In response to this risk, construction of flood protection has taken place. Following Chrystal’s Bend the River becomes braided and continues in this way until it meets the sea 7kms seaward. North of Chrystal’s Bend is the Waimanu Stream, which flows into the Waimanu Lagoon and then into the Ōtaki River. The River crosses under the Main Trunk Railway line and the State Highway 1 vehicle bridge before heading to the sea. The Ōtaki River banks are laden with industrial areas on the northern side with Stresscrete Concrete and Winstones Aggregates plants located beside the River. Both of these plants impact on the River, however most effects can not be measured because of the large volume of flowing water.

Various efforts have been made on the lower reaches of the Ōtaki River to restrict its lateral movement which include rock walls, debris fences, and cross-blading. These works have been designed to keep the channel straight in order to transport flood waters as quickly as possible to the sea. The lower section of the River is the zone in which gravels washed down from the ranges accumulate and therefore requires aggregates to be extracted from the Riverbed in order to maintain flood protection for the community. Winstones Aggregates Limited, has had sole access to this gravel extraction for a number of years. Pollution in the upper Ōtaki River catchment is relatively limited. Most pollutants are of a natural type such as land subsidence. Other contaminants include 1080 poison used to control possums in the surrounding vegetation.

Pollution in the middle reaches is limited to relatively small amounts of runoff from homes, small settlements and agricultural runoff from the land. The industrial areas on the northern side, near Ōtaki township, are obvious sources of pollution but as mentioned previously, measuring their impact is difficult because of the rapid water flow. The water quality in the Ōtaki River is of a high quality and is one of the cleanest Rivers in New Zealand. In 2000 an attempt by the Kapiti Coast District Council to construct a pipeline to export water to Waikanae and Paraparaumu communities was met with head-on opposition by the local Ōtaki community, who did not support any water extraction.



Community Values

The Greater Ōtaki community identified *six key values* regarding the Ōtaki River:

- **Opposition to Ōtaki pipeline:** There was unanimous opposition within the consultation rounds that “the Ōtaki River and its catchment should be protected from any pipelines that would attempt to extract water from either the ground water or surface water.” There was concern that moves to take water from the Ōtaki River would be detrimental to the Ōtaki community while also having a negative effect on the health of the River. People value the Ōtaki River in its present state and oppose changes to its flows and quantity.
- **Development of the Ōtaki Lake:** This development was generally supported, however people agreed that it “should be undertaken with care because of the ground water flow going through this “Lake” and downstream - ground water pollution would be a serious possibility.” There was consensus that early community input into this development, and future activities in and on this water body is essential.
- **Safe swimming and access:** People want to see the Ōtaki River as a recreational and safe place to swim for children, families and individuals. This emphasis on safe swimming meant that the River could “be a major attraction for the community”, while also attracting other recreational activities such as mountain biking, running and walking along the River’s edge and walkways. Many believed that “as Ōtaki people we should be able to enjoy clean swimming in the Ōtaki River”, this included good access up and down the River.
- **Restoring riparian margins:** It was found that people believe that restoring the margins is “vital and will need to be on-going.” People value the importance and role of restoring riparian margins on the Ōtaki River in order to enhance and increase water quality. However, they felt that more publicity is needed to encourage members of the community to participate.
- **Natural flood control:** Greater development and growth on flood prone areas have raised community concerns about flood control. In these areas, members of the community valued “appropriate natural flood control” such as ponding areas in order to mitigate flooding caused by urban growth.
- **Recreational fisheries:** The Ōtaki River supports a number of recreational fisheries and the community values these immensely. The whitebait, trout, herring, tuna (eel), flounder, and kahawai are the most valued fisheries.



Further values regarding the Ōtaki River included:

- Creating provisions for rain-water collection e.g. all new developments to have rain water tanks, and Council to provide financial incentives (via rates) for existing home owners to purchase rain water tanks to lessen the groundwater demand in the coming years.
- Getting kids involved and educating them to care for their environment. Promote concept of responsibility for the environment at a young age to make it inherent in their actions and behaviours.



Indicators of Health

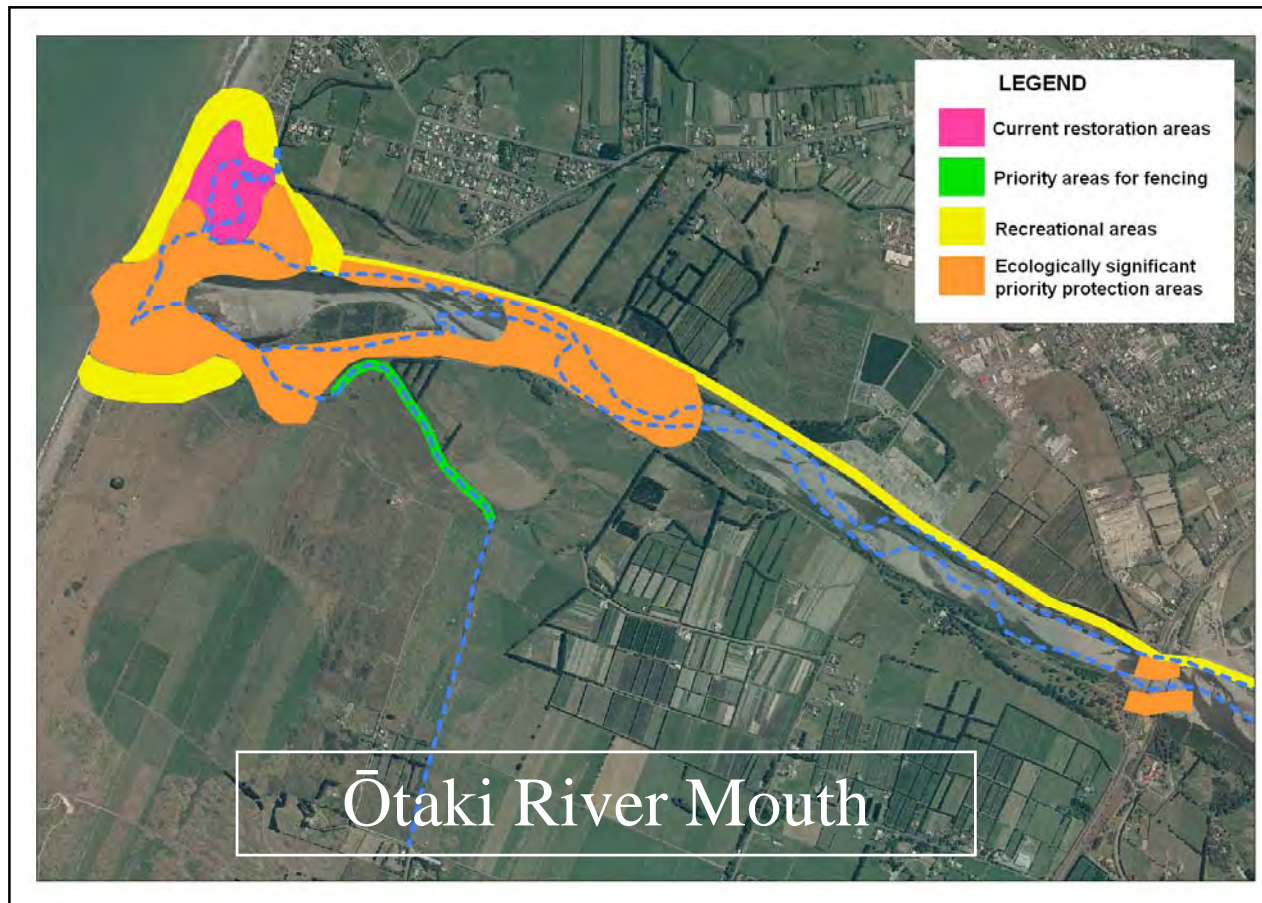
The Greater Ōtaki community identified *five key* indicators of health regarding the Ōtaki River:

- **Stop works on River mouth:** People would like the mouth of the Ōtaki River to be free from works, and urged Greater Wellington Regional Council to “stop trying to change the natural River mouth.” Many community members saw the works at the mouth as “unnecessary” and questioned its impacts on the River.
- **Monitoring water quality and quantity:** The quality of water was identified as an indicator of River health. Therefore, members of the community believed that monitoring the quality of “inflowing Streams should be rigorous and enforced.” Monitoring water quality was linked to measuring the impacts of farm pollution on the River. In addition to monitoring water quality, monitoring water quantity and flow was also associated with the health of the River, especially below the State Highway 1 bridge.
- **Monitoring waste:** People believe that illegal dumping of waste and rubbish into the Ōtaki River “should be monitored and more actively prosecuted.” Alongside this issue was the historic dump site near the Ōtaki River mouth that people felt required investigation.
- **Community involvement in revising Council by-laws:** People supported being involved in revising and upgrading Council by-laws that affect the Ōtaki River. This is so the community has an understanding of the by-laws and they are better enforced to protect the health of the River.
- **School involvement in planting:** There was a lot of community enthusiasm for involving local schools, inclusive of primary/secondary and kura kaupapa/whare kura, to spend time planting and caring for native vegetation on the banks of the Ōtaki. People believed that this involvement would foster intergenerational ownership and respect for the River.



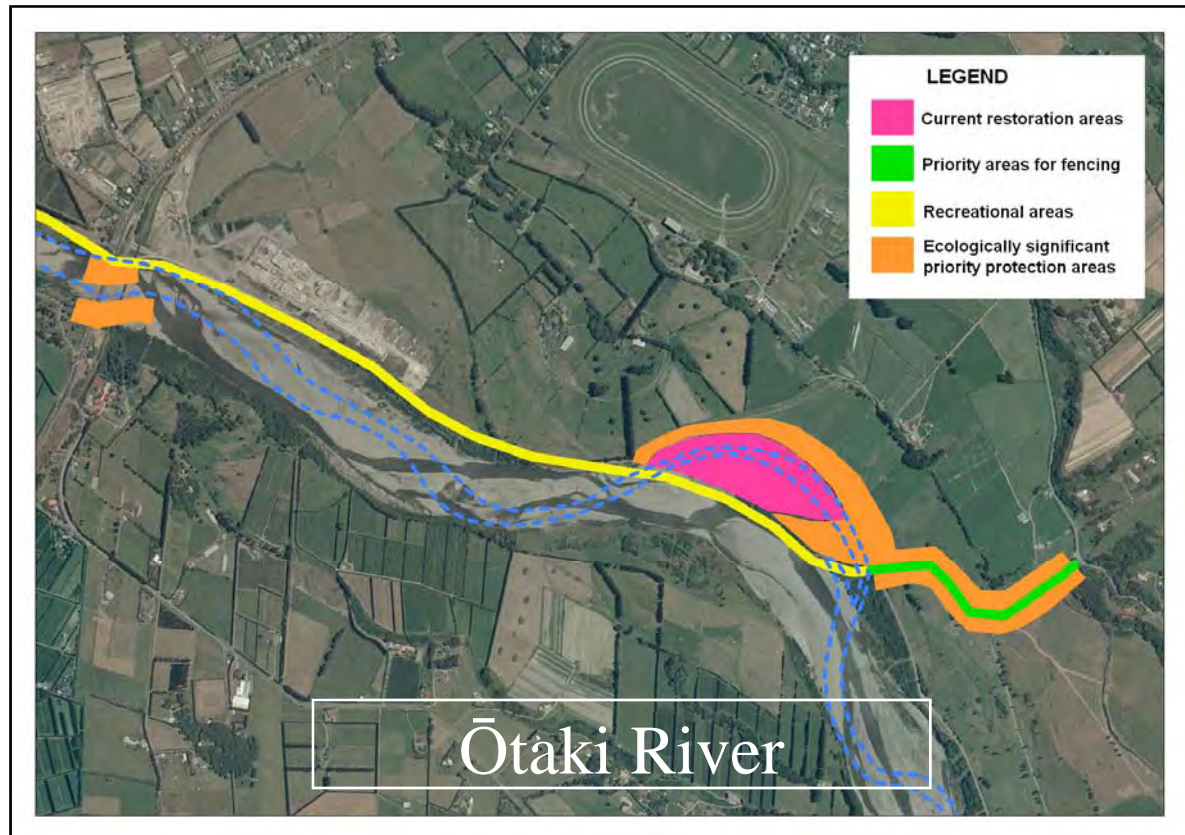
Further indicators of health for the Ōtaki River included:

- Educate public to own the River and its health and wellbeing.
- Council needs to commit to a positive environmental strategy that the community can adopt and commit to.
- Increase bird life, especially native species that are present and that have returned in recent years due to enhanced flora.
- Good water clarity is important and the community identified that the ability to use a snorkel and mask to spot and spear flounder was a good indicator of water clarity.



Ōtaki River Vision Statements

- Water from the Ōtaki River is only used to supply the local community, and it is not transported outside of this catchment.
- A long-term monitoring programme of whitebait catches and spawning abundance is undertaken to determine the health of the River as proscribed by the Ōtaki River and Catchments Iwi Management Plan.
- The walk/cycleway on the northern bank of the River is signposted and has well defined access points and parking areas.
- The riparian margins of the River are planted with native plant species that are tolerant of flood events and will act as a nature corridor to encourage the movement of native birds from the ranges to the coastal area.
- Vehicular access to the Ōtaki River mouth is maintained to enable access for all members of the community.
- Areas that are protected from vehicle access use natural barriers such as rock and logs to deter traffic.
- The Ōtaki Lake area is developed with natural plantings, picnic areas and tables, and there is good access and parking for the public.
- The estuary areas on both sides of the River are developed to enhance the whitebait fishery.
- Commercial fishing of any nature is prohibited in the Ōtaki River.
- There is good flow data available from the Gorge and below the State Highway 1 bridge. It is so the community can better determine the relationship between ground water and surface water and measure the impact ground water abstraction is having on the River.



