

Waiwhetu Stream Action Plan

**Waiwhetu Stream Working Group
March 2001**

PREFACE

In 1842 Charles Heaphy, a draughtsman who arrived with the New Zealand Company, noted that the forests of the Hutt Valley were "teeming with birds". Some of the species he listed were the tui, fly-catcher, wren, sand-lark, robin, bell-bird, thrush, riroriro, rail, pukeko, pigeon, kaka, huia, bittern and weka. He noted ...the Waiwhetu River had lofty pine trees (kahikatea) on its banks. The various bends were beautiful and secluded, and seemed to be the home of the grey duck and teal, and numerous other wild fowl. Here and there, on the bank, was a patch of cultivation, and the luxuriant growth of potatoes, taro, and kumara, indicating the richness of the soil. As seen from

the ship, or the hills, a lofty pine wood appeared to occupy the whole breadth and length of the Hutt Valley...(this) wood commenced about a mile from the sea, the intervening space being a sandy flat and a flax marsh.

(There were an) enormous number of water-fowl frequenting the shallows at the mouth of the river. Cormorants, ducks, teal, oyster-catchers, plovers, sandpipers, curlew and red-legged waders, were there in pairs, detachments, and masses, and so tame that it was slaughtered, rather than sport, to shoot them. (Bayley 1988)

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1. INTRODUCTION

This document contains a community vision for the Waiwhetu Stream corridor. It has been prepared by the Waiwhetu Stream Working Group (WSWG), in association with the local community and other interested parties, in response to the need for a blueprint for the rehabilitation of this important stream.

The vision is supported by this Action Plan, a set of actions which the Working Group believes must be taken to realise the community's vision. The period covered by the vision and Action Plan is twenty years.

It is intended that the recommendations will then be considered by the Hutt City and Wellington Regional Councils and actions suggested in the plan provided for in their Annual Plans. Other agencies, both statutory and

non-statutory, will also have a role in implementing the objectives of this plan.

The Waiwhetu Stream Working Group consists of representatives from:

- Te Runanga o Taranaki Whanui ki te Upoko o te Ika a Maui
- Wellington Tenth's Trust
- Local residents
- Industry
- Scientific and technical community
- Hutt City Council
- Wellington Regional Council

The Working group welcomes approaches from individuals or groups with ideas about improving the Waiwhetu Stream. Contact the Group through Tim

Porteous at the Wellington Regional Council (Tel. 04 384 5708).

2. THE WAIWHETU STREAM

The Waiwhetu Stream is a small slow flowing stream which arises in the Eastern Hutt Hills above the Hutt Valley. The stream flows from relatively uncontaminated headwaters east of Taita Cemetery, through the suburbs of Naenae, Epuni, Waterloo, Waiwhetu, Gracefield, and Seaview. The catchment is initially steep but after passing through Naenae via a concrete lined channel, the stream emerges onto the floor of the Hutt Valley with a much-reduced gradient. It eventually flows into the mouth of the Hutt River.

Appendix II contains extracts from the Executive Summary of the Baseline Environmental Survey undertaken as part of the preparation of a management plan for the stream.

Some of the characteristics of the stream are:

- Between Naenae and Seaview the stream is influenced by suburban activity. High faecal coliform levels are recorded in this part of the stream from uncertain sources. It is suspected that cross-connections between sewers and stormwater systems contribute to this problem along with occasional controlled sewer system releases to the stream. More work is required to definitively identify these sources.

- Downstream of Waiwhetu the stream has suffered long-standing heavy metal pollution as a result of over sixty years of intense industrial activity. This has left a legacy of heavy metals and other chemical pollutants in the sediments of the streambed. The extent of this problem is not fully understood nor have the options for addressing this problem been satisfactorily explored.

 - The majority of the catchment is urbanised and therefore contains a high degree of hard surfacing (roads, carparks, roofs etc). Throughout the length of the stream stormwater input contributes a significant level of contaminants.
 - The stream is significantly affected by rainfall and, because of the hard surfacing and channelling,
- responds quickly in terms of flow. The stream has a history of flooding.

