

REPORT

**AUCKLAND REGIONAL COUNCIL /
FRANKLIN DISTRICT COUNCIL**

**Waiuku Coastal Compartment
Management Plan
Volume I**

Report prepared for:

AUCKLAND REGIONAL COUNCIL / FRANKLIN DISTRICT COUNCIL

Report prepared by:

TONKIN & TAYLOR LTD

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1 Introduction

1.1 Background

Like many New Zealand estuary systems, the Waiuku Estuary in the Manukau Harbour has been subject to recent and ongoing change. The encroachment of mangroves and sedimentation in particular have reduced navigability and altered landscapes and aesthetic and recreational values. Community concerns about these issues, and wider community aspirations to see the values of the Waiuku Estuary restored have prompted a joint initiative between Waiuku/Awhitu Community Board (WACB), Franklin District Council (FDC) and the Auckland Regional Council (ARC) to develop a Coastal Compartment Management Plan for the Estuary. Tonkin & Taylor Ltd have been engaged by the two Councils to prepare this Coastal Compartment Management Plan (CCMP) in accordance with our proposal of August 2005.

1.2 Objectives of the CCMP

The CCMP is a non-statutory document that sets out to achieve the following objectives:

- To collate relevant existing environmental information on the Waiuku Estuary;
- To identify the values of the Waiuku Estuary and to highlight the issues relevant to its future management;
- Through a process of community consultation, to identify a shared vision of the community's aspirations for the Estuary; and
- To establish an Action Plan framework from which future management decisions, including policy development, projects or future investment can be made, and from which the community's aspirations and the long term sustainable management of the Estuary can be achieved.

1.3 Study area

The study area for this CCMP is the Waiuku Estuary, which is described here as the tidal estuary south from the landmark known as 'The Needles'. The length of coastline within the Estuary is approximately 20 km. While the study focuses primarily on the coastal marine area, consideration is also made of the influences of the surrounding catchments on characteristics of the Estuary.

1.4 CCMP Structure

The CCMP is structured as two volumes:

- **Volume I**, the Action Plan (this Volume), addresses:
 - The community's Vision for the Waiuku Estuary (Section 2) and
 - The Action Plans for implementing the Vision (Section 3).
- **Volume II**, which provides the supporting technical information for Volume I, including:
 - Baseline information about coastal processes, ecological values, statutory requirements and non-statutory guidelines, cultural heritage, and current use and development.

- A review of statutory and non-statutory council documents relevant to the area
- Background to the development of the community Vision for the Waiuku Estuary and the management actions described in Volume I.
- Technical studies completed on coastal processes and ecology.
- A Cultural Heritage Assessment completed by Ngaati te Ata.
- A summary of the feedback received in response to consultation in February 2006.

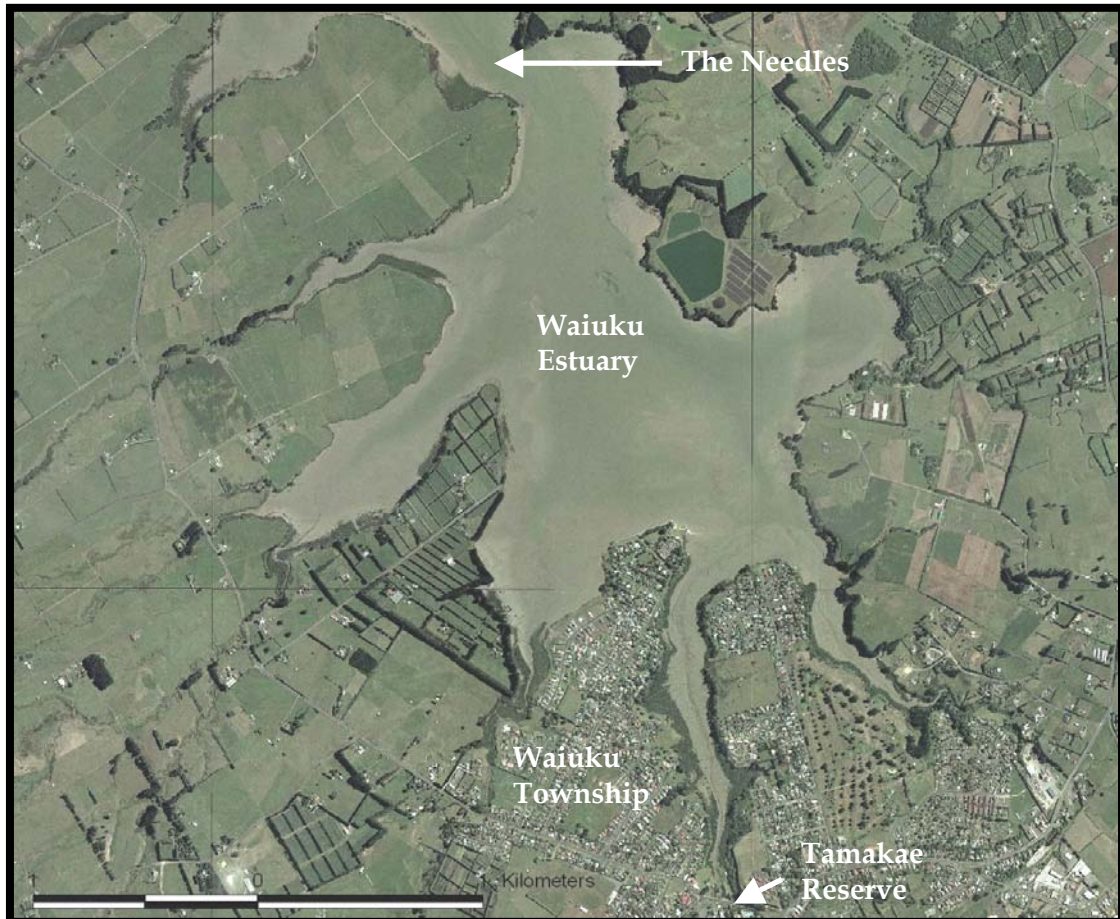


Figure 1: Waiuku Estuary

2 Developing a vision for the Waiuku Estuary

2.1 Introduction

A key step in the preparation of this CCMP has been the development of a vision for the future of the Estuary, reflecting community values and aspirations. This vision will be central to forming and directing management initiatives and the CCMP framework.