WAITOHU STREAM

Stream Significance

The Waitohu Stream has its upper catchment in the foothills of the Tararua Forest Park. The hill country is a mixture of native bush vegetation and pine plantations. There is also low intensity sheep and beef farming in the upper catchment. As the Stream exits the confines of the foothills it meanders approximately 7kms to the Tasman Sea. The Waitohu Stream has three distinctly different sections which include the lower estuary area, the middle reach, and the upper forested catchment.

On its way to the sea the Waitohu Stream has two major tributaries that contribute to its flow. The first is the Ngā Tōtara Stream which drains the basin in the Taylor's Road area, including Waitawa (Forest Lakes), Paru-ā-uku Wetlands (at the bottom of Pukehou hill), and the O-Te-Pua Swamp. The second tributary is the Mangapouri Stream, which flows through the township of Ōtaki before merging with the lower Waitohu Stream.

The Waitohu Stream estuarine area was identified as the most significant part of the Stream by the vast majority of the Ōtaki community. The importance of the area has been highlighted by the volunteer work by the Waitohu Stream Care Group and a recent oral history project conducted on the Stream. This care group has been working on restoring the lower estuary area of the Waitohu Stream which includes the dune system, Wetland, and riparian areas, for five years.



The estuary and lower Stream reach is slow moving at the 'mouth' so is ideal for young children to develop their swimming and paddling skills. Canoes are often used by children and adults to migrate up the Stream to explore the life that the Stream sustains. The lower 2kms of the Waitohu are well known by whitebaiters who frequent the Stream, and is popular with elderly people as the beach provides good access and the gentle nature of the Stream does not compromise users safety.

The lower section of the Stream is the most popular section, with numerous people from the Greater Ōtaki community identifying its significance.

Stream Pressures

East from State Highway 1 the landuse is predominantly dry-stock farming that is undergoing rapid changes and is now a popular area for new lifestyle blocks and low density housing. Alongside the lifestyle blocks there is a wide variety of landuse including olive groves, horticultural enterprises, equine areas, saw milling, and low intensity agricultural activities. West of State Highway 1 the Stream meanders through land used largely for dairy farming. There are small areas of pine plantations with crops of maize and corn grown for dairy feed.

The water quality of the Waitohu Stream is highly variable with excellent quality east of the State Highway bridge, medium to low quality between the highway and Convent Road bridges, and poor quality from Convent Road to the sea.

There are a number of ecological values particular to the Waitohu. For example, on the north bank there is a substantial Wetland area called the ‘Wootton Wetland’ named after the previous owner.



This area is highly important in maintaining the ecological integrity of the Stream and provides ideal inanga spawning habitat. The Wootton area is also important for bird nesting and feeding, and contributes as a ‘training’ area where young wading birds practice their fishing and survival skills.

Young eels (elvers) also spend their first two years in the lower Stream reaches and the area provides excellent habitat for them to acclimatise to the freshwater environment before migrating upstream to mature. The Wootton Wetland is well suited for frogs and it is not uncommon to hear their chorus through the summer months. The Stream and estuary provides an excellent nursery area for juvenile flounder with hundreds of these observed in early Spring. These flounder are a valuable fishing resource at the coast and upstream.

Community Values

The greater Ōtaki community identified *three key values* regarding the Waitohu Stream:

- **Vehicle access:** Community members are very concerned about “four-wheel drives and motor bikes driving along the beach and through the Stream mouth.” Some community members wanted a ban on all vehicle access, while others suggested that an alternative path or route for 4x4 vehicles could be created to help manage activity between the boat ramp and the Waitohu Stream.
- **Supporting Stream-care groups:** People are enthusiastic about Councils supporting and assisting “Stream-care group(s) to maintain and avoid erosion of sand dunes, to plant native trees, create a Wetland and enhance habitat for native fish.” The community values the role Stream-care groups play in enhancing the health of the Waitohu Stream.
- **Assisting farmers:** There is a community desire for Council to support farmers “to improve waterways and protect them from deterioration.”



Further values regarding the Waitohu Stream included

- Create clean and fresh water for swimming in the summer, and gathering eels/food all year round.
- Commercial fishing of any nature is prohibited in the Waitohu Stream.
- Leave the River to go where it wants to – do not dredge.
- Swimming and kayaking.
- Fishing and general playing.
- Walking, running, and dog exercise area.
- Bird watching and restoration planting.



Indicators of Stream Health

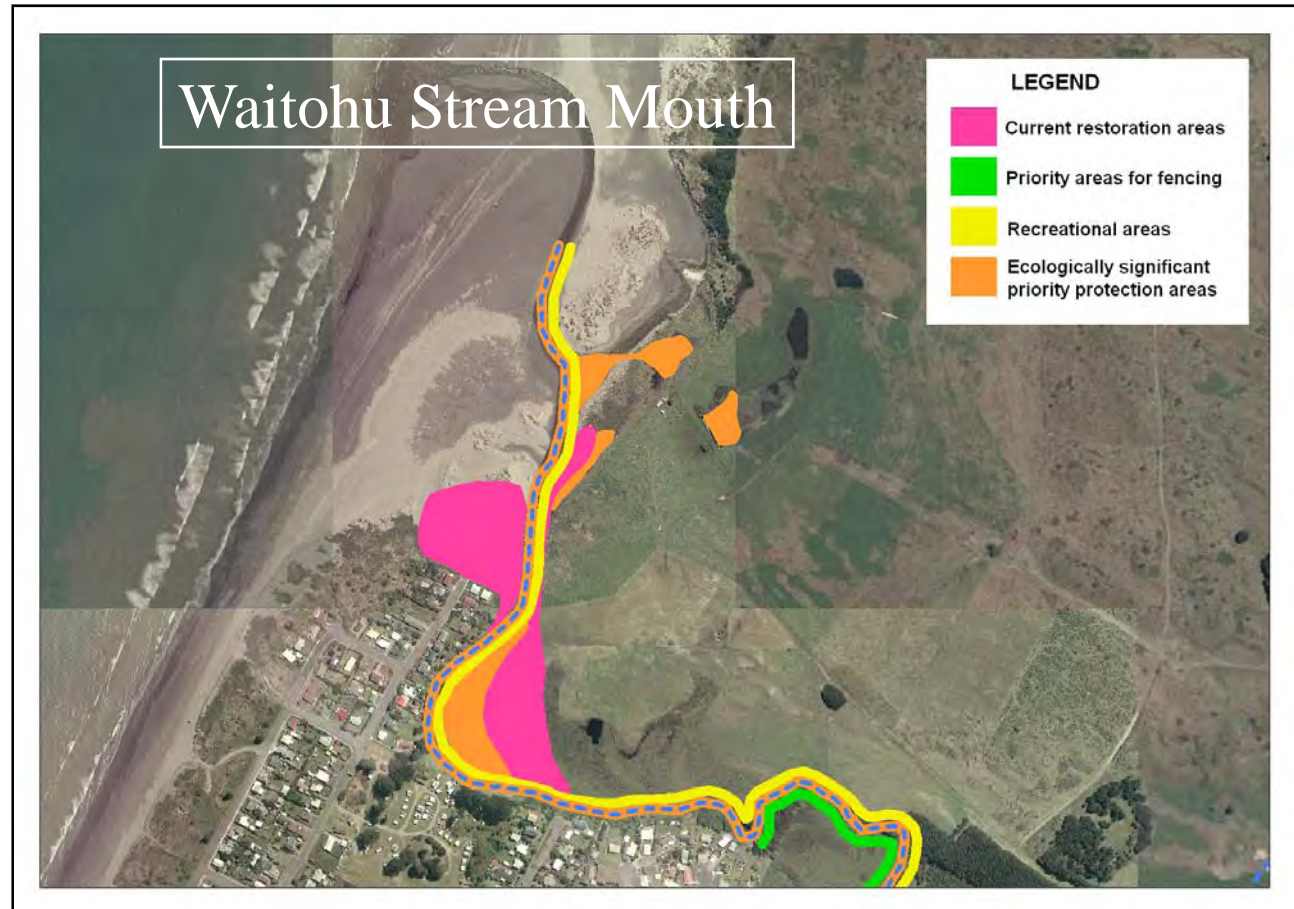
The Greater Ōtaki community identified *three key indicators of health* regarding the Waitohu Stream:

- **Controlling stock:** People are concerned about the health effects on the Waitohu Stream from wandering farm stock. In better controlling stock access to the Waitohu, people believed that Greater Wellington Regional Council could play a role in working with farmers to reduce this by using education programmes, or by monitoring and enforcement where necessary.
- **Financial support for farmers:** Linked to controlling of stock wandering through the Waitohu and other significant water-ways, members of the community were interested in economic incentives for farmers that include “financial support for farmers committed to (1) riparian planting; (2) creating watering points for cattle and keeping them out of Stream.”
- **Ensure Waitohu mouth is wide:** People wanted to ensure that the “mouth of Waitohu has the widest possible area in which to move.” In maintaining a wide migrational limit in which the Stream mouth is able to move within, people suggested that “landowners whose farms may be affected by this strategy are compensated (e.g. rates rebate).” Alternatively people believed landowners should be asked what sort of support they need to keep the Waitohu Stream mouth wide. It was also suggested that any marginal land affected by the movements of the River be purchased by local Councils and used for further natural environment and recreational enhancement.



Further indicators of health for the Waitohu Stream included:

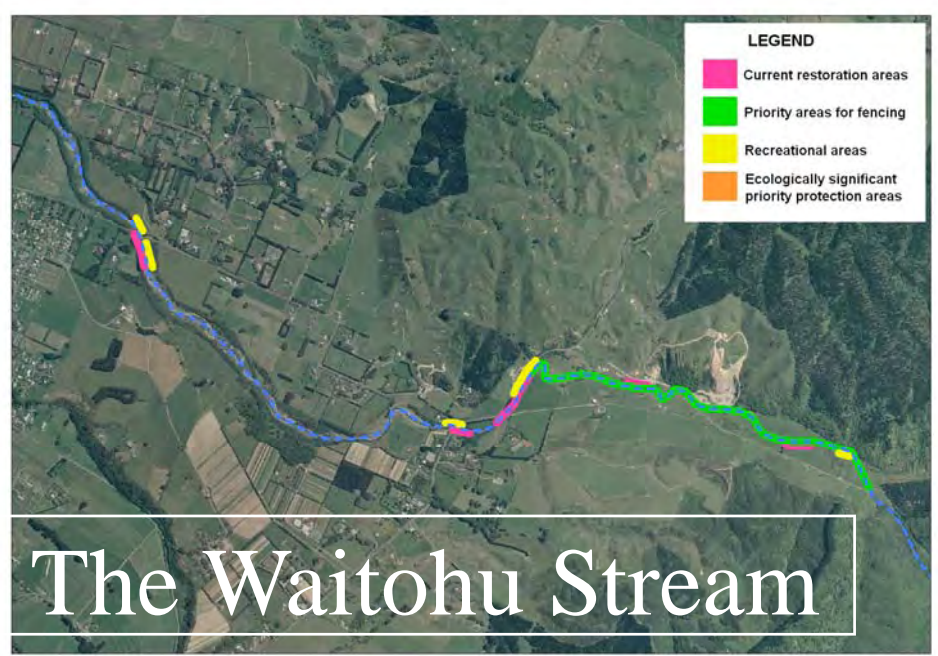
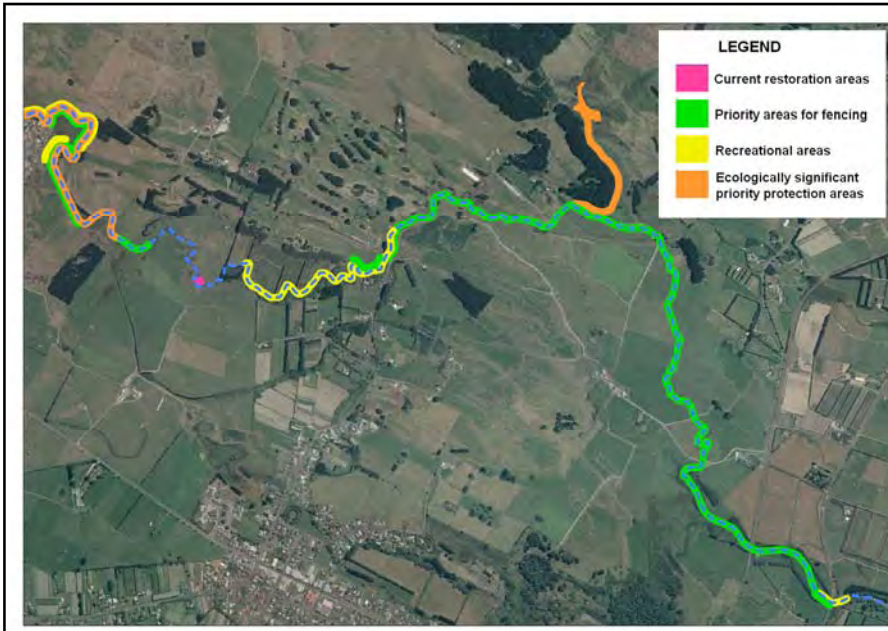
- Ensuring that a genuine estuary is retained, as the lower reaches are home to at least 30 bird species.
- If cutting is to be continued it should be monitored regularly between ‘cuts’ and stopped if damage to the environment is apparent.
- Plants should be provided to plant riparian areas, so the Stream environment is green and lush with a diversity of plant and animal life.
- The water clarity of the lower Waitohu Stream is very poor and needs to improve considerably. Poor water clarity is an indication of poor Stream health.
- The Waitohu Stream should be safe for people to swim in and parents should not need to worry if their children get an ‘odd mouthful of water’.
- Hatchlings of baby wading birds and their survival are indicators of good Stream habitat.
- The Stream channel is free from migrational barriers such as weirs.