 - Before the occupation of the area by Europeans in the mid 1800s, the stream was quite navigable. Uplift of 1-2 metres resulting from the 1855 earthquake and flood protection works on the Hutt River from the 1930s onward significantly reduced flows in the Waiwhetu Stream.
 - a severe infestation of Cape Pondweed (an aggressive waterweed) affects some reaches of the stream. Removal or control of this weed has proved difficult. Techniques used include chemical (diquat herbicide), hand removal and a longer-term approach of shading the weed out.

- The stream corridor is well used for passive recreational pursuits such as walking, jogging and dog walking. In many parts the landscape treatment of the corridor is utilitarian and unattractive. Potential exists to enhance the recreational and visual appeal of the corridor. The stream corridor is also a valuable wildlife corridor with potential for enhancement.
- The views expressed at the hui held at the Waiwhetu marae in March 2000 to discuss management of the stream.
- Residents and local businesses have undertaken projects to enhance the banks of the Stream
- The commitment made by the Hutt City and Wellington Regional Councils to support and resource appropriate community initiatives and other programmes to address the problems.
- Local schools use the stream for educational purposes.

The community has expressed a desire to address these issues as evidenced by:

- the lead taken for a number of years by the local tangata whenua.

3. OUR VISION

The Vision Statement we have drawn up is:

“Waiwhetu Stream will be clean, productive and teeming with life. The stream banks will be visually and ecologically diverse while providing excellent passive recreational opportunities.

The community will have a sense of pride in, and guardianship over, the stream”.

i. Community Objectives

- To involve the community in a discussion to produce a vision and Action Plan for the Waiwhetu Stream.
- To ensure that the rangitiratanga of Te Ati Awa is acknowledged and reflected in the Action Plan.
- To work closely with the Wellington Regional Council and the Hutt City Council in the formulation of the Action Plan
- To involve the community wherever possible and appropriate in implementing the Action Plan.

4. OUR OBJECTIVES

We have established objectives for the Action Plan grouped under five categories:

ii. Ecological Objectives

- To improve the quality of the water of the Waiwhetu Stream
- To eliminate controlled sewer discharges to the Stream
- To minimise and, if possible, eliminate the inflow of contaminants into the stream from point and non-point sources.
- To accurately assess the extent of heavy metal and other contamination of the stream and the streambed and decide what action should be taken to remove or minimise the detrimental effects on the stream and associated ecosystems.

- To improve the biological diversity of the stream and stream banks by establishing appropriate indigenous riparian vegetation.
- To investigate remedies for low summer flows in the stream

iii. Education Objectives

- To ensure that there is an understanding of the particular importance of the stream to the tangata whenua of Wellington and Hutt Valley.
- To ensure that the community at large have an understanding of the range of values associated with the Stream.

- To ensure that the potential of the Waiwhetu Stream to support and nurture biodiversity is conveyed in an appealing and exciting manner.
- To ensure that the actions that individuals can take to improve and maintain the quality of the stream environment are communicated.
- To ensure the community is adequately informed of any risks that the stream may pose to their health.
- To ensure that the industrial sector is made aware of its environmental obligations and effects of its past actions.

iv. **Stream Corridor Objectives**

- To work closely with Hutt City Council in terms of its open space strategy to identify opportunities for providing public access and recreational opportunities
- To identify opportunities for broad landscape enhancement.
- To identify opportunities for reinstating naturally occurring indigenous biodiversity and creating new areas.
- To identify the extent of esplanade reserves.
- To review the extent of encroachments onto the stream and stream corridor and commence a programme of reinstatement and rehabilitation.