Developing a vision for the Waiuku Estuary requires establishing a view of the value that the community places on the Estuary, together with an understanding of the management issues that are facing the Estuary now and into the future. These community values and management issues have been identified through a process involving two key steps:

- i. the analysis of the existing information on the Waiuku Estuary, including the completion of technical studies on coastal processes and ecological values; and
- ii. a process of community consultation involving community meetings, a working group, displays and presentations, an open day and a survey questionnaire.

2.2 Management issues

Key management issues identified during the above process, and outlined in more detail in Volume II, are summarised below:

- **Mangroves** – mangroves have become a dominant feature of the upper Waiuku Estuary and their habitat is continuing to expand. Their expansion in these upper harbour environments has altered landscapes and views, and changed sediment characteristics. The mangrove expansion has also reduced public access to the coastline and navigation and recreation within the Estuary. However, mangroves are also ecologically important components of some marine ecosystems and management activities can impact on these values.
- **Ecological, natural, heritage and cultural values** – areas of ecologically significant vegetation and habitats and places of historic and cultural significance exist around the Estuary foreshore.
- **Sedimentation** – sedimentation is a natural feature of estuarine systems and the rate of sedimentation often reflects land management practices and the history of land use in the catchment. Little data on actual sedimentation rates exists for the Waiuku Estuary. However, in the sheltered inlets of the Estuary, sedimentation is occurring at a higher rate than the exposed main basin. The expansion of mangrove habitat is likely to be a result of the sedimentation and has also affected sedimentation rates in these sheltered areas. Sedimentation has also affected navigability of some parts of the estuary.
- **Public access to the coastline** – various council reserves exist along the foreshore, particularly adjacent to Waiuku Township. Better linkages between these areas would enhance access to the coast.
- **Coastal erosion** – coastal erosion is occurring along many parts of the Estuary shoreline. This will continue and active cliff erosion is occurring at some locations. While currently this does not threaten buildings or infrastructure, appropriate setbacks and ongoing monitoring are required.

- **Development of the Tamakae reserve and Town Basin** – a number of proposals have been prepared to outline development opportunities for this area in order to enhance linkages between the town centre and the coastline. However, to move these proposals forward an integrated framework for considering and evaluating the feasibility and need for this development is required.

2.3 Community values & aspirations

The key outcome of consultation has been identifying the community's concern regarding the changes that have occurred in the Estuary. This concern focuses on the expansion of mangrove habitat and the view that this has reduced the landscape values of the Estuary, increased sedimentation rates, and reduced access to the coastline.

In this respect, consultation has highlighted that the community largely value the Estuary for what it was historically, prior to the mangrove habitat expansion, rather than for what it is today.

Consultation also highlights that features of the Estuary are still valued. In particular, the ecological value of the Estuary was ranked as the highest value held by respondents to the survey questionnaire, with some respondents making special mention of the values of the Estuary for wading birds and the need to improve water quality. Other aspects valued highly included views and landscapes, and cultural and historic values.

Access to the coast for recreation is also widely valued by the community, in particular the use of existing coastal walkways and boating activities. Increasing the available access opportunities for these recreational activities was desired. Concern, however, has been expressed about the expansion of pacific oyster beds in the Estuary.

As part of enhancing access opportunities to the coast, proposals have been developed by a group in the community for channel dredging to provide for improved vessel access to the Tamakae Reserve.

In addition to these wider community values, a number of sectors of the community are pursuing opportunities to promote and enhance the potential tourism and commercial values that the area may have to offer. The focus of these opportunities has been the Tamakae Reserve and Town Basin area, with work having been completed by FDC and the Waiuku Creative Development Group on concepts for developing this area. The 2003 Waiuku Town Plan identifies a number of aspirations for this area.

2.4 A vision for the Waiuku Estuary

Reflecting the key management issues and community values identified above, this CCMP sets out a vision to guide the integrated management of the Waiuku Estuary. This vision seeks to achieve sustainable environmental management outcomes for the Estuary, and recognises that to achieve community aspirations a long term outlook may be required.

The Waiuku Estuary is a valued community asset with significant potential, but is subject to numerous natural and human induced pressures. The vision for the Waiuku Estuary is to:

- Manage mangroves using environmentally appropriate and sustainable methods in selected areas where their encroachment has adverse environmental effects;
- Maintain and enhance existing ecological, natural character, landscape, cultural & historic values;
- Minimise the influences of catchment activities on sedimentation in the Estuary;
- Enhance public access to the coastline and Estuary;
- Protect existing and future coastal development from coastal hazards; and
- Provide for appropriate development opportunities in the Tamakae Reserve and Town Basin area that enhance linkages with the town centre and support and enhance existing environmental values.

3 Implementing the vision

This Section of the CCMP sets out the framework for implementing the Vision for the Waiuku Estuary. It is divided into two sections as follows:

- **Section 3.1** describes the management objectives that follow from the Vision and that will provide the basis for the development of Action Plans.
- **Section 3.2** describes the specific Action Plans that serve as the central framework for implementation of the CCMP.

3.1 CCMP management objectives

The tables below identify the objectives that follow from the different part of the Vision. Actions to achieve these objectives are set out in Section 3.2.