Waitohu Stream Vision Statements

- All farmers are supported and actively encouraged to fence the Waitohu to keep stock out of the Stream.
- The Kapiti Coast District Council and Greater Wellington Regional Council work collaboratively with hapū and community groups to fund riparian restoration that uses native plants.
- Hapū and community work collaboratively with flood protection to ensure that work on the Waitohu Stream and its tributaries is conducted in ways that values of the community are not compromised.
- Removal of gravel below the rail bridge occurs in the Stream, while cross-blading of the Stream ceases.
- Commercial fishing of any nature is prohibited in the Waitohu Stream.
- That the entire Stream is free from perched culverts and weirs.





PĀHIKO STREAM (Brown or Dirty Creek)

Stream Significance

On the south bank of the Ōtaki River the Pāhiko Stream emerges from Wetland areas adjacent to Swamp Road and then flows between Katihiku Marae and the Ōtaki River before passing through floodgates and entering the Ōtaki estuary. The Stream is small but the water quality is fairly good and varies from being crystal clear to the tannin brown of many Streams that flow from Swamps. A proportion of the land over which the Stream flows is owned by Ngāti Huia ki Katihiku and is administered by a local environmental trust.

The Stream has been used extensively in the past as a place to store food, and a place to gather food. The Pāhiko Stream and the Wetland area behind the flood gates known as *Whakapāwaewae* are an important place for the harvesting of eel. To demonstrate the Wetlands significance, the name *Whakapāwaewae* refers to the large amount of eel weirs that were located in the area.

The Stream was also used for stock watering as people stopped and frequented the hotel on the south bank of the Ōtaki River whilst moving up and down the coast via the Old Coach Road.

Stream Pressures

The Pāhiko Stream is largely unfenced and dairy cattle are able to freely enter the Stream. The stock drink from the Stream and have been trampling the banks, while also excreting down to the waters edge. It appears the Pāhiko is one of the waterways cleared by Greater Wellington Regional Council Flood Protection as there are tailings of gravel and silt deposited on its left bank.

Located on the lower section of the Pāhiko there is a set of flood-gates. These gates have been installed to restrict the tide variances experienced in the Ōtaki River from effecting the levels on the Pāhiko Stream. These flood gates present the same problems as other gates as they restrict the migration of juvenile whitebait upstream.



Community Values

The Greater Ōtaki community identified *two key values* regarding the Pāhiko Stream:

- **A Food Source:** Local hapū members identified that the Pāhiko Wetland was used as a valuable “food source for the Māori of Ngāti Huia, sub-tribe of Ngāti Raukawa.”
- **Important Water Supply:** Ngāti Huia marae (Katihiku) members would like to see this water body be used “to help with future developments of papa kainga.”

Indicators of Health

The Greater Ōtaki community identified *two key indicators of health* regarding the Pāhiko Stream and Wetland:

- **Pollution Concerns:** People are concerned that this “natural water is being polluted and trampled on with cattle”, which is degrading this natural water reservoir. The community would like to see the Stream free from cattle.
- **Clean for the storage of food:** People would like to see the Pāhiko clean enough to use the Stream for the storage of food.

Pāhiko Stream Vision Statements

- Prevent the development on Katihiku side from further degrading this water way.
- Enhancement of habitat between Katihiku Marae and the Ōtaki River with an emphasis in restoring the abundance of important food species.



MANGAONE STREAM

Stream Significance

The Mangaone Stream is approximately 12km in length and has its upper catchment in the Tararua Forest Park. The headwaters of the Stream are part of the Mangaone walkway which traverses the lower hill country between Reikorangi and Te Horo. The headwater of the walkway is very scenic, as the Mangaone Stream flows within strands of native bush.

Stream Pressures

As the Stream descends from the Tararua foothills, the valley in which it flows widens and dry stock grazing becomes more prolific. Areas for dry stock continue until the Stream exits the confines of the valley. Once out of the valley it meanders across the Hautere Plains where there is a mixture of land use including an array of horticultural enterprises and agriculture such as deer, poultry, beef, and a significant amount of dairy farming. From State Highway 1 to Te

Horo Beach the land use is predominantly dairy farming.



The lower 5kms of the Mangaone Stream has witnessed a lot of development with numerous subdivisions occurring on the northern side of the Stream by the coast, and on Pukenuamu Road on the southern side. There is also substantial subdivision between the highway and the foothills. The subdivisions are primarily lifestyle blocks ranging in size from two to twenty acres. The development is occurring largely on the elevated dune areas, which is unlikely to significantly reduce the pressures on the Mangaone Stream from dairy farming. The demand for domestic water supply will increase as the Te Horo area continues to grow.



Community Values

The greater Ōtaki community identified *three key values* regarding the Mangaone Stream:

- **A priority Stream:** The community is clear that this Stream needs serious attention, as it “should be a major attraction of the community”, but it is often ignored and therefore degraded. In enhancing the importance of the Mangaone Stream people were interested in seeking “long-term management and not quick fixes.”
- **Concerns about dredging:** People believed the Wellington Regional Council’s dredging work is “too intrusive and invasive and there needs to be more effective long-term planning.” The dredging of the Stream is perceived as negatively impacting on the value of this water-body as it is “too harmful and repetitive.”
- **Encourage fencing:** Improving the value of the Mangaone by fencing the edge of the Stream was considered as important and was generally encouraged. The top end of the Mangaone near Te Horo was identified as one area that needed increased fencing and planting. Many small tributaries contribute to the degraded nature of the Stream.

Other values specific to the Mangaone Stream included;

- The presence of kōkopu in the Stream.
- The quality shortfin eels found in the tributary ‘drains’ of the Stream.
- The high recreational value of the Stream for the beach community which includes swimming, whitebaiting, fishing, and bird watching.
- High yields of watercress in the middle and upper reaches of the Mangaone Stream as well as the nice flowing ‘drains’ in the Pukenamū and Mary Crest area.

Stream Health

The greater Ōtaki community identified *four key indicators of health* regarding the Mangaone Stream:

- **Controlling stock:** Controlling stock, especially cows wandering into the Stream, was identified as a key indicator of Stream health. People would like to see how the Wellington Regional Council and landowners intend to manage this health concern.
- **Establishing a planting programmeme:** People believed that the establishment of a planting programmeme would “provide support for landowners to maintain/plant riparian margins.” There was awareness that landowners should not bear all costs of planting, therefore, a commitment should be made to a ‘planting agreement’ that could be revised yearly. A clean, green looking environment free of weeds was identified as an indicator of good Stream health.
- **That people can recreate safely:** It was mentioned that people who swam in the lower Mangaone Stream often developed itchy rashes on their body. People want to feel comfortable swimming in the Stream without concerning themselves with illness, particularly with children.
- **The Stream is free of noxious weeds:** Many of the Te Horo Beach community raised concerns about the dredging of weeds from the Stream, and this activity being environmentally damaging. An indicator of good Stream health would be that the Stream remains clear of weed growth, thus removing the need for dredging. The presence of Cape Pond Lily and Oxygen Weed was identified as an indicator of poor Stream health.

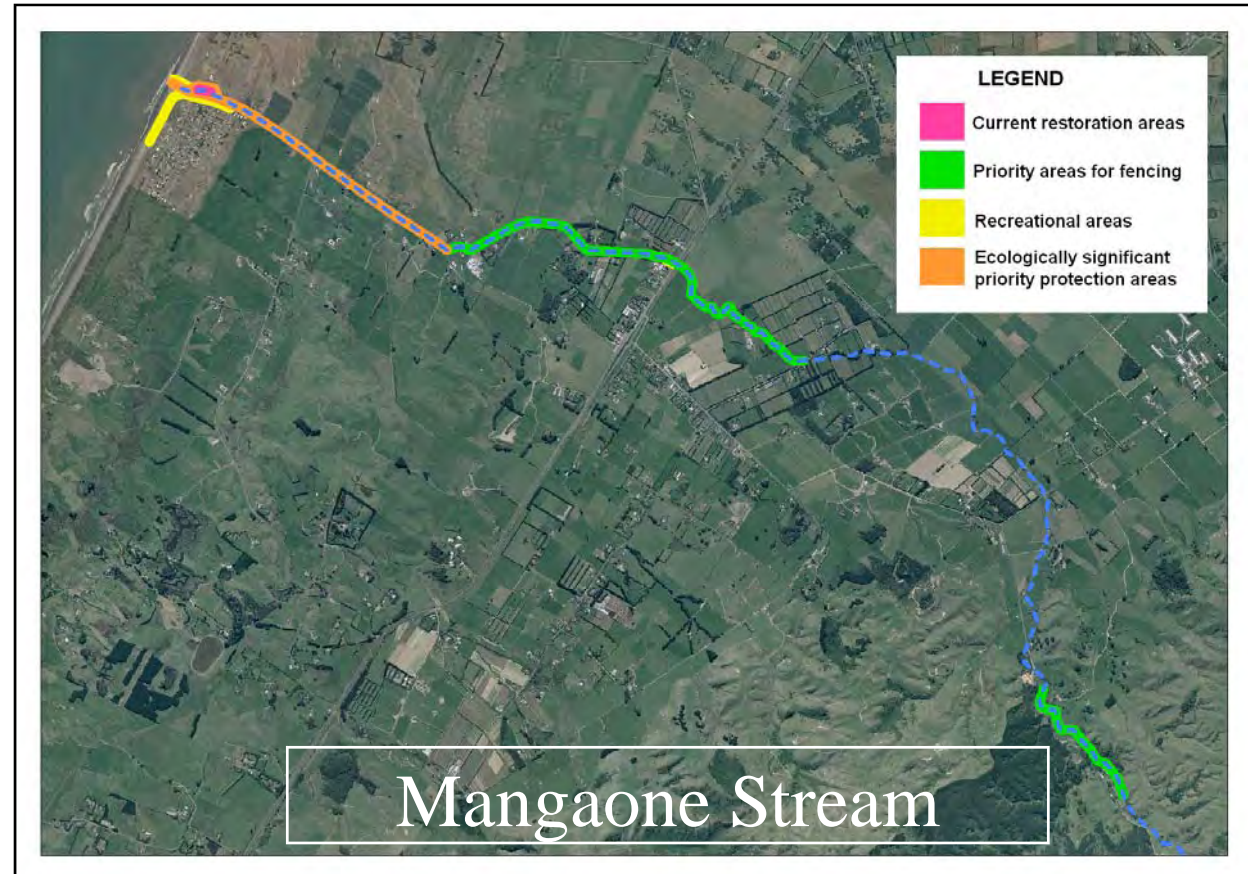
Further indicators of health for the Mangaone Stream included:

- Concerns that there are “health risks and indications that polluted water affects the quality of groundwater.”
- Each year Greater Wellington Regional Council could inform everyone about what dredging is intended to achieve and what the results have been to date.



Mangaone Stream Vision Statements

- That the area between the first bridge (by the old chicken farm) to the beach is designated as a high priority restoration area, and the community is resourced to undertake this work.
- The tributaries of the Mangaone Stream are recognised as being significant and riparian planting of these small Streams begins once the first vision statement is complete.
- That the Te Horo Beach community is notified when drain clearing is proposed to occur, and they are involved with how and when this work proceeds, when required.
- The fencing of the Stream east of the first bridge is a priority and is actively encouraged and supported by Kapiti Coast District Council and Greater Wellington Regional Council.
- A monitoring of groundwater abstraction from the Mangaone Stream is implemented by the community and Councils. This collaboration will better determine the effect abstraction is having on the life supporting capacity of the Stream.



MANGAPOURI STREAM

Stream Significance

The Mangapouri Stream is Spring-fed and originates east of the Ōtaki Railway settlement. It meanders through low intensity housing, some of which have farm animals that are not restricted from entering the Stream. The Mangapouri follows a course parallel to Rāhui Road before passing through Te Pare o Mātangi Reserve. Here the Stream has received extensive restoration from the “Keep Ōtaki Beautiful” care group. The Stream flows parallel to Mill Road and is the receiving water body of a large percentage of stormwater runoff generated from the Ōtaki township. Historically the Stream has been used as a source of water for the town, and as a dRiver for the Ōtaki Mill. There are numerous community stories about its capacity to support and harbor native fish populations, watercress and other food sources, and was formerly used as a food storage facility. The Mangapouri also has spiritual significance for many locals.

There is a lack of literature, and research reports on the Mangapouri Stream, however there is a significant amount of information about the Stream from the local residents of Ōtaki . This is due largely to the dependency of the Ōtaki people on this Stream prior to 1970. This is plainly evident with the siting of Raukawa marae and Te Pou o Tainui on the banks of the small Stream. It is generally accepted that the life supporting capacity of the Mangapouri has been devastated from increased pollution. This has resulted in the people of



Ōtaki limiting their contact with the Stream. Although the present contact is now minimal, community stories live on for the residents of Ōtaki. There have been recent successful efforts to record these stories through the use of oral history recordings of local kaumātua (elders). These recordings also include other local waterbodies, such as the Waitohu, and are available in the National Library (Wellington), The Ōtaki Public Library and the Te Wānanga-o-Raukawa library.