- To provide for further flood mitigation measures as necessary.

v. Flood Management Objectives

- To recognise the importance of the waterway as an integral part of the stormwater drainage system for the eastern side of the Hutt Valley.
- To work closely with WRC Flood Protection Group to ensure that flood protection measures are integrated into other stream corridor proposals, and vice versa.
- To manage the growth of aquatic weeds in the stream in relation to their effect on flood levels.
- To manage the growth of aquatic weeds in the stream in relation to their effect on flood levels.

5. ISSUES AND ACTIONS

A number of **Issues** facing the Waiwhetu Stream have been identified, grouped under four themes, and possible

Actions that could be taken listed along with who might undertake these actions and when. The “lead agencies” in any actions are in bold.

Theme 1: Water Quality

	What are the Issues?	What are the Actions we could undertake to address the Issues?	What do we hope these actions will achieve?	Who may help?	Priority?
1.1	The water quality of the stream is poor and all the causes have not been identified.	Accurately determine the sources of contaminants entering the stream. Publicise the results to stimulate community debate.	Allow informed decisions on possible remedial actions	WRC HCC	High
1.2	The community has had no say in what level of water quality it desires for the stream	Assist the community to determine a suitable water quality goal for the stream. Seek a higher water classification	To attain the highest water quality possible	WRC HCC	Medium
1.3	The community is probably not aware of the remedial options available or the cost implications	Determine and cost possible remedial actions. Facilitate community discussion on these options. These actions might include: <ul style="list-style-type: none"> Eliminating the problem of stormwater entering the wastewater network and overloading it. Developing methods of treating stormwater prior to its discharge into the stream. (Methods such as improved catchpits and wetlands, for instance) 	Allow the community to decide the types of responses they would like in the full knowledge of the cost implications to them	WRC HCC	High

Theme 2: In Stream Values

	What are the Issues?	What are the Actions we could undertake to address the Issues?	What do we hope these actions will achieve?	Who may help?	Priority?
2.1	The stream is an integral part of the stormwater drainage system for the eastern side of the Hutt Valley	Care must be taken in designing and implementing environmental enhancements not to exacerbate the flooding potential of the stream. Close liaison with WRC Flood Protection Section required.	A balance between enhancement and the functional needs of flood protection are achieved.	WRC HCC	High
2.2	The native and beneficial fauna is severely degraded or no longer present in the stream	Encourage the re-establishment or reintroduction of specific fauna by habitat enhancement programmes.	Greater biodiversity in the stream and stream corridor	WRC HCC F & B DOC	High
2.3	A significant infestation of Care Pondweed exists in certain reaches of the stream. This has a negative effect on the stream's ability to handle floods and on indigenous flora and fauna.	Support WRC in its attempts to control and/or eradicate Cape Pondweed.	A more natural functioning waterway	WRC HCC	High

Theme 3: Contaminated Sediments

	What are the Issues?	What are the Actions we could undertake to address the Issues?	What do we hope these actions will achieve?	Who may help?	Priority?
3.1	There is a legacy of heavy metal contamination and other pollutants in the lower reaches of the stream. The extent of the problem and possible remedies have yet to be determined.	Support investigations to determine the extent and nature of the contamination and pollution.	Allow informed decisions on possible remedial actions	WRC MFE HCC Local industries	High
		Once the extent of the problem has been determined investigate options for dealing with these.			Medium
		Note: Both the above actions will require the co-operation and funding support of a number of agencies			
3.2	Due to the likely scale of the project a risk management approach to dealing with the issue will be necessary	Prepare contaminated sediment remediation management plan		WRC MFE HCC Local industries	Medium