3.1.1 Mangrove management

Vision	Management objectives
<i>Manage mangroves using environmentally appropriate and sustainable methods in selected areas where their encroachment has adverse environmental effects</i>	1 Identify areas where mangrove encroachment has adversely affected landscapes, changed sediment characteristics and reduced public access to the coastline
	2 Identify resource consent requirements for mangrove removal
	3 Identify environmentally appropriate & sustainable management methods
	4 Identify selected areas and timeframes for mangrove removal and ongoing management
	5 Identify methods for ongoing mangrove monitoring

3.1.2 Natural values

Vision	Management objectives
<i>Maintain and enhance existing ecological, natural character, landscape, cultural & historic values</i>	1 Identify natural values of Waiuku Estuary
	2 Identify specific actions required to maintain and enhance existing ecological, natural character, landscape, cultural & historic values

3.1.3 Minimise sedimentation in the Estuary

Vision	Management objective
<i>Minimise the influences of catchment activities on sedimentation in the Estuary</i>	1 Identify management initiatives that will reduce sediment rates to the Estuary

3.1.4 Public access to the coast

Vision	Management objectives
<i>Enhance public access to the coastline and Estuary</i>	1 Evaluate the feasibility of dredging proposals to provide for improved vessel access to Waiuku, and improved navigation and use within the Estuary
	2 Investigate issues associated with pacific oyster shell removal
	3 Identify site specific actions required to enhance public access to and along the Waiuku Estuary

3.1.5 Coastal hazard management

Vision	Management Objectives
<i>Protect existing and future coastal development from coastal hazards</i>	1 Undertake detailed site specific monitoring to confirm coastal erosion rate estimates
	2 Determine appropriate site specific erosion protection measures
	3 Ensure all existing coastal structures have or obtain the appropriate statutory approvals (and upgrades where required), or are removed

3.1.6 Development opportunities at Tamakae Reserve & Town Basin

Vision	Management Objectives
<i>Provide for appropriate development opportunities in the Tamakae Reserve and Town Basin area that enhance linkages with the town centre and support and enhance existing environmental values.</i>	1 Ensure that an integrated planning framework exists for guiding the development opportunities at the Tamakae Reserve and Town Basin area
	2 Identify specific actions that will enhance linkages with the town centre and support and enhance existing environmental values

3.2 CCMP action plans

The following tables detail the Action Plans for each of the elements of the Vision. These Action Plans serve as the central framework for implementation of the CCMP. Each Action Plan includes:

- The specific Vision sought from the Action Plan;
- A summary of the issues or background relevant to development of the Vision;
- The specific Management Objectives that follow from the Vision; and
- The actions required to achieve the objectives, including:
 - A description of the required action and, for location-specific actions, identification of these on a series of supporting Figures;
 - where relevant, some evaluation of possible options that have been proposed by the community;
 - the parties involved in implementing the action;
 - a broad order estimate of the possible sort for implementing the action, where this is possible, utilising the following scale:
 - \$ = <\$50,000
 - \$\$ = \$50,000 - \$100,000
 - \$\$\$ = \$100 - \$250,000

These estimates have not involved any detailed costing work or feasibility analysis. They have been prepared to provide a relative guide for comparison between actions. Detailed costings of actions are recommended as part of any feasibility level investigations and prior to implementation.

- a timeframe for implementation (short 1 - 3 years, medium 3 - 5 years, long 5+ years);
- anticipated environmental outcomes from the action.

3.2.1 Mangrove management

Vision: *Manage mangroves using environmentally appropriate and sustainable methods in selected areas where their encroachment has adverse environmental effects*

Issues:

The rapid expansion of mangroves within the study area has been repeatedly identified by the local community as a matter that requires active management. This is particularly the case in the Tamakae Reserve area, and between Waiuku and the Sandspit, where improved views and access were identified as being important.

An ecological study (Wildlands 2006, see Volume II of this plan), undertaken as part of the CCMP process, found that mangrove establishment in the upper Waiuku Estuary has occurred within the last 30 years and that mangroves are now likely to be a permanent feature of the Estuary. Mangroves perform some important positive functions in estuaries, for example, as habitats for some bird, fish and invertebrate species, retaining sediments and contaminants from spreading to the rest of the estuary, and protecting adjacent shorelines from erosion. However, their advance can also adversely affect access to and within waterways, amenity and views, use of structures, functioning of drainage channels, and can decrease habitats for other species. Wide scale clearance of established mangrove shrubland is likely to have adverse ecological effects due to the reduction in mangrove habitat and the release of sediment and contaminants. However, smaller scale, selected clearance of mangroves from limited areas in sheltered inlets is likely to have few adverse ecological effects. The environmental effects of mangrove removal such as sediment dispersal can also be reduced by undertaking removal in a staged manner. Additionally, monitoring the effects of smaller scale clearances can provide supporting information for larger scale removals. Mangrove removal could lead to a reduction in amenity values if material is left to decay. Removal will have on-going management requirements as mangrove seedlings will continue to establish.

Objective 1: Identify areas where mangrove encroachment has adversely affected landscapes, changed sediment characteristics and reduced public access to the coastline

Outcome:

Areas where the community and ecological study have identified that mangrove encroachment has its greatest effect are the areas adjacent to coastal development at Waiuku township, namely Rangiweha Creek, the Waiuku Creek inlet and Tamakae Reserve, and at the head of Golf Course Creek inlet. Selected mangrove removal in these areas, as described under Objective 4 below, is unlikely to result in adverse ecological effects. No significant ecological values that would be adversely compromised by mangrove removal were identified at these selected sites in the Wildlands study, provided that areas of fringing saltmarsh vegetation are avoided.

Objective 2: Identify resource consent requirements for mangrove removal**Outcome:**

Mangrove removal requires consent from ARC under Rule 16.5.12 of the Auckland Regional Plan: Coastal, unless the area of removal is less than 30 m² and associated with maintaining access to a lawfully established structure.