Stream Pressures

The Stream flows on the northern side of Ōtaki township before heading due-north where it is impacted on by pipes under the St. Peter Chanel school. At this point urban pressures cease and rural pressures begin. The Stream flows under the beginning of Bennetts Road before entering what was formerly an intensive market garden area adjacent to Convent Road. It then flows across the Ōtaki and Porirua Trusts Board land where it has been fenced and planted by Te Wānanga-o-Raukawa as part of a research and restoration project. Restoration has been extended on both sides of the Stream for approximately a kilometer to reduce the agricultural impact on this water body. Once the Stream has exited this block of land it then meets with the Waitohu Stream and heads out to sea. It is important to mention that the lower section of the Stream once flowed across Tasman Road and joined the Rangiuuru Stream en route to the sea. However, in the 1950s its course was redirected towards the Waitohu Stream. This redirection would have had a negative impact on the Streams ecology, however, it is also known that the Stream did recover for a time on the upper reaches. Nevertheless, this recovery has been slow, as the Streams water quality has steadily declined in recent decades.



Presently, the water in the Mangapouri Stream is generally of a poor to very poor quality. It has been impacted upon by various sources of pollution: from its source off Rāhui Road, through to its confluence with the Waitohu Stream. There are several points of the Stream that have been tested and monitored on a regular basis over the past few years. Testing and monitoring has been undertaken by the Greater Wellington Regional Council and by the Environmental Unit at Te Wānanga-o-Raukawa (Te Puna). All testing has shown that the Stream is in a chronic state of eutrophication, has siltation problems, is heavily impacted upon by flooding, is largely infested by noxious weeds and is struggling to maintain healthy oxygen levels, all of which negatively impact on native fish populations.

Community Values

The greater Ōtaki community identified *three key values* regarding the Mangapouri Stream:

- **Improve & maintain weed control:** People value Council weed control and flood protection measures and would like to see it maintained. In spite of this support, there are concerns about the damage occurring to the Stream banks and Stream ecology. For example, members of the community have reservations about flood protection practices as they believe this may transfer weed from one water body to another. In light of this, community members promoted a long-term sustainable management plan for the Mangapouri, which would work towards “both local Councils taking stronger action to eliminate further pollution.” In tandem, it was noted that there were a number of areas along the Mangapouri that already had restoration initiatives underway. It is evident to the community that these efforts need to be supported and accommodated by flood protection as there have been occasions in the past where flood protection efforts have had little regard for restoration, which undermines community will and initiative to restore and improve the Stream.



- **Eliminate toxins:** The community values the Mangapouri being restored and enhanced by the presence of native flora and fauna. In achieving this, people believe that relationships between restoration groups and the polluters of waterways such as town stormwater and farms runoff must be enhanced. An alternative for managing pollutants included introducing “areas to cleanse pollutants/ stormwater before entering waterways.” In this instance housing and general development proposed for Ōtaki would be required to have water filtration systems in place to eliminate pollutants entering the Stream.
- **The value of koura (freshwater crayfish):** The lively existence of koura in the Mangapouri Stream is a community value, and there is support for creating a healthy habitat and ecosystem for koura. In the past these species have been disregarded and almost eliminated. The Ōtaki community would like to see the provision of habitat for this specie to aid their survival and recovery.



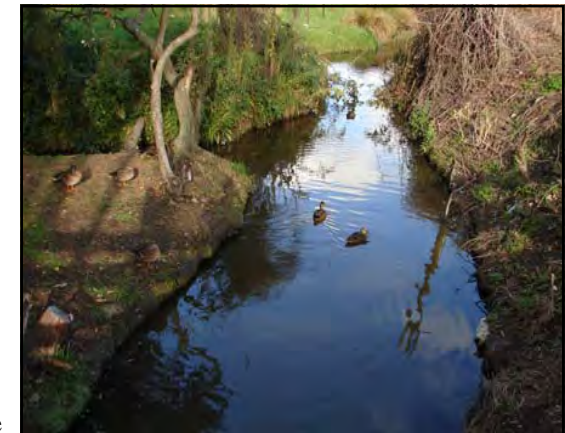
Further community values regarding the Mangapouri Stream included:

- The Mangapouri Stream is potentially of major aesthetic importance to the community, particularly because of its proximity to the township. Residents are interested in restoring its aesthetic values so that “it’s a source of pride, not a sewer!” The community would like to promote restoration initiatives along its entire length, as current restorative efforts are scattered and restricted along its banks. In this case coordination is required to better link restoration projects so the entire Stream can benefit.
- Maintain a natural course and margins. The consensus from the community for the management of the Stream margins/banks was to allow this Stream to take as much of a natural course as possible. Although the Mangapouri had been drastically altered in the 1950s redirecting the Stream to the north into the Waitohu Stream, it was regarded as acceptable to remain with the current flow path but to limit any further alterations. Proposed stop banks for the lower Mangapouri were not desirable for the majority of the community as this would further attempt to control its course and thus restrict its flow and limit habitat.
- A place to store eels in boxes.

Indicators of Stream Health

The greater Ōtaki community identified *three key indicators of health* regarding the Mangapouri Stream:

- **Tracking pollution sources:** Understanding sources of pollution were identified as a key indicator of health. People believed “Kapiti Coast District Council and/or Greater Wellington Regional Council need to make a concerted effort to trace pollution sources and eliminate them – particularly old small drains which should no longer be connected to the Stream.” The idea of introducing a pollution deadline for the Mangapouri was also put forward. Many people believed that this Stream had suffered enough and that “it was about time the pollution ceased.” Stormwater discharge pipes are indicators of degraded Stream health.

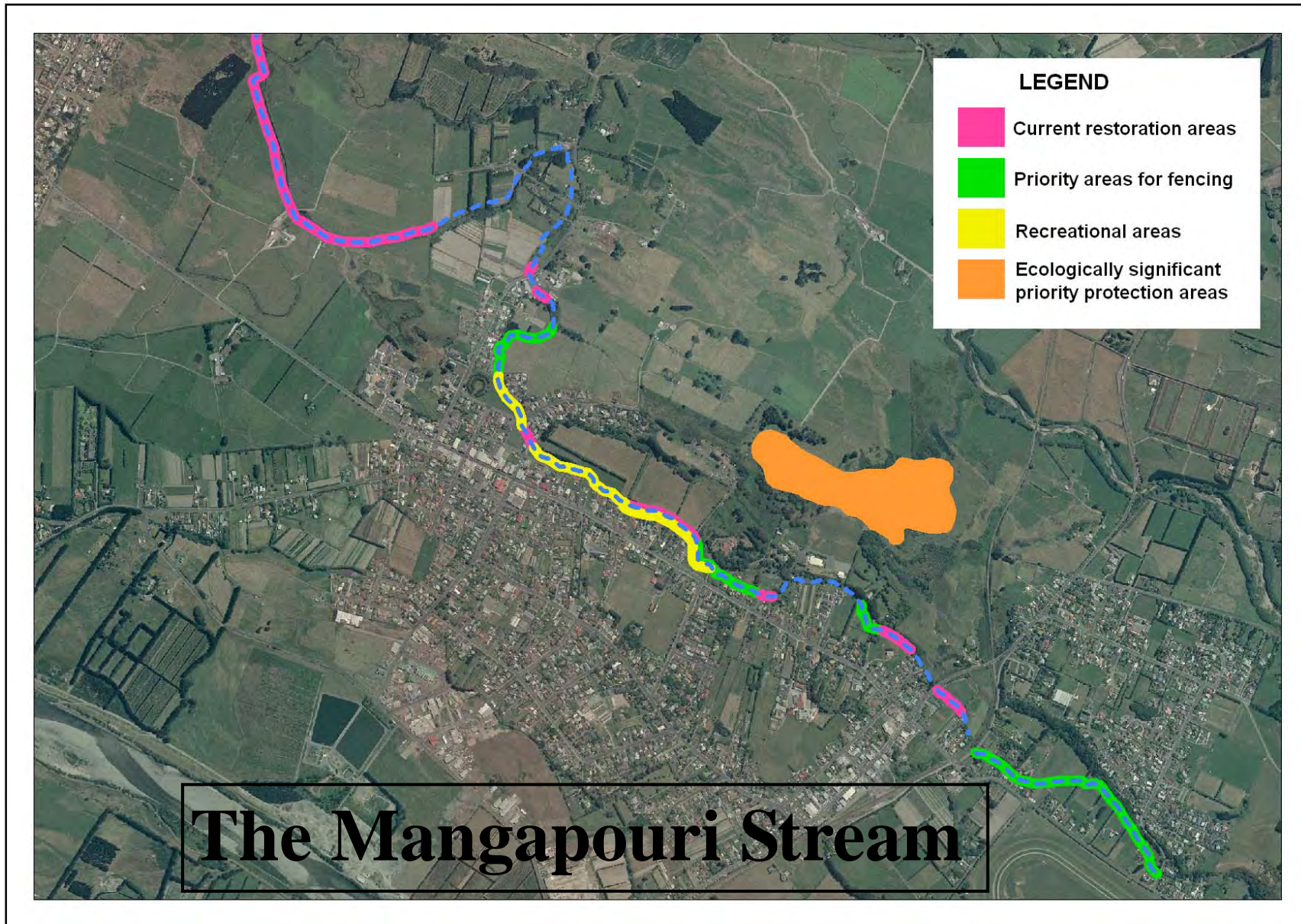


- **More community education:** A community based education programme focusing on improving the health of the Mangapouri was advocated for as a means of involving local schools, residents and farmers. This suggestion came from many community members who were enthusiastic and willing to participate where practicable.
- **Investigate Stream flows & sediment:** People were aware of the “very high levels of weed growth in the middle and lower sections” which they believed indicated low Stream flow. As a result community members were supportive of an investigation into Stream flows and the increase in sediment build-up. Low flows and sediment are both indicators of poor Stream health.

Vision Statements for the Mangapouri Stream

- The presence of eels and native trout improves – greater efforts to provide habitat for these fish and other species that may be absent due to high pollution levels (e.g. piharau/lamprey).
- “Do not allow lowering of the Mangapouri Streambed - it will find its own level if the culverts are corrected.” Lowering the Stream bed would further hinder the Streams ability to heal. Lowering the Stream bed also poses problems for the habitat and safety issues for recreational users.
- Stop animal access to the Stream. There was a strong message given by many who had witnessed stock, both horses and cattle, entering the Mangapouri Stream near Freemans Road and Anzac Road. These areas were identified as not being managed appropriately. Therefore, people felt that advice, education and support was needed for land owners/users to reduce animal impacts on the Stream.
- Water-cress is safe to eat.
- The Stream is safe for our children to swim in.
- The koura are numerous and large.





LAKE WAIORONGOMAI

Lake and Stream Significance

Lake Waiorongomai is located approximately 4km north of the Ōtaki township and is a small dune Lake with an outlet to the Tasman Sea. Access to the Lake is via private land at the end of Waiorongomai Road. The Lake and the Stream are privately owned, and administered by the Lake Waiorongomai Trustees. The Lake is Māori owned and is still considered a taonga (treasure) by the hapū who hold mana whenua over the greater Ōtaki area.

Lake and Stream Pressures

The Lake has a number of pressures that compromises its ecological integrity. The first is the absence of a fence, which enables unrestricted access for stock into the Lake for drinking. Because of the lack of adequate fencing cattle are also able to graze on the giant reeds that grow up to 20 metres into the interior of the Lake. The second is the reduced size and level of the Lake. To the north of Waiorongomai there is a boggy area known as Lake Kahuwera. At the southern end of the Lake there is a small tributary that drains the area known as Huruhuru-o-Taikawa. The Huruhuru-o-Taikawa Wetland area was renowned for the harakeke (flax) fibre grown there, which was said to be as soft as hair. Both of these waterbodies have been drained and no longer contribute to the size and level of Lake Waiorongomai. Due to this reduced surface water the Stream only flows periodically, which has resulted in the sand at the coast accumulating and blocking the Streams connection with the sea.

The Lakes former connection with the sea ensured that fish species could migrate from the Lake to the sea and vice versa – completing their lifecycle. Presently the Stream is blocked by sand at the coast and valuable species such as inanga, bullies, and kōkopu are unable to readily migrate in and out of the Lake. This situation reduces the quantity and diversity of fish species. Without the valu-



Community Values

The greater Ōtaki community identified *four key values* regarding Lake Waiorongomai:

- **Valuing birdlife:** People agreed that Lake Waiorongomai “is a great place for birdlife and for native fish breeding – it is valued immensely by the wider community of Ōtaki.”
- **A historical Lake:** The community valued Waiorongomai as “a historical Lake [that] was a natural Wetland.”
- **Restore the natural environment:** Because of its significance ecologically and historically, people are enthusiastic about replanting around the Lake edge with harakeke and native trees, while also restricting cattle access.
- **A spiritual place:** The water of Lake Waiorongomai has been identified as holding spiritual significance.

Further values regarding Lake Waiorongomai included:

- Historically, Lake Waiorongomai was the food source of the iwi ART (Te Ati Awa, Ngāti Raukawa, Ngāti Toarangatira) confederation.
- Interest in the findings and impact of a National Institute of Water and Atmospheric research (NIWA) report on Lakes Waiorongomai and Waitawa.
- A place for camping and experiencing nature.
- A place where numerous shortfin eel could be caught on the tuna heke or *eel migration*. The migrational eel from Lake Waiorongomai is considered to be the perfect eating eel and possessed excellent live storage qualities.
- People valued the Lake as a place for game shooting which is becoming increasingly restricted throughout the District.