Theme 4: Community Awareness and Involvement

	What are the Issues?	What are the Actions we could undertake to address the Issues?	What do we hope these actions will achieve?	Who may help?	When?
4.1	The assumption is that the general community has a limited awareness of the values, actual or potential, inherent in the Waiwhetu Stream.	Undertake an awareness raising programme tailored to specific sectors of the community including: <ul style="list-style-type: none"> • Schools • residents, businesses and industry adjacent to the stream • wider neighbourhoods traversed by the stream • the general public 	Increased understanding of the importance of the stream.	WRC WWF HCC Ministry of Education Hutt News	High
4.2	There continues to be misuse of the stream and its corridor with "accidental" discharges from industrial areas, dumping of litter and garden waste in the stream and the problem of dog faeces on the stream banks	Following on the general awareness-raising programme target these specific problems. For instance, reaching industry through the Regional Council's "Business Bridges" educational programme, the litter problem through a mix of enforcement, signage, publicity and provision of litter bins.	Improved environmental and recreational outcomes.	WRC HCC	
4.3	The community can contribute positively to	Support, and where necessary establish, community -based			

	better management of the stream (and has demonstrated its desire to do so)	initiatives such as: <ul style="list-style-type: none">• stream care groups• stream clean up events• planting projects Encourage the community to report incidents of contamination of the stream.		
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Theme 5: Stream Corridor

	What are the Issues?	What are the Actions we could undertake to address the Issues?	What do we hope these actions will achieve?	Who may help?	When?
5.1	There has been some encroachment by private landowners onto the stream corridor.	Undertake a cadastral survey of the stream corridor to identify encroachments. Enter into negotiations to reinstate the lands in question within a set timeframe.	Improved public access and removal of ownership confusion. Improved flood control.	WRC HCC	High
5.2	The stream corridor (the banks of the stream and adjacent public lands) are an important resource for ecological, recreational and landscape reasons.	Commission an overall landscape and recreation plan for the stream corridor. The objective of such a plan would be to identify opportunities for maximising the ecological, landscape and recreational potential of the stream corridor.	Improved biological diversity, increased recreational opportunities. Enhanced visual quality	WRC HCC	Medium

Appendix I

Tangata whenua perspective on history and values of the

Waiwhetu Stream

(Provided by Teri Puketapu)

Historical Aspects:

- (i) Te Atiawa/Taranaki iwi having maintained AHI KAA ROA and Mana Whenua integrity since the early 1830's in the Hutt Valley and Wellington City Districts, consider the Waiwhetu Stream to be a very important Taonga Wairua.
- (ii) Continuous occupation at various sites alongside the stream throughout the entire period to this present day, has placed a mantle of responsibility on the iwi so that the kaitiakitanga (guardianship) role for them is an ongoing function for each generation to maintain.

Ongoing Responsibilities:

- (i) Prior to the passing of the Treaty of Waitangi and Resource Management Acts the local iwi had no legal footing on which to participate in the management of any waterways within their rohe (district), and so were unable to effectively exercise kaitiakitanga in the protection of those resources contained within the waterways (fish life etc) or over the waterways themselves – considered vital to the wellbeing of the iwi for so many years.
- (ii) Since the early 1940's the gradual degradation of the stream through the increased density in urban development throughout its length and the ecological imbalance of the stream, has created considerable concern among the iwi to the point where they believe the Mauri or Life Force of the stream to be seriously compromised with the matter in need of urgent attention.

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(iii) The present situation therefore requires them to take a more active role in those responsibilities of kaitiakitanga – which is somewhat dependant upon how the WRC and the Hutt City Council

Management practices and policies under the Treaty of Waitangi are exercised in managing such an important Taonga.

Appendix II

Executive Summary from Waiwhetu Stream Management Plan, Baseline Survey

1. The aim of this report is to review and update the existing baseline environmental information for the Waiwhetu Stream, to provide an evaluation of the existing environment, to identify and discuss issues of concern, and to identify enhancement opportunities. The Waiwhetu Stream baseline environmental report will provide the basis for a comprehensive assessment of weed control methods and for the formulation of a draft management plan for the stream.

2. In addition to the review of existing baseline information, specific studies have been undertaken in respect of the aquatic flora (Beadel 1996), and

benthic macroinvertebrate communities and fisheries of the Waiwhetu Stream.