Objective 3: Identify environmentally appropriate & sustainable management methods**Outcome:**

A basis for determining acceptable management methods can generally be established from the policy directions given in the Auckland Regional Plan: Coastal (Policy 16.4.2) and the approach for mangrove removal from the Tamakae Reserve recently consented by the ARC (ARC permits 32027 and 32474). Removal methods should be appropriate to each location and minimise disturbance to ecosystems. In determining the most appropriate management/removal method consideration should be given to:

- Site access (can machinery such as excavators be used at the site and will this result in less disturbance? Excavators may result in a greater sediment plume in the upper estuary environment)
- Extent of removal (removal of root systems will require excavators and will result in greater release of sediment)
- Potential for sediment release
- Ecosystem disturbance (e.g. take into account bird breeding seasons when programming removal)
- Appropriate disposal (cut vegetation should be removed from the CMA)

Objective 4: Identify selected areas and timeframes for mangrove removal					
Outcome:					
Selected mangrove management areas are identified in the attached Figures and in the Table below, which identify the action and timeframe, the agencies involved, relevant issues and the broad environmental outcomes achieved					
Waiuku River / Tamakae Reserve (Figures 4 & 5)					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
A. Undertake the consented mangrove removal in Tamakae Reserve and undertake monitoring and ongoing seedling removal as required by consent condition	Short	FDC	\$	<ol style="list-style-type: none"> 1. This removal is already consented. 2. Monitoring provides baseline information for future removal and for likely ongoing management requirements. 3. Removal immediately improves access at Tamakae Reserve and improves views of the water, enhancing visual links between the town and the water. 	<ul style="list-style-type: none"> ➤ Enhanced public access ➤ Enhanced coastal landscape & views ➤ Links with Tamakae Reserve improvements ➤ Links with Town Plan proposals
B. Apply for resource consent for hand removal of mangrove seedlings from the Waiuku River inlet (Tamakae Reserve to the Sandspit)	Short	FDC Community Groups	\$	<ol style="list-style-type: none"> 1. Provides for management of existing mangrove areas by limiting expansion. 2. Allows community groups to legally remove seedlings. 	<ul style="list-style-type: none"> ➤ Enhanced public access ➤ Limits further colonisation of Waiuku River inlet

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
C. Apply for resource consent to remove mangroves from areas identified for "medium term mangrove removal"	Medium (2 - 5 years)	FDC	\$	<ol style="list-style-type: none"> 1 Managed removal of mangroves along the channel in this area would enhance access, flushing and tidal flows 2 Information on the ecological values of areas identified for mangrove removal is in the supporting ecological study (Volume II) 3 No significant ecological values are likely to be adversely compromised by mangrove removal 	<ul style="list-style-type: none"> ➤ Enhanced public access ➤ Enhanced coastal landscape & views ➤ Improved flushing and reduced sedimentation
D. Investigate potential for further removal of mangroves from the Waiuku River	Long (5 + years)	FDC	\$	<ol style="list-style-type: none"> 1 Information on the ecological values of areas identified for mangrove removal is in the supporting ecological study (Volume II) 2 Mangroves should not be removed until erosion risks have been determined. 3 Larger scale removal will require initial and ongoing funding 	<ul style="list-style-type: none"> ➤ Enhanced public access ➤ Enhanced coastal landscape & views ➤ Improved flushing and reduced sedimentation

Rangiwhea Creek (Figure 2)					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
E. Apply for resource consent for hand removal of mangrove seedlings from the upper Rangiwhea Creek	Short	FDC Community Groups	\$	<ol style="list-style-type: none"> 1. Provides for management of existing mangrove areas by limiting expansion 2. Removal should be limited to higher in the creek, where erosion risk is lower 	<ul style="list-style-type: none"> ➤ Enhanced public access ➤ Limits further colonisation of inlet
F. Apply for resource consent to remove mangroves from areas identified for “medium term mangrove removal	Medium (2 – 5 years)	Community Groups	\$	<ol style="list-style-type: none"> 1. Managed removal of mangroves along channel enhances access, flushing and tidal flows 2. Information on the ecological values of areas identified for mangrove removal is in the supporting ecological study (Volume II) 	<ul style="list-style-type: none"> ➤ Enhanced public access ➤ Enhanced coastal landscape & views ➤ Improved flushing and reduced sedimentation
Golf Club Creek (Figure 3)					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
G. Manage mangrove advance through consent for hand removal of mangrove seedlings in selected locations (refer Figure 3)	Short	FDC Community groups	\$	<ol style="list-style-type: none"> 1. Provides for management of existing mangrove areas by limiting expansion 2. Removal should be limited to higher in the creek, where erosion risk is lower 	<ul style="list-style-type: none"> ➤ Enhanced public access ➤ Limits further colonisation of inlet

General & Estuary wide					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
<p>Monitoring</p> <p>H. Monitor mangrove advance within the Estuary and recolonisation in areas where clearance has occurred</p>	Ongoing	FDC	\$	<ol style="list-style-type: none"> 1 Use aerial photographs; assess rate of advance each time aerial photographs are taken; 2 Oblique photos taken of cleared areas from the same vantage point over a series of years could also be utilised as a method of quantifying recolonisation of cleared areas 3 Information about mangrove establishment can be used to support continued management activities 	<ul style="list-style-type: none"> ➤ Future management of mangrove habitat
<p>Regulatory control</p> <p>I. When reviewing the Regional Coastal Plan consider including greater guidance regarding mangrove management including amendments to guide removal and other activities (e.g. pruning of mangroves), particularly for those areas where views/access might be impacted</p>	Medium	ARC		<ol style="list-style-type: none"> 1 Mangroves are rapidly expanding in a number of locations in the Auckland Region, including Waiuku 2 Ecological values associated with recent areas of mangrove expansion may not be high and could be impacting other values associated with the coastal environment 	<ul style="list-style-type: none"> ➤ Enhanced public access