Indicators of Health

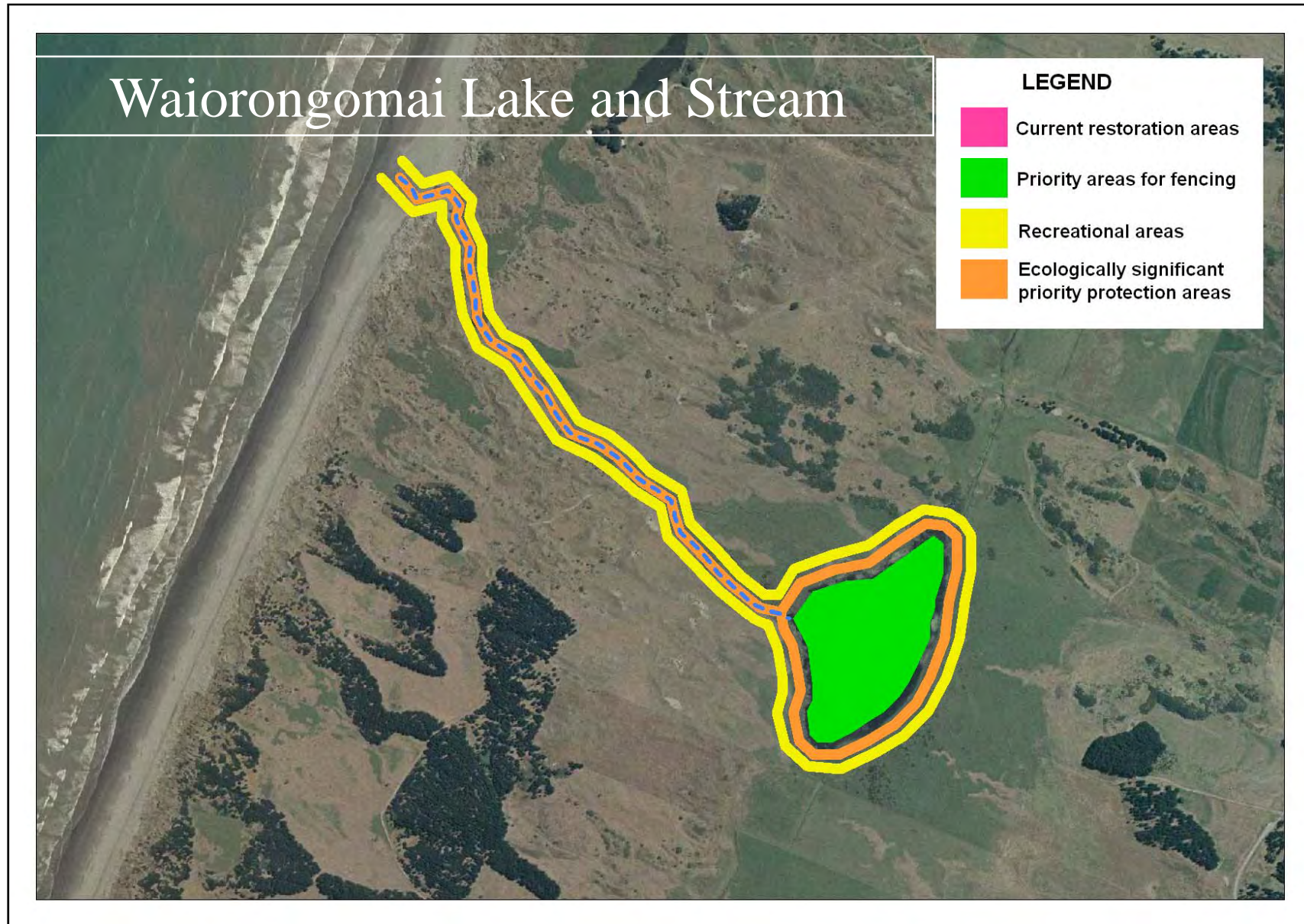
The greater Ōtaki community identified *five key indicators of health* regarding Lake Waiorongomai:

- **Restoring margins and excluding stock:** People supported the “planting of native plants along Lake edge”, and the exclusion of stock from accessing the Lake through increased fencing. These steps would “create an authentic Wetland reserve for future generations.”
- **Use of Wetlands:** Utilising Wetland systems as a means of dealing with farm effluent, or non-point discharges, was supported as an alternative to discharges into the Lake.
- **The level of the Lake indicates the level of the groundwater:** A number of the Ōtaki community suggested that the Lake level is directly related to the groundwater level, or water table. If the Lake gets smaller, it not only indicates a dry summer but also excessive ground water abstraction.
- **A continuous flowing Stream from the Lake to the sea is a good health indicator:** People generally understood that, ‘a Stream that flows regularly to the sea indicates a good water table’, and suggests a healthy Lake ecosystem can occur.
- **Numerous tuna heke (migrational eel) of a size suitable for pawhara (preserving by drying):** Eel are the top predator in the Lake. If they are numerous, healthy, and emigrational, the Lake is in good health.

Lake Waiorongomai Vision Statements

- The Lake needs fencing to eliminate stock from entering and destroying unique habitat.
- A programme to monitor groundwater levels needs to be initiated to assess the relationship between the water table, the Lake level, and the flow of the Waiorongomai Stream.
- The margins of the Lake are replanted with native vegetation.
- A programme that monitors the numbers of migrational eel is developed by the hapū of Ōtaki and the Kapiti Coast District Council, and is implemented to evaluate the health of the Lake.





RANGIURU STREAM

Stream Significance

The Rangiuru Stream is similar to many of the small Streams on the Ōtaki River flood plain: it is Spring-fed, and used extensively as a drainage system for adjacent farmland and stormwater from the Ōtaki community. The Rangiuru has two distinct Springs that contribute to the flow of the Stream, and a large Wetland area. Both Springs and subsequent Streams are on Ōtaki and Porirua Trusts Board (OPTB) land, located between the Ōtaki township and the beach settlement. The first Stream emerges behind the Te Kura Kaupapa-ā-iwi o Whakatipuranga Rua Mano (Māori immersion school) on Tasman Road, and the tributary was known as the Maringi-a-wai Stream. The size and significance of this Spring was recognised by Adkin (1948) in his book *Horowhenua*, when he refers to the area as Te Puna, or the Spring. The second Spring is east of the OPTB milking shed on the northern side of Tasman Road.



The Springs have always produced clean, crisp water, and many of the elder community fondly recall stopping for a drink at the Springs as they walked to the beach, and then washing the salt from their bodies on their way home. The water in the Stream still appears clean, but seldom used because of its reduced size and the muddy Stream bed. The quality of recreational use in this Stream has changed dramatically over time.

As the Rangiuru Stream is fed by artesian Spring water it has a relatively stable flow, and does not flood aggressively like the Ōtaki River, Mangaone, and Waitohu Streams. The clean and stable flow of the Rangiuru made it ideal for Māori customary use such as eel holding boxes, and kāngawai (fermented corn). These qualities coupled with its close proximity to the township made the Rangiuru Stream a popular place for Māori customary use.

Stream Pressures

Originating from the Springs, the Stream meanders through the OPTB farmland where the land use is intensive dairy farming. A good proportion of the Rangiuuru Stream is fenced on one side to inhibit stock from entering the Stream, but the other is unfenced to allow flood protection access for annual dredging. Once the Stream leaves the OPTB land it flows through a small section of private land and then under the Rangiuuru Road bridge. This bridge is a favorite spot for children and adults to feed the ducks and swans, and for kids to experience eeling for the first time.

Below the bridge there is a small amount of dry stock farming, but this is generally limited to a few lifestyle blocks with low stocking rates. There are also substantial residential areas that use the Stream for the discharge of their stormwater. This has become an issue for some residents in the Kapiti Lane area as pampas grass has recently blocked the stormwater outlet, increasing the flood risk in the area.

Below the Kapiti Lane area the Rangiuuru meets the Ngātoko Stream before passing through the dual floodgates to the Ōtaki River, and to the sea. Adjacent to the Rangiuuru Stream, by the floodgates, there is a large contaminated site. The area was used as the local dump until the early 1980s, and it has since been capped with soil. Some members of the Ōtaki community are very concerned about the impact and long-term effects that leachate from this area may have on the Rangiuuru and Ngātoko Streams.



Community Values

The greater Ōtaki community identified *seven key values* regarding the Rangiuuru Spring and Stream:

- **Control of stormwater:** There is support for the stormwater off Tasman Rd to be filtered/treated or redirected before entering the Rangiuuru Spring and Stream. The community mentioned that the riparian margin in the Kapiti Lane area has a suitable amount of land for this to occur.
- **Reduce impacts of farming:** People backed Councils to take steps to “eliminate/reduce impacts of farming/agricultural activity on nearby Streams (Rangiuuru).”

- **Rangiuru Stream mouth:** Developing a management plan regarding the Stream mouth was supported as a means of controlling “vehicles using the Stream mouth area.” This would include a defined loop road that would support recreational access, but would limit the ‘hoon’ areas currently available.
- **Ecological values:** People recognise the clean Spring water from the Rangiuru as significant in its life supporting capacity. People identified shags, ducks, swans, inanga, kōkopu, koura, kingfisher, and eel as the most significant species in the Rangiuru Stream. The lower estuary was of particular importance.
- **Recreational values:** Below the Rangiuru floodgates there is a highly significant recreational area. This is a favourite spot for whitebaiting, camping, and walking. It is especially important for many of the elderly whitebaiters and people who have mobility issues, as the well-formed tracks allow vehicle access. This area is also well sheltered with flax and small (noxious) trees.
- **Flood protection:** It is important that the flood banks, flood gates, and Stream channel is maintained to ensure that the flood risk and damage to community assets is minimised.
- **Clean flowing Springs:** People value that the clean Spring water that emerges from the ground. Some community members mentioned the important role these Springs may play in the event of a natural disaster by providing drinking water, and a place to store food. The historical values are also important.



Indicators of Stream Health

The greater Ōtaki community identified *four key indicators of health* regarding the Rangiuru Spring and Stream:

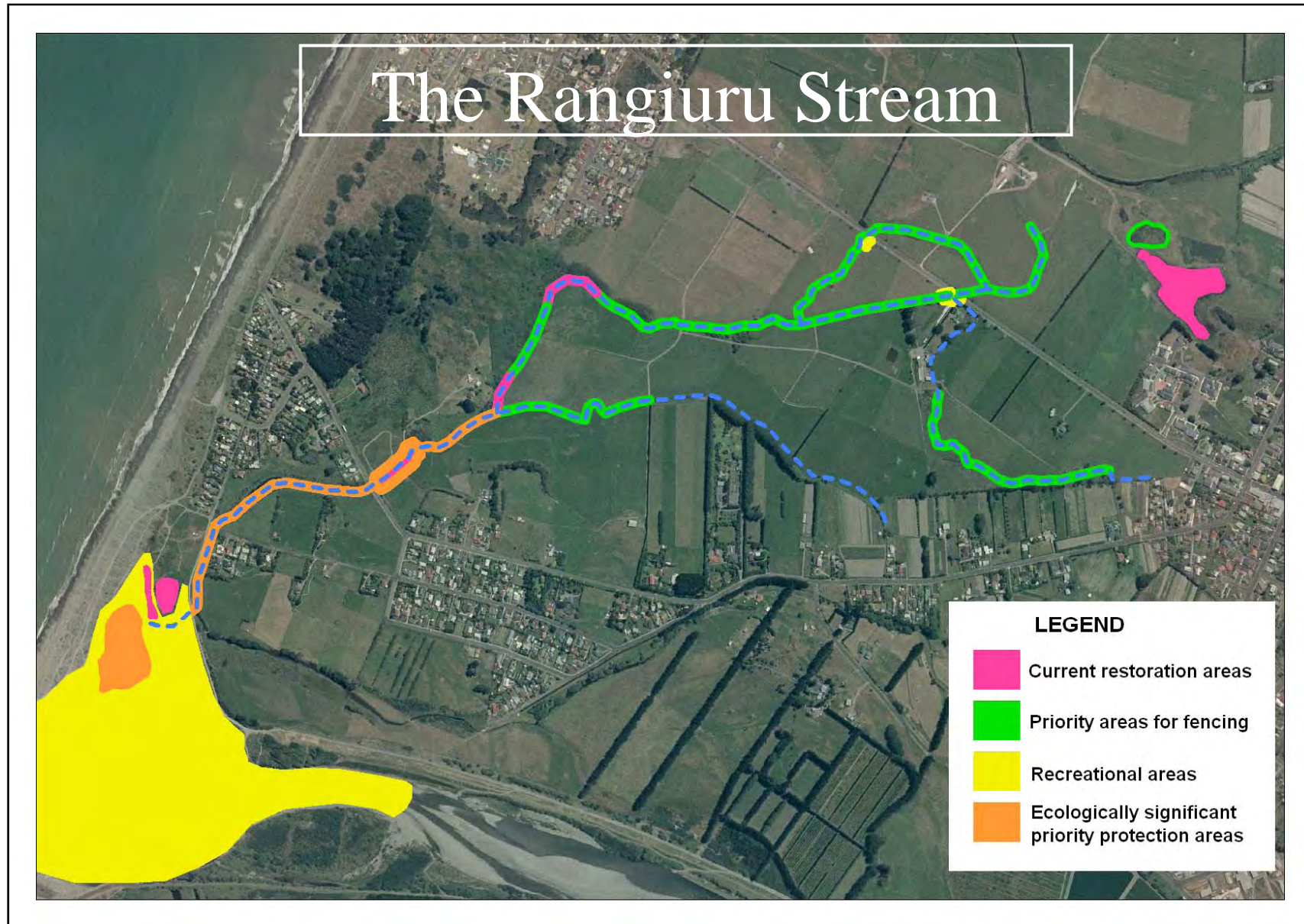
- **Appropriate cleaning of the Spring and Stream:** The community is supportive of Greater Wellington Regional Council/contractors cleaning out the Stream, however they believe that the deposits need to be “disposed of properly not just dumped on the banks” as it has a negative odour.
- **Controlling cattle:** People believe that stock walking in the junction of the Ngātoko and the Rangiuru Stream should be stopped. Fencing of the Stream on the farms should also be encouraged.
- **Abundance of wildlife:** Many people identified the abundance and diversity of Stream fish species as well as bird life as an indicator of Stream health. In particular, eels, whitebait, and native birds were of primary importance. People noted the problems that flood gates present for fish migration and recommend opening the gates at key seasonal times (early August and late November).
- **Prolific weed growth:** Many community members identified the proliferation of aquatic weeds as an indicator of poor Stream health. The parrot feather and cow cress in the upper three-quarters of the Stream, and the green algae in the lower quarter, were noted as particular problems.