3. The Waiwhetu stream is a small slow flowing watercourse which arises in the Eastern Hutt hills above the suburb of Naenae. The catchment is initially steep but after passing through residential Naenae via a concrete lined channel, the stream emerges onto the floor of the Hutt valley with a much reduced gradient. Waiwhetu Stream then runs south for approximately 6 km through the suburbs of Epuni, Waterloo, Waiwhetu and Gracefield to its confluence with the Hutt River Estuary at Seaview.

4. Baseline water monitoring data indicate that water quality in the concrete lined upper section of the stream near the top of Waddington Drive is quite variable with some organic enrichment due in part to the commercial/industrial area of Naenae and from the south Naenae residential area. The lower

stream at Wainui Hill bridge is notable for its occasionally low dissolved oxygen levels, particularly during the summer-autumn period.

5. An investigation into heavy metals in surface sediments of the stream found that the lower reaches of the stream in the Gracefield area were extremely highly enriched in metals (cadmium, copper, zinc and lead) compared to relatively uncontaminated sediments in the headwaters of the stream. The sources of the metals were considered to be either upward remobilisation from buried contamination of sediment and/or present day discharge from industries in the Gracefield area. The study found that in the industrial zone a considerable proportion of the total heavy metal component is free to move between the sediment, interstitial water and overlying water. Such high concentrations of bio-available metals would be expected to have a

significant impact on the health of biota in the area.

6. A detailed survey of the vegetation of the Waiwhetu Stream found that the in-stream aquatic vegetation was dominated by Cape pondweed, the emergent wetland vegetation was dominated by Starwort, while the stream bank is dominated by adventive grasses and herbs. A total of thirty-three indigenous vascular plant taxa and sixty exotic taxa were recorded. Most of the indigenous species are relatively widespread or common species.
7. One small colony of *Leptinella dioica* subsp. *monoica* was recorded in the lower stream. This is the first record of this species for the Waiwhetu Stream, which is otherwise only known to occur naturally in the wild at a few estuarine sites on the west coast of the North Island. *Leptinella dioica* subsp. *monoica* is classed as a nationally threatened plant (vulnerable).

8. A survey of macroinvertebrate communities of the Waiwhetu found a total of 15 taxa. The dominant macroinvertebrate in the stream was the snail *Potamopyrgus antipodarum*. The freshwater worms of the class Oligochaeta were also widespread, as were the midge larvae Chironomidae. More sensitive taxa such as the mayfly and stonefly were encountered in low numbers and generally only at upstream sites. Greater species diversity was generally recorded in the upper reaches of the study area where water velocities were faster and the substrate was predominantly gravel. Overall, the species richness is low.

9. A survey of the Waiwhetu Stream fishery found that the stream is dominated by the short fin eel which is abundant upstream of the estuary. Whitebait were encountered in very low numbers in the middle and upper sections and it is possible

that adult galaxiids occur in the small creeks draining the Western Hutt hills. The common bully is abundant in the vicinity of Te Whiti Park but its range is probably limited by the velocity barrier at the St Ronans Street weir. Juvenile trout from the Hutt River fishery may make occasional use of the Waiwhetu Stream. However, the stream does not provide any significant trout spawning habitat and it is unlikely that the stream could support an independent trout fishery.

10. A review of social issues found that public concern has focused on poor water quality, the occurrence of rubbish and the infestation of the stream and its bank by weed. Most submissions point to the need for the stream to be returned to a high quality environmental system. As a present recreational amenity the stream's value is largely passive and is enjoyed by most as a dimension of stream-side walk.