3.2.2 Natural values

Vision:	<i>Maintain and enhance existing ecological, natural character, landscape, cultural & historic values</i>
Issues:	The natural values associated with the Waiuku Estuary have been documented in Volume II of this CCMP. A range of actions have been identified from these values, broadly related to maintaining and enhancing the values of the wider environment in and around the Waiuku Estuary.
Objective 1:	Identify natural values of Waiuku Estuary
Outcome:	The natural values associated with the Waiuku Estuary have been documented in Volume II of this CCMP.
Objective 2:	Identify specific actions required to maintain and enhance existing ecological, natural character, landscape, cultural & historic values, while allowing for appropriate use and development
Outcome:	Specific actions for implementation are identified in the Table below, along with timeframes, the agencies involved, relevant issues and the broad environmental outcomes achieved

General & Estuary wide					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
Cultural & historic values A. Review and amend provisions of the District Plan to improve identification and protection of heritage features	Short / medium	FDC Ngaati Te Ata		A review should include the following: <ol style="list-style-type: none"> 1 Undertake an audit of all available sources of information on cultural heritage sites 2 Clarify the protection provided to heritage sites, and not just structures, (e.g. Tamakae Reserve) to provide clearer direction for future use and development. 3 Identify heritage items on planning maps to make more transparent the items to be protected 4 Consider design guidelines for works within historic 'precincts' to maintain heritage nature of built form 	➤ Maintenance & enhancement of existing cultural & historic values

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
Heritage B. Identify risk to historic site, Pa Tapukitekite, from falling pines and erosion, and work with landowner to manage falling pine trees	Short	Landowner FDC ARC Historic Places Trust Ngaati te Ata	\$	<ol style="list-style-type: none"> 1 Historic Places Trust approval is required for removal of pine trees from Council reserve land as trees would be felled on an historic site 2 Replanting of the cliff face, or under planting pine trees with more suitable species (e.g. pohutukawa) could improve cliff stability but would also require Historic Places Trust approval if on the historic site 	➤ Maintenance & enhancement of existing cultural & historic values
Heritage C. If any archaeological or historic evidence is uncovered when undertaking works in the coastal area, work shall stop and appropriate approval be sought under the Historic Places Act	Ongoing			<ol style="list-style-type: none"> 1. Recent cultural-heritage surveys of the area indicate the likelihood of many archaeological sites 2. Any works in the coastal area, including construction of heritage trails, have the potential to damage sites 	➤ Maintenance & enhancement of existing cultural & historic values

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
Heritage & Ecological D. Develop heritage and/or ecological themed walkways (including interpretative signage) when further developing walkways around the reserve.	Short /long (in association with walkway improvement)	FDC	Refer 3.2.4	<ol style="list-style-type: none"> 1 As identified in the District Plan, create heritage trails to strengthen heritage identification of the town 2 Interpretative signage should also highlight the ecological significance of the area, and its cultural importance to Tangata Whenua. 	<ul style="list-style-type: none"> ➤ Maintenance & enhancement of existing cultural & historic values ➤ Supports District Plan provisions ➤ Recognises Tangata Whenua values of the area ➤ Links with Tamakae Reserve developments by supporting the historic town centre theme
E. Restoration Plantings, involving: <ul style="list-style-type: none"> • Work with adjacent landowners to encourage restoration planting & to maintain reserves areas • Maintaining and enhancing existing restoration planting sites (e.g. Botanical Reserve) • Undertaking planting where coastal erosion risk is high 	Ongoing	FDC Community groups Landowners	\$-\$\$ Costs determined by extent of planting	<ol style="list-style-type: none"> 1 Restoration planting should be undertaken/encouraged in areas where erosion is a problem 2 A reserve management plan for esplanade reserves could be used to provide guidance to landowners about appropriate planting activities adjacent reserves (see below) 3 ARC's coastal planting guidelines will provide guidance on suitable species 	<ul style="list-style-type: none"> ➤ Maintenance & enhancement of existing ecological, natural character & landscape values

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
F. Ti Ware Stream restoration: <ul style="list-style-type: none"> Restoration plan development for stream area upstream of Kentish Hotel carpark 	Short	FDC Community group		1 ARC EIF funding is in place for this work for 2007	➤ Maintenance & enhancement of existing ecological, natural character & landscape values
G. Reserve management: <ul style="list-style-type: none"> Prepare reserve management plans for esplanade reserves (where they are not already part of a managed reserve area) to provide consistent management regime 	Medium	FDC	\$\$	1 Reserve management plans should identify suitable species for planting, identify weed and pest management requirements/responsibilities and use and access arrangements 2 Without clear guidance management, including recreational access, planting schemes and pest control activities, can be ad hoc. Species planted need to be appropriate to the area to improve survival.	➤ Maintenance & enhancement of existing ecological, natural character & landscape values

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
H. Esplanade reserves strategy <ul style="list-style-type: none"> Consider review to District Plan provisions around esplanade reserve creation to ensure appropriate provisions are made for reserve management requirements (including maintenance and weed/pest control) 	Short / medium	FDC		1. Increased reserve area requires management, particularly in terms of weed and pest control; FDC has landowner requirements under the Regional Pest Management Strategy, and these can be difficult to achieve where resources and access are limited. Appropriate funding for reserve management needs to be identified at the time of reserve establishment.	<ul style="list-style-type: none"> Maintenance & enhancement of existing ecological, natural character & landscape values
I. Water quality – Urban Discharges: <ul style="list-style-type: none"> Investigate catchment discharges from Waiuku township and methods for improvement Continue to promote practices that enhance water quality, including site management, earthworks, carwashing etc. 	Short-medium	FDC		1. FDC are to initiate an Integrated Catchment Management Plan for the town to address stormwater quality issues 2. ARC & FDC earthworks plans are addressed in Section 3.2.3 3. ARC's 'Big Clean Up' initiatives provides directions and tools for householders and businesses to better manage water quality.	<ul style="list-style-type: none"> Maintenance & enhancement of existing ecological values and water quality