Rangiuru Stream Vision Statements

- The Spring emergent areas are appropriately fenced and planted to ensure a clean source of water that is once again suitable for drinking and bathing.
- The entire length of the Stream is fenced on both sides, with one side complete with restoration planting and the other planted with flaxes and sedges to allow manual Stream clearing.
- The Stream is once again suitable for the storage of food such as live eel and the steeping of corn and karaka berries.
- That fish have a clear migration path from the Spring to the sea.
- The contaminated ‘dump’ site receives treatment to minimise its impact on the ecological integrity of the Stream.





PARU-Ā-UKU WETLAND

Wetland Significance

The Paru-ā-uku Wetland is located at the bottom of Pukehou Hill and drains west under the main railway line. Once under the railway line the water flows into the O-te-pua Swamp before entering the Ngā Tōtara Stream, where it travels a short distance and then merges with the Waitohu Stream. From the Waitohu the water flows unimpeded to the sea. The Wetland has two distinct sources of water recharging the Lake. The first is Spring water that flows from a drain on the south-eastern side; the second is the surface water runoff from the small eastern catchment.

As the Stream flows under the highway it enters one of the most remarkable sites of restoration in the country. Between the highway and the railway line the land has recently been protected with a QEII covenant. In the last five years the parcel of land has been transformed from a boggy paddock, with a few cattle pushing through mud, to an expansive Lake with a scattering of sanctuary islands, ephemeral ponds surrounded by lush

sedges, flax, and emerging native trees. The local landowners have constructed a bird watching platform that overlooks the Lake. From this site a growing number of weiwia (dabchick), swans, ducks, herons, pukeko, and geese can be observed. The Wetland restoration occurring at the Paru-ā-uku Lake is a living example of how rapidly the environment can be changed for the better if there is the determination to make it happen.

Wetland Pressures

The catchment has some grazing pressures on the eastern side of State Highway 1 and due to the undulating nature of the land the rain-washes quickly off the hills. The channel on this side of the highway has low banks and is not fenced; therefore, it is often muddy and well trodden in the winter months by horses and dry stock that run in the paddocks. This results in large amounts of silt being washed downstream and into the Lake during rainfall events. The drain flows under state highway one and into a well-formed, deep channel. The exit point of the Lake flows through a perched culvet which presents a barrier for fish species immigrating into the Lake.



Community Values

The community identified *three key values* for the Paru-ā-uku Wetland:

- **An iconic fishery:** The Lake supports a recovering eel fishery, and people would like to see it protected to ensure that it would contribute to the conservation of this iconic fishery.
- **An ecological case study:** The Wetland is an excellent venue not only for observing the native birds, but also as a case study of ecology restoration and education. For example, the Lake is an important area for the local weiwēia population, a native bird that has not been well researched.
- **Water purification:** People value the level of cleaning the Lake is performing on the water flowing through this Wetland.



Indicators of Health

The community identified *four key indicators* of Paru-ā-uku Wetland health:

- Seasonal variances in the level of the Lake should not be excessive and will be marked by the growth of *Carex secta*.
- Growing population of breeding and resident birds.
- The diversity of bird species frequenting the Lake continues to increase.
- The Lake supports a healthy eel population with good growth rates.

Paru-ā-uku Wetland Vision Statements

In maintaining and enhancing the suitability of the Paru-ā-uku Wetland for recreational and ecological use, a number of *Vision Statements* have been created to guide its management:

- The Lake and its margins are an ecological sanctuary to assist in the maintenance of wildlife and plants.
- The Lake is free from all aquatic and terrestrial noxious weeds.
- The Lake has a freshwater migratory pathway that enables access for all aquatic species.
- The Wetland can be used as an educational tool to enhance the knowledge of Wetland wildlife.



WAITAWA (FOREST LAKES)

Lake Significance

This Lake has a number of recreational, public and private users. These include the Forest Lakes Christian Camp, The Woolshed, which provides team building workshops, a water skiing lodge, and a Waka Ama (out rigger canoe) club. There are also a number of private land-owners who use the Lake as they desire, these owners also have their own launching areas.

There is little Māori history regarding Lake Waitawa. Local iwi, Ngāti Raukawa, evokes very few events on this Lake, and most of those that are recalled have ended in tragedy. Ngāti Raukawa generally refrains from using this Lake.

Lake Pressures

Lake Waitawa (as opposed to Waitawa Lagoon) is the largest of three Lakes in the Forest Lakes area . It is almost 2kms in length at its longest stretch. Waitawa has a muddy bottom, which gives it a dirty appearance. The Lake itself spreads in various directions and has a series of ‘arms’ stretching eastward, northward and southward. In terms of the landscape, the Lake is located in a natural depression. Surrounding land users impact heavily on water quality, and the Lake receives runoff from surrounding dairy farms, which has led to high levels of nutrient that supports prolific weed growth. In recent years efforts to rid this Lake of devastating noxious weeds have been only partially successful, with momentary eradication resulting in a seasonal re-growth. Waitawa is surrounded with flax Swamps that act as natural filters for some of the agricultural runoff. In places, these flax Swamps have been dredged and excavated over time.

Lake Waitawa encompasses a large catchment and has a single outlet. The catchment is predominantly used for dairy farming with increasing lifestyle blocks becoming popular. Currently there is a ‘local moratorium’ on development of this Lake catchment. However, this local halt to development is not formally recognised within the Kapiti Coast District Plan, subsequently development of this area is predicted to increase over time.

There is one island in Lake Waitawa named Te Moutere. It is said that this island was man made. Te Moutere has been linked to the mainland with a bridge that covers a narrow causeway. This island has a number of large established trees on it.



Community Values

The greater Ōtaki community identified *two key values* regarding Lake Waitawa:

- **Recreational space:** People value Lake Waitawa for recreational reasons: “He pai kia mātou te hoe waka-ama me te mahi i ngā mahi hakinakina ki reira - we like to paddle our out-rigger canoes there, it’s a recreational place for us.” People were interested in raising “the awareness of these water bodies on the outskirts of town.” They supported having special sections in the local newspaper (the Ōtaki Mail) profiling the Lake and other waterbodies throughout the year.
- **Research findings:** Members of the community are interested in a National Institute of Water and Atmospheric research (NIWA) project on Lake Waitawa that measured water quality, and would like some follow up action on this report.

Indicators of Health

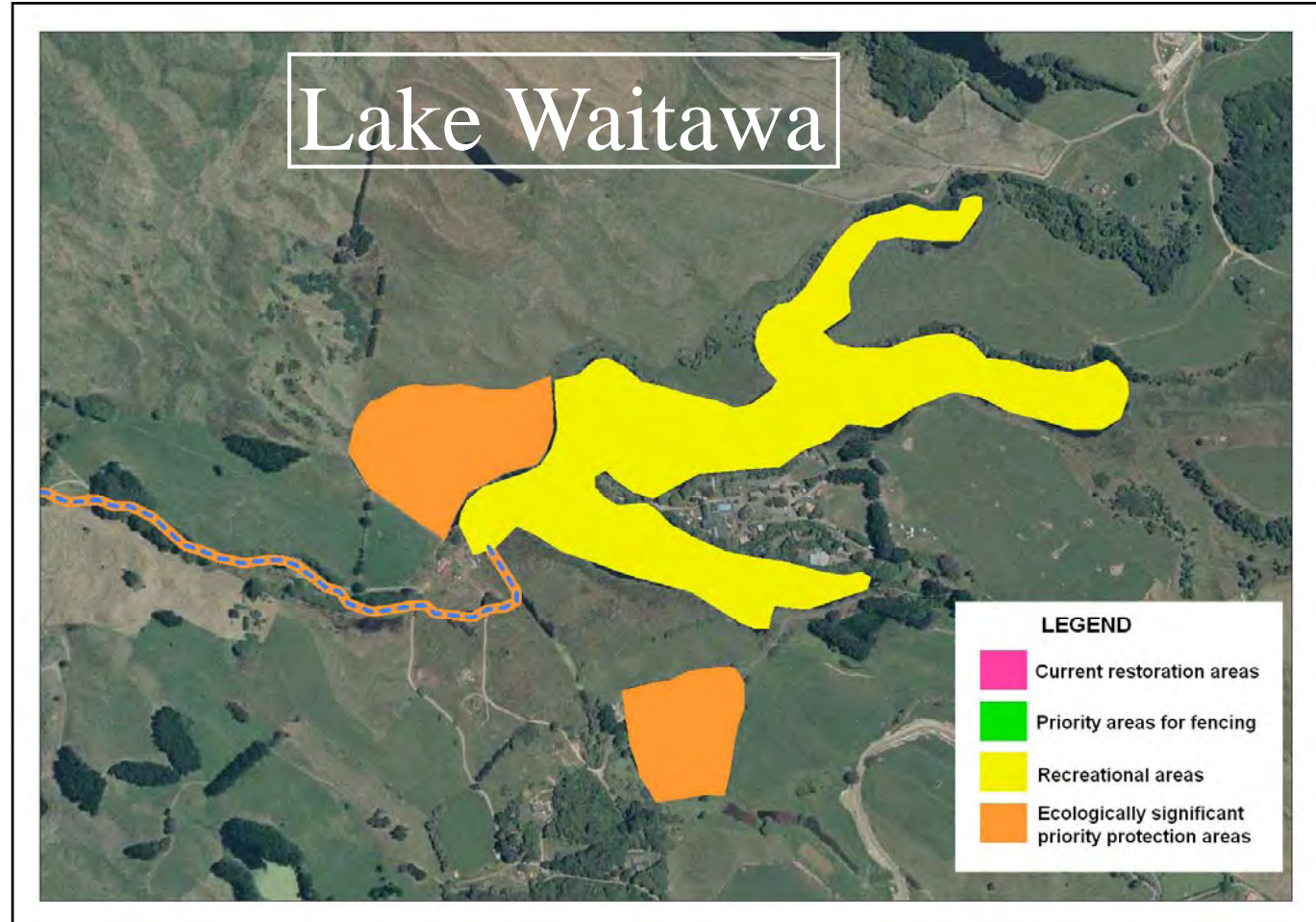
The greater Ōtaki community identified *two key indicators of health* regarding Lake Waitawa:

- **Plant more harakeke/flax:** People were supportive of planting more harakeke around the Lake edge, as they saw the health benefits of this activity.
- **Eliminate carp and exotic fish.**



Waitawa-Vision Statements

- The Lake is free of aquatic noxious weeds.
- There is good public access to the Lake and it is suitable for waka-ama, flat water boat racing, and powerboating events.
- A strategic management plan is operative with all Lake users involved in management decision making.
- Harakeke (flax), Tī Kouka (cabbage trees) and manuka is abundant and readily available for weaving and carving purposes.



NGĀ TŌTARA STREAM AND LAGOON

Stream and Lagoon Significance

The Ngā Tōtara Wetland system is a tributary of the Waitohu Stream and is located approximately 3.5km northeast of Ōtaki township. The Stream itself drains an extensive Wetland system that connects the Waitohu to Waitawa (Forest Lakes). The Wetlands that the

Stream drains include:

- The Wai-warō and O-te-pua Swamps
- Ngā Tōtara Lagoon
- Wai-mangunu Lagoon and Swamp
- Waitawa Lake and Wetlands.

The Ngā Tōtara Wetland supported a highly valuable eel fishery and once boasted the Pua-rere pā tuna (eel weirs). The extensive Wetland areas ensured that the Stream did not flash flood, which created favourable conditions for the construction of pā tuna (areas for catching migratory eel).

The Ngā Tōtara area was also a rich garden cultivation site, and had expansive areas of flax.



Stream and Lagoon Pressures

The Lake and access is currently privately owned which restricts the community use of this Wetland. The landuse surrounding the Lagoon is used for dairy farming, with a significant proportion of the Lagoon being unfenced. The Stream is connected to the Waitohu Stream via the Ngā Tōtara siphon which takes the flow under the bed of the Waitohu and then loops back into the Stream. The siphon was constructed by the Regional Catchment Board and was a great engineering achievement for the era in which it was created. Although the siphon does not stop the migration of eel up into the extensive Wetland areas, it does create a barrier for the movement of inanga into the Wetlands, thus reducing diversity and disturbing food chains.

The Wai-mangunu Lagoon and Wetland area upstream from the Ngā Tōtara Lagoon has recently been subject to subdivision via Taylor's Road. The development has included the dredging of the Wetland and Lagoon to create an extensive amount of open water to be used for a water ski lane. Restoration of the riparian margin has been included in the development.

Community Values

The community identified *three key values* for the Ngā Tōtara Stream and Lake:

- **An abundance of tuna and harakeke:** There are excellent eels in the Wetlands that continue to grace the tables of the local people, especially local hapū and marae. There is also a substantial flax resource in the adjacent Swamp areas.
- **Lake and sea connection:** The Stream maintains an important connection between the Districts inland Lakes and the sea.
- **Food cultivation and storage:** The Ngā Tōtara area was a valued site for the cultivation and storage of potatoes and kumara. The dunes provided sites for Rua (underground storage pits) and the rich lowlands provided sites for Māra (cultivation gardens).

Indicators of Health

The community identified *three key indicators* of Ngā Tōtara Stream and Lake health:

- **Quality tuna:** That healthy eels are consistently available from the Lake.
- **Free from weeds:** The Lake and Stream is free from excessive weed growth.
- **Safe access:** Ensure that the presence of fine or sinking sediment on the Lakebed is not too deep to compromise safety when entering.