11. The Wellington Regional Council's Regional Policy statement sets out a number of issues that are relevant to the Waiwhetu Stream. These are largely addressed in the provisions of the Hutt City's Transitional District Plan which has effect until submissions on the city's Proposed District Plan have been dealt with by way of hearings. Each Plan recognises the stream's existing and potential recreational and amenity values and provides for adoption of management practices for flood control. The most significant difference between the Transitional and Proposed Plans is that the latter places greater emphasis on the control of activities likely to have an adverse effect on ecological and/or adjacent residential values.
12. The problem of weed control in the Waiwhetu Stream has raised concerns from some parties about the use of herbicides and the effect of herbicides on the ecosystem. The fundamental

- issue to be addressed is which weed control options, or combination of options, are the most appropriate means of managing excessive weed growth in the Waiwhetu Stream so as to maintain an acceptable level of flood risk, and to meet the aspirations of the wider community as required by the Resource Management Act 1991. This question is addressed in an assessment of weed control methods and the development of the stream management plan.
13. The baseline environmental review has highlighted a number of areas in which significant enhancement opportunities exist. These include water quality, contaminated sediments, riparian vegetation, landscape and fisheries..

Appendix III

Waiwhetu Stream Management Plan: Management

Objectives and Policies

The overall objective of the management plan is to maintain the flood carrying capacity of the Waiwhetu Stream at current (1997) levels, and to accommodate the aspirations of the wider community consistent with the provisions of the Resource Management Act.

More specific objectives are:

- To reduce reliance on chemical use.
- To maintain, and enhance where possible, access to the stream for recreational and cultural purposes.
- To ensure the stream management methods adopted by Wellington Regional Council do not hamper Hutt City Council's management activities.
- To avoid, remedy or mitigate any potential adverse environmental effects of stream management methods.
- To ensure that all issues and concerns related to stream management are addressed and considered.

Management policies

A detailed evaluation of aquatic weed control options (Reference 9) and consideration of the management issues and objectives, and concerns expressed by the local community and interest groups, has led to the

- To maintain access for stream bank and channel maintenance.
- To reduce the average light levels reaching the stream channel, thereby suppressing aquatic weed growth.
- To use economically viable and environmentally sustainable stream management methods,

development of the following management policies for the Waiwhetu Stream:

- To achieve partial canopy cover over the reaches of the stream affected by aquatic weed.

This policy should reduce the light levels reaching the stream by half to suppress aquatic weed growth, so maintaining the flood carrying capacity and the habitat value of the stream.

- To use free-standing single rows of trees that will achieve a desired shape.

Careful selection, planting and management of tree species should provide shade across the stream channel without shading adjacent residential properties or compromising house security or the flood carrying capacity of the channel, whilst maintaining views and access, and enhancing the habitat value of the stream and its banks.

- To maintain a clear channel for flood flows.

- To maintain the ability to use diquat as a contingency method of aquatic weed control while the trees establish and shading becomes effective.
- To refer issues beyond the scope of the Rivers Department to the relevant department or authority.
- To consult with the community and interest groups.
- To consult with Leisure Services Division of Hutt City Council.

Appendix IV

Regional and District Plan Policies relating to Waiwhetu

Stream

- i) To ensure that activities that occur on the surface of rivers and margins have adverse effects which are no more than minor on natural and ecological qualities and access to these areas is maintained.
- ii) To ensure that river recreation activities have adverse effects that are no more than minor on the amenity values of residential activity areas.
- iii) To ensure that flood and river protection works are not affected adversely by recreation activities and that extraction activities are for the purposes of flood control.

1. Regional Policy Statement

Ecosystem Chapter methods: 3, 4(9), 15, 18, 20(3)
Freshwater Chapter methods 31, 32, 43

2. Regional Freshwater Plan

Waiwhetu Stream is listed in the Regional Freshwater Plan as an impaired waterbody with water quality needing enhancement.

3. Hutt City Proposed District Plan

Section 6C: River Recreation Activity Area

This section contains five objectives and supporting policies. The objectives are:

- iv) To ensure that the flood carrying capacity of the river channel and margins is not reduced
 - v) To control the number, location and external appearance of all buildings and structures not associated with flood protection
- measures and river works and ensure that buildings and structures are sited to avoid or mitigate the adverse effects of flood hazards.

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