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
<p>J. Water quality – Rural Discharges</p> <ul style="list-style-type: none"> Continue to work with landowners with regards land-use practice (e.g. agrichemicals (fertiliser and sprays), cultivation techniques and riparian management) in rural areas 	Ongoing	ARC			➤ Maintenance & enhancement of existing ecological values and water quality
K. Waiuku Wastewater Treatment Plant		FDC		<ol style="list-style-type: none"> Consents for continued discharge from this plant to the Waiuku Estuary have been lodged by FDC with ARC. The discharge has been a concern to some community members 	

3.2.3 Minimise sedimentation in the Estuary

Vision: *Minimise the influences of catchment activities on sedimentation in the Estuary*

Issues:

As with all estuaries, the Waiuku Estuary is experiencing a natural aging process which includes natural infilling and sedimentation. Changes in catchment development and land use affect the natural aging process, increasing rates of sedimentation. Anecdotal evidence suggests that the sedimentation of the upper Waiuku Estuary increased rapidly following the reclamation of land by the Waiuku Borough around the 1970s. Improvements in land management can reduce the rate of sedimentation. One of the key tools for addressing sedimentation rates will be the development of Integrated Catchment Management Plans (ICMPs) by FDC. These will identify sediment sources and determine how to manage them.

Little information on current rates of sedimentation for Waiuku Estuary is available. In the sheltered inlets sedimentation is probably occurring at a greater rate than the exposed main basin. Within the main basin a greater exchange and redistribution of sediments occur rather than wide spread accumulation.

The river systems draining to the study area are identified on Figure 6.

Objective 1: Identify management initiatives that will reduce sediment rates to the Estuary					
General & Estuary wide					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
A. Riparian management <ul style="list-style-type: none"> • Educate land owners about benefits of riparian management • Preserve riparian areas and encourage land owners to plant riparian strips through Integrated Catchment Management Plans 	Ongoing	ARC, FDC	\$-\$\$\$ Costs determined by extent of riparian management	<ol style="list-style-type: none"> 1. Fencing and planting of riparian strips can improve water quality by limiting both sediment and nutrient runoff in farming area 2. The ARC Environmental Initiatives Fund is a possible mechanism for supporting fencing and retirement of riparian margins 3. ARC holds free riparian zone workshops for landowners wanting to undertake enhancement works 4. The development of an ICMP should take this Coastal Compartment Management Plan into account to ensure the plan's vision is achieved 	<ul style="list-style-type: none"> ➤ Potential to reduce sediment rates discharged to Estuary

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
<p>B. Earthworks management</p> <ul style="list-style-type: none"> • Undertake regular compliance checks of earthworks in rural zones, where setback provisions and earthworks limits apply • Promote ARC run workshops on site sediment management to local contractors • Ensure new development activities in the Waiuku Estuary catchment employ appropriate sediment retention controls 	Ongoing	ARC, FDC		<ol style="list-style-type: none"> 1. District Plan details setback requirements from both the coast and from stream banks (60 m and 30 m respectively) in rural zones. 2. Regional Plan limits apply to larger earthworks sites (including cropping land) 3. ARC sediment management workshops will provide local contractors with better skills in sediment management 4. Development activities can lead to significant sediment inputs, particularly during their earthworks phase 	<ul style="list-style-type: none"> ➤ Potential to reduce sediment rates discharged to Estuary

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
<p>C. Earthworks controls</p> <ul style="list-style-type: none"> • Review earthworks provisions in the District Plan and consider changes to these to provide greater clarity and control over earthworks, particularly with regards setbacks from watercourses 	<p>Medium</p>	<p>FDC</p>		<ol style="list-style-type: none"> 1. Development setbacks limit earthworks near streams. However, development setbacks are not defined and the rural plan change makes less clear the setback requirements 2. The District Plan rural plan change excludes cropping activities from the definition of earthworks meaning that any development setbacks do not apply. 3. Development standards for earthworks could be included in the District Plan to provide guidance for management of sediment runoff on smaller sites 	<ul style="list-style-type: none"> ➤ Potential to reduce sediment rates discharged to Estuary

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
<p>D. Monitoring</p> <ul style="list-style-type: none"> Undertake monitoring of sedimentation rates at selected sites (indicated on Figure 6; monitoring can be undertaken by establishing a series of monitoring posts along a transect line. Monitoring should be undertaken on a regular basis and monitoring points should be at a point measured at right angles to the post (to avoid localised currents around posts, which are likely to affect sedimentation rates)) 	Ongoing	FDC ARC Community Groups	\$	<ol style="list-style-type: none"> Undertake longer term sediment monitoring at the following possible locations: <ul style="list-style-type: none"> Dredged area at Tamakae Reserve to identify infilling rates (FDC) Location downstream of Tamakae Reserve to identify sedimentation rate at un-dredged location At locations within the main basin (as identified on Figure 6) Monitoring will provide baseline data to assess the needs for any future dredging initiatives. 	<ul style="list-style-type: none"> Provides data on effectiveness of sediment controls