Ngā Tōtara Stream and Lagoon Vision Statements

- That the Lake and Stream is subject to a restoration programme, which enhances the health and abundance of the native fish.
- The area is identified as locally significant and protected from further housing development.
- The connection between the Ngā Tōtara Lagoon and the Wai-mangunu ski lane is restored to enable emigrational access.

NGĀTOKO STREAM (Wai-ariki Creek)

Stream Significance

The Ngātoko Stream (also known as Wai-ariki Creek) is similar to other Streams in the Greater Ōtaki area; its source derives from an artesian Spring. The Spring itself is located slightly north of the Ōtaki River, just west behind the Temuera Street subdivision. At its emergent point there has recently been some restoration planting. The Spring sustains a substantial flow and the water is crystal clear. There are nice patches of watercress on either side of the Stream between the Spring and the properties on Rangiuuru Road. From the houses on Rangiuuru Road, the Stream flows through a culvert on River Bank Road, and then follows Old Coach Road before swinging north-west and connecting with the Rangiuuru Stream. At this point it goes out to sea via the Ōtaki River.

Stream Pressures

The Ngātoko Stream is located within a low intensity grazing area so is not subject to extensive impacts. The greatest pressure on the Ngātoko would be ground water abstraction and a lowering of the water-table. Other less threatening pressures include stock grazing the Stream banks of the lower sections.





Community Values

The Greater Ōtaki community identified *four key values* regarding the Ngātoko Stream:

- **It is a Stream with high resource value:** People highlighted the fact that the Spring water grew “beautiful watercress that pops like a bag of Bluebird chippies when you pick it.” It is also a Stream used extensively for eel boxes, the steeping of food, and historically as a place to harvest harakeke (flax).
- **A recreational playground:** Due to the Streams close proximity to town and surrounding subdivisions; people commented that the Ngātoko is often frequented by children who play and fish in the Stream.
- **Abundance of fish life:** The middle and upper portion of the Ngātoko is renown within the Ōtaki community for its koura (freshwater crayfish). There is also a small eel fishery in the Stream. People are also aware that the lower section of the Ngātoko supports a healthy giant kōkopu population and some trout: “there are a few nice trout lingering amongst the reeds and under the mac-rocarpa trees.”
- **Whitebait spawning and bird feeding area:** The lower section contains a significant area that is suitable for whitebait spawning. The concentration of adult whitebait also attracts predatory birds such as shags, gulls, and kotare (kingfisher), which feed on the fish. People particularly valued this area because of the varied bird and fish life it attracts.



Health Indicators

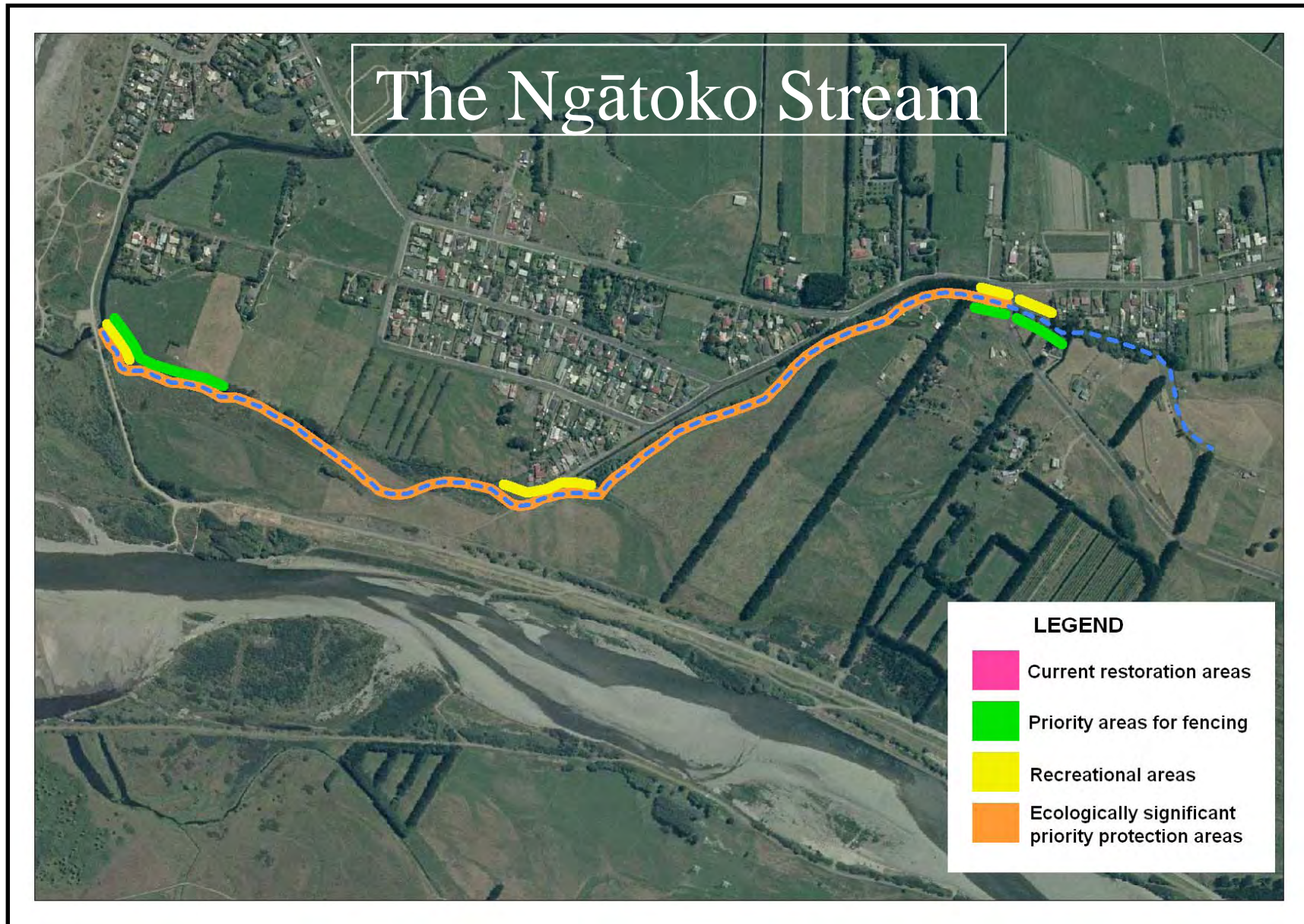
The community identified *three key indicators* of health for the Ngātoko Stream:

- **Maintain food source:** That the watercress stays clean and fresh and is not compromised by other Stream weed.
- **Supporting eco-systems:** The Stream should continue to support a good population of koura, as they are sensitive to chemical pollutants. Also the fish and bird life in the lower Ngātoko should continue to be healthy and abundant.
- **Healthy River flow:** The Spring continues to flow and is not compromised by groundwater abstraction in the Ōtaki plains area.

Ngātoko Stream Vision Statements

- The lower section of the Ngātoko Stream is protected from stock, and Wetland areas are not subject to further drainage. Some members of the community would like to see the creation of an educational area where people can observe native fish and bird life.
- The community would like to have a migrational pathway for all fish species, from the Spring to the sea that does not pose physical barriers impeding fish lifecycles (creation of an effective fish pass).
- The Stream has good riparian vegetation with plentiful amounts of clean healthy watercress.
- The flow and water quality from the Spring is monitored as an indicator of groundwater health.





WAIMANU STREAM AND LAGOON

Stream and Lagoon Significance

East of the Ōtaki Māori Race Course on the northern side of Rāhui Road is the healthy and vibrant Waimanu Stream and Lagoon. This waterbody has been flowing as a clean source of natural water for centuries and has created a very diverse habitat on its banks. The Spring water forms a Stream and is cared for by the native bush that shelters it while it makes its way towards the Ōtaki River. The Stream crosses under Rāhui Road, after this point the Stream brakes into agricultural land, where it subsequently loses water quality and vibrance. The Waimanu generally flows toward the south before it runs parallel with the Ōtaki River and into a recently restored Lagoon adjacent to a low-lying stop bank. This Lagoon was created approximately 10 years ago by flood protection works. This area has been replanted with both natives and exotic species in order to enhance its aesthetic value, but also to restore the habitat adjoining the Ōtaki River. The plantings also contribute significantly to the flood protection efforts and offer a buffer area which protects the integrity of the stopbank from flood events in the Ōtaki River.

The Waimanu Stream has a rich history, particularly regarding local stories of the abundance of tuna and their reliance on diverse species. The location of the Ōtaki Māori Race Course and the Accommodation House near the Waimanu meant that there was a reliance on this Stream to provide food for visitors and locals alike.

Stream Pressures

Water quality in the Waimanu varies. Near its source, both water quality and biological diversity is high. As it flows south toward the Ōtaki River it is impacted upon by intensive dairy farming, which degrades water quality and biodiversity. Siltation is evident in the Waimanu Stream's lower section and subsequently the abundance of macro-invertebrate populations have dwindled.



The location of the Waimanu and current practices by the Greater Wellington Regional Council Flood Protection Unit to restrict the general public to driving through to the Waimanu Lagoon resulted in less frequent visits to these places by Ōtaki residents. This Lagoon however has a tranquil ambiance, which may attract more visitors as Ōtaki township grows. Overtime it is highly likely that this Lagoon and Stream will become more popular with locals and visitors.

The Waimanu Lagoon and Stream are within walking distance from the current Winstone Lake excavation site. While this water resource did not receive direct comment from community members throughout the consultation process, it is important to recognise that these water bodies will make a great area for future recreation and restoration. There is plenty of promise and scope for this locale.

Community Values

The greater Ōtaki community identified *five key values* for the Waimanu Stream and Lagoon:

- The Lagoon and plantings offer additional protection for the stop bank which protects the community from flooding.
- The Stream produces lovely fresh watercress.
- Eels are present in the Lagoon, and large eels in the Stream.
- The area setting to relax and undertake restoration planting.
- People value the Lagoon area for hunting rabbits and shooting game birds.

Indicators of Stream Health

The community identified *one indicator of Stream health* for the Waimanu:

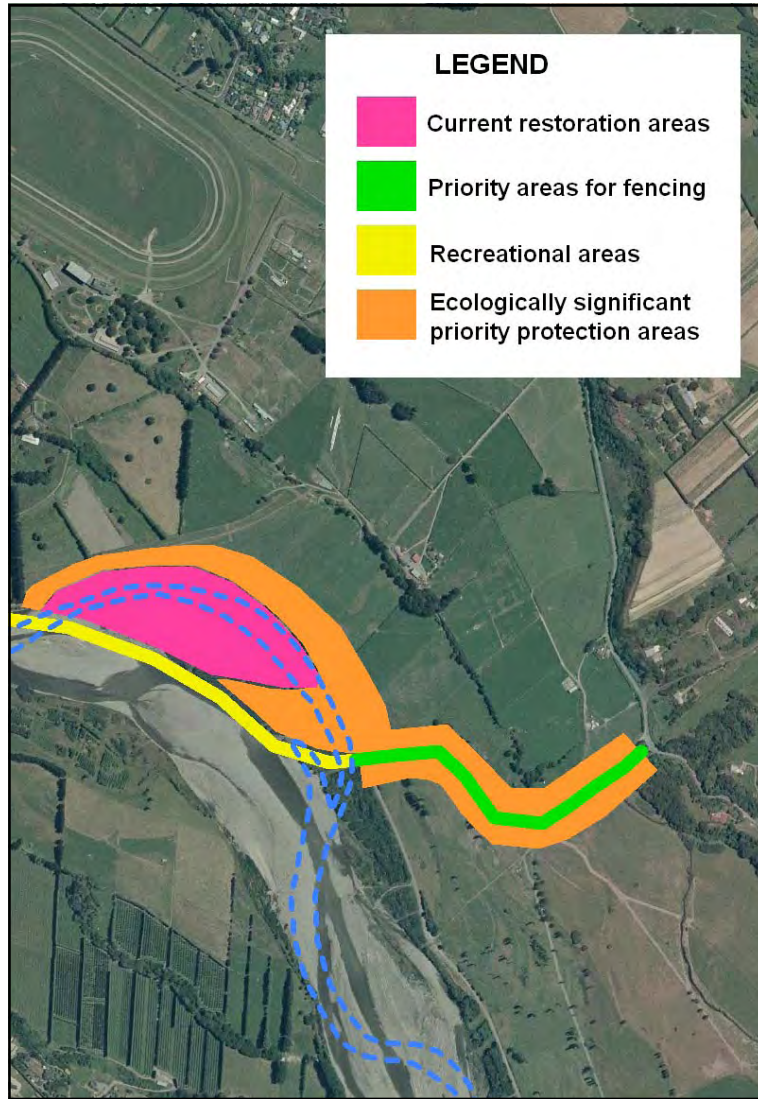
- The giant kōkopu found below the Lagoon continue to inhabit the area and become more prolific.

Waimanu Vision Statements

- Good populations of trout and eel are found in the Stream and Lagoon and are able to regenerate.
- The watercress is clean and safe for eating and not subjected to sprays.



Waimanu Stream and Lagoon



4. Freshwater Vision – Future Directions

Combining community consultation and local knowledge of each water way, a number of practical steps can be put forward that will enable this document to become a reality. Returning to common community themes regarding the water resources in greater Ōtaki, the following generic visions were articulated:

Involving young people: Getting kids involved and promoting the concept of responsibility for the environment.

Enhancing the River, protecting against pipelines: “The Ōtaki River and its catchment should be protected from any pipelines.” There was concern that moves to take water from the Ōtaki River would be detrimental to the Ōtaki community and residents while also having a negative effect on the health of the River.