3.2.4 Public Access to the Coast

Vision: <i>Enhance public access to the coastline and Estuary</i>
<p>Issues:</p> <p>Improved access, both to and around the Estuary has been identified as important to the Waiuku community. This may be through up-graded and accessible walkways, a waka launching area and improved boat access – these actions are identified for sites around the Estuary under Objective 3.</p> <p>Consultation undertaken has also identified interest in channel dredging to provide for all tide access to Tamakae Reserve (Objective 1) and has highlighted concern that pacific oyster shell accumulations in certain areas of the Estuary restrict boating and recreational activities (Objective 2).</p>
<p>Objective 1: Evaluate the feasibility of channel dredging to provide for improved vessel access to Tamakae Reserve</p> <p>Background:</p> <p>The estuary has been used extensively for boating but recent sedimentation has reduced access. The community has indicated a desire for improved boat access both to Tamakae Reserve and in the wider Waiuku basin.. Proposals for dredging an all-tide channel to provide for recreational craft and passenger ferry boat access to Tamakae Reserve have been developed by members of the Waiuku Community. The proposal would involve a channel from the Needles to Tamakae Reserve. This proposal has been identified by some as being necessary to support commercial and tourism opportunities in Waiuku. FDC has recently received tenders for a small dredging project in the Tamakae Reserve / Town Basin.</p> <p>Dredging would provide improved access to the Town Centre and improve recreational opportunities over a wider tidal range. However, any dredging proposals need to be supported by appropriate feasibility investigations including: about actual access requirements, dredging volumes, likely maintenance dredging requirements and disposal options for dredged material.</p> <p>Dredge option costings:</p> <p>We have evaluated the relative ‘broad order’ capital costs associated with dredging and transport of the dredged material using current dredging and transportation rates for the options detailed below (options shown on Figure 8):</p> <ul style="list-style-type: none"> • Option 1: Current FDC dredging of Tamakae Reserve / Town Basin: Cost estimate \$90,000 - 100,000 • Option 2: Dredging of 25 m wide channel, 2 m deep, from Tamakae Reserve / Town Basin to end Waiuku River Inlet (1.4 km): Cost estimate \$4 M • Option 3: Dredging of 25 m wide channel, 2 m deep, from Tamakae Reserve / Town Basin to Needles (4.2 km): Cost estimate \$11.6 M • Option 4: Dredging within the central Waiuku Estuary (to give an approximate area of 50 ha) : Cost estimate \$55 M

Costings are based on broad order unit rates for dredging utilising a backhoe excavator and barging operations. Alternative dredging operations such as cutter-suction dredging may prove feasible for larger scale dredging (options 3 and 4). Economies of scale for these larger dredging options could also result in cost savings.

It should be noted however that these costs do not allow for:

- Disposal of dredge material. There is no suitably permitted cleanfill or landfill site with the required capacity to receive dredgings from Options 2 to 4 in the vicinity of Waiuku. A nominal rate for transport of \$20/m³ has been assumed for transporting material locally. However, disposal cost could add significantly to the above cost estimates, as could transport costs if it is necessary to move the material to a disposal site that is further afield. Some local landowners have expressed an interest in having dredged material disposed of on their farms. This may be possible but would need resource consents. These would require stringent site assessment requirements (for instance, issues like site stability and effects on groundwater and surface water would need to be considered) and ongoing management and monitoring would be necessary. There could also be issues such as transport to the site, management.
- Gaining of resource consents or any consent compliance costs. Based on other major Auckland dredging projects, costs for technical studies and the associated resource consent process for Options 2 to 4 could easily be in the range \$100K - \$500K.
- GST, contract management, contingencies, professional services, administration etc
- Maintenance dredging. Ongoing maintenance dredging will be required to maintain channel navigability. This could be required on a 5 yearly basis and will involve substantial cost for Options 2 to 4.

Feasibility

Evaluating the feasibility of dredging Options 2 to 4 would require a more detailed evaluation of engineering options and costings, along with consideration of potential environmental issues and funding options.

(i) Engineering

Detailed investigation of engineering options will be required, including evaluation of sediment characteristics, dredging methods, disposal options, excavation designs, analysis of tidal hydraulic effects. These investigations would enable new, more detailed cost estimates to be produced.

(ii) Environmental

While we have not undertaken a detailed evaluation of environmental issues, dredging projects in the Auckland Region on a similar scale to that proposed under Options 2 to 4 have involved major resource consenting exercises, requiring significant technical supporting information. For example, to gain a sense for the scale of the exercise and the potential for disruption on local roads, we have estimated the required truck movements to facilitate the dredging work:

- Option 2: 3,500 truck & trailer unit movements (or 7,000 truck unit movements)
- Option 3: 10,500 truck & trailer unit movements (or 21,000 truck unit movements)
- Option 4: 50,000 truck & trailer unit movements (or 100,000 truck unit movements)

Suction dredging may not require these truck movements but a suitable disposal area would need to be identified close to the dredge area and resource

consents gained for use of this location as a disposal site.

A range of technical studies would be required to address issues such as effects on Estuary hydraulics and tidal processes, ecology, water quality, noise, traffic and disposal to confirm that the options were environmentally appropriate

(iii) Funding

A range of options for funding the dredging works are possible for the scale of dredging envisaged under Options 2 to 4, including public funding via rates, levies on users, private funding or by some combination of these. Given the high cost of the work, it seems unlikely that this level of dredging would be financially viable if the project was to be funded by rating alone. Any consideration of affordability must also include information on likely maintenance dredging costs, which will be required to maintain access.

Conclusion:

Dredging an all-tide access channel to Tamakae Reserve will involve major dredging works and carry significant capital and ongoing maintenance costs. Options providing all-tide access to the wider Waiuku Estuary will likely involve a major RMA consenting process any may not be financially viable from a public funding perspective. Detailed feasibility investigations are required before any further consideration should be given to large scale dredging activities.

Objective 2: Investigate issues associated with pacific oyster shell removal

Outcome:

(i) Statutory controls

Pacific oyster shell removal is permitted in the Waiuku Estuary if it complies with the requirements of Rule 16.5.5 of the Auckland Regional Plan: Coastal (namely, that shell is not disposed of in the coastal marine area). However, harvesting of Pacific oysters is restricted to a daily limit of 100 by MFish and permit would be required for larger removal. The ARC has been granted a special permit by MFish for removal of oysters where there are navigation, health or safety hazards. Any such removal must be part of an organised clean-up programme supervised by the ARC to ensure conditions of the permit are met.

(ii) Actions:

- Undertake a site-specific evaluation to identify areas where pacific oysters accumulation may justify removal;
- Work with MFish to identify a suitable way to provide for community removal of oysters;
- Identify suitable disposal sites;
- Confirm RMA consent requirements;
- Mobilise community group to undertake removal exercise.