Iwi Management Plan: Implement the Iwi Management Plan and allow local hapū in the management of the catchments.

Rivers holistic value: “Rivers and Streams are the connection/link between the whenua (land) and moana (sea). Through these [Rivers and Streams], life is transient and forever growing. They must be clean to be viable for the ongoing process of food provision, distribution of life, and to be drinkable.”

Restoring riparian margins & assisting farmers: People value the importance and role of restoring riparian margins on Rivers in order to enhance and increase water quality. There is community will for Council to support the efforts of farmers “to improve waterways and protect them from deterioration.”

Greater community cooperation: The various active groups are motivated to work towards this vision in a cooperative and representative way, so that the community at-large can understand the issues and be actively involved.

Supporting Stream-care groups: People are enthusiastic about Councils supporting and assisting “Stream-care groups to avoid erosion of sand dunes, to plant native trees, create Wetland and enhancement programmes for the native fish habitat.” The community value the role Stream-care groups play in enhancing the health of the Rivers and Streams.

Raising awareness & combining community resources: Raising awareness of people’s actions and how it affects the health of the waterways. Combining volunteer input, education (from pre-school onwards) and enforced rules e.g. fencing Riverbanks, no rubbish into waterways to eliminate toxins, planting of native trees to revegetate water bodies.



Implementing the vision...

These themes are consistent amongst all the freshwater profiles, and have also been identified in previous research and community consultation. Therefore, what is needed and envisioned by the community is clear, and there is significant community energy to work towards supporting healthy and sustainable waterways in the Greater Ōtaki area. What is now needed are further practical actions that can be taken on behalf of the Kapiti Coast District Council and the Greater Wellington Regional Council and the wider community to promote this vision. These actions include:

- **Provide community co-ordination:** Create a funded position based at the Kapiti Coast District Council Ōtaki Service Centre. The primary role of this position would be to assist in coordinating community care-groups, local bodies and the wider community (local schools and parents, Te Wānanga-o-Raukawa) to enhance local waterways. This person could actively work with the above groups to promote community ownership of, and connection to the local fresh water resources. Creating this position would strengthen the liaison capacity between the District Council and the Ōtaki community.
- **Annual funding opportunities:** Promote and provide annual grants for farmers and/or community groups that extend existing restoration work, or is attentive to priority restoration work identified in the catchment maps provided.
- **Rates relief and fencing subsidy:** Develop a rates relief and fencing subsidy programme for landowners and rate payers who fence off areas adjacent to water ways. This would encourage landowners to fence their land and protect freshwater resources.
- **Investigate stormwater discharges into waterways:** Consider how to improve the quality of the stormwater. For example, installing filters and traps for green foliage would improve stormwater discharges. Alternatively, developing ponding or holding areas would reduce peak Stream/River flows in high intensity rain fall events.
- **Incorporate tangata whenua environmental values:** Within District Council freshwater monitoring, hapū and iwi environmental values must also be acknowledged and incorporated into Council practice. For example, key iwi management indicators such as kereru, inanga and toheroa could be utilised. The creation of a paid position to undertake this role would offer opportunities to enhance relationships between tangata whenua and the Council.
- **Native seeds/plants to be provided for community:** Council could create seed banks and or nurseries accessible to the community. These seed banks/nurseries would encourage the use and planting of natives plants, while also assisting in restoration and maintaining ecological diversity in the district/region.



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Appendix A:

KCDC District Plan and Policies and Anticipated Environmental Outcomes for Water Resources

The Kapiti Coast District Council Plan (1999)

The purpose of the Kapiti Coast District Council Plan (KCDCP) (1999) is to “assist Council to carry out its functions in order to achieve the purposes of the Resource Management Act” (p. 7). In light of its requirements under the Resource Management Act (1991), the plan is a means by “which Council seeks to ensure the sustainable management of the natural and physical resources of the district” (p. 7). Specifically regarding the sustainable management of water resources, policies and anticipated environmental outcomes are used to guide the districts water use and preservation. These policies and anticipated environmental outcomes are particularly inclusive of:

- Residential zones;
- Rural zones;
- Commercial/retail zones;
- Tangata whenua;
- Subdivision and development;
- Coastal environment;
- Ecology;
- Natural hazards; and
- Hazardous substances.

Within each of the above areas, the KCDC Plan aims to provide for the protection and preservation of the districts water sources. In addition, specific policies have been developed to mitigate or minimise adverse effects on water quality and quantity as a result of district growth and development.

The development of the *Kapiti Coast District Coastal Strategy* (2006) is another key document that contributes to the sustainable management of the districts resources. The Coastal Strategy is particularly relevant because it acknowledges the interconnectedness of our coastal environment to the catchment freshwater resources:

The natural system at the coast edge is influenced by the Streams and stormwater systems that discharge onto it. Water quality in these systems can significantly affect the sustainability of the coastal species. (Draft Kapiti Coast District Coastal Management Strategy, 2006, p. 3)

Policies and Anticipated Environmental Outcomes for Water Resources

- Minimising hazards to human health and residential convenience of inadequate or inappropriate supply of water, disposal of effluent and stormwater (C1 – 2);
- The maintenance and enhancement of the district's water catchments (C2 – 7);
- Mitigating flood hazards to buildings (C3 – 2);
- Ensure that the effects of subdivision, land use and development activities do not alter the water table of Lakes and significant Wetlands to a significant extent (C6 – 5);
- Ensure that any adverse effects on water quality resulting from subdivision, land use and development activities are avoided, remedied or mitigated (C6 – 5);
- It is important to tangata whenua that the mauri of waterways is not damaged by activities, particularly by pollution and human sewage discharge to water (C6 – 5);
- Ensure there are in place stringent controls on land use activities, such as septic tanks, which can have an adverse effect on water quality (C6 – 5);
- It is important to have standards which maintain and where possible, enhance the mauri of the District's waterbodies (C6 – 5).
- Ensure that subdivision and resultant activities, land uses and development do not jeopardise the sustainability of water quantity and quality (Policy 9, C7 – 6);
- Ensure that density and maintenance of on-site sewage systems is such that human health is not jeopardised by contamination of soil, groundwater or recreational and shellfish gathering water (Policy 10, C7 – 6);
- Developments are appropriately designed to avoid adverse effects on watercourses and ecological and amenity values are enhanced (C7 – 17);
- Recognition and provision for the relationship of tangata whenua with ancestral lands, water, waahi tapu and other taonga in the coastal environment (C9 – 5);
- Ensure that land use activities do not adversely affect water quality (C11 – 2);
- Manage activities and development within natural hazard prone areas so as to avoid or mitigate the adverse effects of natural hazards (e.g. water flooding) (C15 – 6);
- The structures, procedures and contingency plans that may be required to prevent or minimise any adverse effects beyond the boundary of the site, and, in particular, the accidental discharge of any hazardous substances into water, whether directly, through land, or through a drainage system (Policy 4, C17 – 2).

Appendix B: Previous Consultation Findings and Research

While the LGA (2002), RMA (1991) and the KCDC Plan (1999) provide legislative and policy frameworks for sustainable management of the Districts water resources - research into the quality of water in greater Ōtaki area, and the concerns of community members is vital. Subsequently, three case studies of previous consultation findings and research into the freshwater resources of greater Ōtaki are provided here.

Greater Wellington Regional Council: Waitohu Stream Study

In 2005/2006 the Greater Wellington Regional Council (GWRC) consulted members of the Ōtaki community on the health and management of Waitohu Stream. This consultation project identified how the community is affected by the Stream, what people thought was important about the Stream, and their future vision for the Waitohu. Many of the themes and issues identified in this GWRC consultation process regarding the Waitohu re-emerged within the consultative process of this document.

How the Waitohu Stream affects people:

- Most people understand that the Waitohu Stream floods;
- People are more concerned about the smaller more frequent events, because of loss of income and damage to bank edges, fences, pasture, hay and out-buildings;
- People are less concerned about larger less frequent events;
- There is a community perception that Greater Wellington (GW) do not actively manage/maintain the Stream i.e. in the lower reaches of the Waitohu willow trees were starting to clog the Stream leading to erosion in flood events;
- Gravel build-up is a problem, causing the Stream to braid and erode and increasing the risk of flooding.

What people thought was important about the Waitohu:

- Good water quality;
- Concern about how bad the water quality is, particularly in the lower reaches of the Stream;
- In the lower reaches, white baiting, swimming, access and a healthy dune system were important to people;
- Planting of Stream banks in the upper reaches seem to have worked well.

What people would like to see happen to the Waitohu:

- A need for increased maintenance of the Stream, particularly dealing with overgrown willows and gravel build-up;
- A maintenance strategy should be created so that people could contribute to removing willows on their properties or Streamside planting;
- Obstructions in the Stream should be cleared regularly;
- Advice on how to clear drains and providing flood-proofing should be made available;
- Most people want land uses to remain the same or similar;
- People did not want stop-banks or other expensive flood controls;
- In light of the January 2005 flood, it was identified that Greater Wellington Regional Council and Kapiti Coast District Council needs to improve flood warning and support services during flood events.

The Ōtaki community also provided more *specific issues* regarding the Waitohu Stream, including:

- Inadequate length of bridges in the upper reaches;
- Stream bank erosion;
- Loss of dunes at the Stream mouth;
- Breeding habitat being negatively effected by GW Stream mouth cutting;
- Declining water quality;
- Greater access too and up and down the Stream;
- Emphasis on fencing planting natives trees/shrubs as an alternative to willows;
- Effective drainage was an issue;
- In the upper reaches of the Waitohu Stream people wanted to see increased gravel extraction, which would keep the Stream to one channel;
- Monitoring water quality of the Waitohu River above State Highway 1 was also important.

Kapiti Coast District Council: ‘Greater Ōtaki Project’ Consultation Information

As discussed previously, the *Greater Ōtaki Project* is a Kapiti Coast District Council initiative and aims to engage the greater Ōtaki community about issues of significance to them, including future developments to Ōtaki Township and/or amenities. As part of this project, key topics were discussed and put forward by the community regarding freshwater resources. These topics included the Ōtaki water supply, the proposed Ōtaki pipeline, River protection works, flood restrictions and community feelings regarding significant Ōtaki waterways.

Ōtaki Water Supply:

- Protect Ōtaki water supply;
- Ensure Ōtaki water will be available for Ōtaki's future development;
- Do not take water from the Ōtaki River;
- Up-grade Ōtaki water standards;
- Rainwater collection through the use of rainwater tanks should be encouraged, especially with new houses;
- Waikanae and Ōtaki Rivers could be developed as trout fishing Rivers in order to attract tourists.

Proposed Ōtaki Pipeline:

- Ōtaki River has plenty of water;
- Develop Ōtaki pipeline – 2 pipes from Ōtaki to treatment plan - one taking water the other returning;
- Increase reservoir storage in Ōtaki water supply system.

River Protection Works:

- Finish the Chrystall's Bend stop bank;
- Stop banks on Ōtaki River before Waitohu Stream work;
- Bring forward Ōtaki River protection works to enable Ōtaki to develop.

Flood Restrictions:

- Big issue for Ōtaki is the floodplain and fixing the problem.

Significant Ōtaki Waterways:

- **Waitohu Stream:**
 - KCDC should support and fund adequately the Stream and River care groups;
 - There needs to be more Stream planting and protection.
- **Ōtaki River:**
 - Preserve the natural state of the River Mouth;
 - Local government should buy Wetland paddock (part of dairy farm north of Riverbank) and add it to Lagoon development.

- **Mangapouri Stream:**
 - Clean up the Mangapouri Stream;
 - Cows graze the banks of the Mangapouri;
 - Not much use in planting banks because of regular flooding;
 - Reassess the culvert sizes and levels of the Stream.
- **Rangiuru Stream:**
 - It would be good to plant around the Rangiuru Stream floodgates – there is no problem with planting, we just need to know what plants to plant.
- **Mangaone Stream:**
 - Restore the Mangaone to improve water quality and encourage return of fish life – flounder, trout and freshwater crayfish. It’s a traditional whitebaiters spot.

Te Horo Beach Water Working Party

This group was formed as a result of community concerns regarding the quality of drinking and ground water quality in the Te Horo Beach area. The group aims to identify best practice and cost conscious options for water supply and sewage/waster water disposal. Another key objective of the group is to “work towards a community driven view on the directions the beach should follow in the short and longer term.” In an assessment of drinking water in Te Horo Beach, the group found:

- Out of 57 rain water tanks, 34 showed e-coli present and 8 showed total coliforms present;
- Out of 96 ground water (bores) that were tested, 9 showed e-coli present, while 22 showed total coliforms present;

The working party identified further issues regarding water quality in the Te Horo Beach area, including:

- Better management of roof-water tanks – make owners and residents more aware of what is required to maintain these tanks;
- Septic tank systems impact negatively on the quality of drinking water taken from bore and sand trap systems;
- There are issues related to nitrate levels in ground water—indication of leaching from fertiliser and farm wastes;
- Groundwater systems will come under more pressure as the number of permanent residents and visitors at the beach increases.

The working party suggested the following steps in managing water resources in the Te Horo Beach area:

- Regular pump-outs of septic tanks to ensure they work well and do not create problems for residents;
- Facilitate regular pump-outs of septic tanks at a reduced cost;
- Introduce a “warrant of fitness” system of septic tanks;

- Possibilities for “bulk buy” of products designed to assist with the good management of these systems;
- A regular two yearly monitoring programme, and review in three years;
- Work with Greater Wellington Regional Council and surrounding land-owners to try and reduce nitrates.

The working party believes that introducing these proposals can be developed via consultations between interested beach residents, the Kapiti Council District Council and the Greater Wellington Regional Council.