(iii) Parties involved

ARC, FDC, MFish, community groups

(iv) Cost estimates:

\$\$\$-: Costs determined by extent of removal and by whom

Objective 3: Identify site specific actions required to enhance public access to and along the Waiuku Estuary
Outcome:

Specific actions and associated timeframes for implementation are identified in the Table below, which identifies the action and timeframe, the agencies involved, relevant issues and the broad environmental outcomes achieved

Waiuku River/Tamakae Reserve (Figures 4 & 5)

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
A. Dredging at Tamakae Reserve <ul style="list-style-type: none"> • Undertake consented dredging around the existing wharf at Tamakae Reserve and monitoring as per consent conditions 	Short	FDC	\$\$	1. Monitoring from dredged area will provide information for feasibility assessment of further dredging 2. Provides for some improvement to boat access at Tamakae reserve	<ul style="list-style-type: none"> ➤ Some enhancement to coastal access ➤ Responds to community desire for enhancements at Tamakae reserve ➤ Aligns with FDC plans for Town Basin development
B. Coastal walkway <ul style="list-style-type: none"> • Construct a formed walkway between Tamakae Reserve and the Sandspit; part of this would include a boardwalk through mangrove stands (where there is no coastal reserve land or where overland access is limited) 	Short	FDC	\$\$\$+	Works will require: <ol style="list-style-type: none"> 1. A funding source (the Annual Plan process) 2. Identification of a suitable route and works requirements associated with this 3. Resource consents for structures in the CMA 	<ul style="list-style-type: none"> ➤ Enhances public access to the coast ➤ Aligns with the proposed FDC Walking and Cycling Strategy

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
C. Coastal walkway <ul style="list-style-type: none"> Investigate possibility of walkway along eastern side of Waiuku River, between the Town Basin and Racecourse Road 	Long	FDC	\$	Works will require: <ol style="list-style-type: none"> A funding source (the Annual Plan process) Identification of a suitable route and works requirements associated with this Resource consents for structures in the CMA 	<ul style="list-style-type: none"> Enhances public access to the coast Aligns with the proposed FDC Walking and Cycling Strategy
D. Walkway linkages <ul style="list-style-type: none"> Enhance traffic calming/road crossings to improve links with Town Centre 	Medium	FDC	\$-\$\$		<ul style="list-style-type: none"> Enhances public access to the coast Aligns with Waiuku Town Plan & Creative Development Group proposals Improves access to Tamakae Reserve Aligns with the proposed intent of the planned FDC Walking and Cycling Strategy

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
E. Waka launching access <ul style="list-style-type: none"> Construct waka launching facility following consultation with Ngaati te Ata 	Short	FDC Reserve management committee, Ngaati te Ata	\$	<ol style="list-style-type: none"> This facility has been requested by iwi A suitable location on the Tamakae Reserve has been identified and consents granted for this facility (ARC permits 27157 and 27163) Design requirements need to be agreed with Ngaati te Ata 	<ul style="list-style-type: none"> Responds to cultural interest in area Aligns with Tamakae Reserve improvements
Rangiwhea Creek (Figure 2)					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
F. Coastal walkway <ul style="list-style-type: none"> Create low-key, informal pathway from Sandspit along Elsie Drive to link with Awhitu Road Provide signage/maps indicating access points and walking route 	Medium	FDC	\$\$\$	Works will require: <ol style="list-style-type: none"> Funding source (the Annual Plan process) Identification of a suitable route and works requirements associated with this 	<ul style="list-style-type: none"> Enhances public access to the coast Aligns with the proposed FDC Walking and Cycling Strategy

Golf Club Creek (Figure 4)					
Action	Timeframe for action	Parties involved		Comments	Anticipated Environmental Outcomes
G. Coastal walkway <ul style="list-style-type: none"> Create walkway link between Racecourse Road and the Golf Course to allow all tide access 	Medium-Long	FDC	\$\$-\$\$\$	Works will require: <ol style="list-style-type: none"> Funding source (the Annual Plan process) Identification of a suitable route and works requirements associated with this Consider integrating walkway with any coastal protection works required in this area Resource consents for coastal structures if boardwalks are required 	<ul style="list-style-type: none"> Enhances public access to the coast Aligns with the proposed FDC Walking and Cycling Strategy
General & Estuary wide					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
H. Coastal walkway <ul style="list-style-type: none"> Publish maps of reserves/walkway areas to identify links & access points throughout Waiuku Indicate location of walkways by providing signage 	Short / medium	FDC	\$\$-\$\$		<ul style="list-style-type: none"> Enhances public access to the coast Aligns with the proposed FDC Walking and Cycling Strategy and with Communication Plan to be developed as per the Franklin District Recreation and Open Space Strategy (2005)

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
I. Esplanade reserves strategy <ul style="list-style-type: none"> Review District Plan requirements around esplanade reserve creation to strengthen requirements for access to reserves from local roads 	Short-Medium	FDC		<ol style="list-style-type: none"> Where appropriate access to the coastal strip should be provided. The esplanade reserve strip along the Eastern side of the study area is not generally accessible to public as no access points are provided from local roads Consider access requirements to new reserves as they are created by subdivision. 	➤ Enhances public access to the coast
J. Boat access <ul style="list-style-type: none"> Investigate use of channel markers to improve boat access across an increased tidal range 	Short	FDC	\$	<ol style="list-style-type: none"> Existing channel markers are old and in poor repair Ability to use the Estuary for recreational purposes has been identified as a problem due to lack of channel markings 	➤ Enhances public access to the coast

3.2.5 Coastal Hazard Management

Vision: <i>Protect existing and future coastal development from coastal hazards</i>					
<p>Issues:</p> <p>As part of the CCMP process a study of coastal processes and coastal hazards has been completed. Coastal erosion has been identified as a problem in some parts of the study area, particularly where cliff-top trees are toppling into the Estuary. Figure 7 identifies areas of higher wave exposure. Coastal erosion occurs along most of the Estuary shoreline, which is reflected in the predominantly cliffed coastline. However, erosion is generally a problem only where property or infrastructure is at risk.</p> <p>Accurate rates of erosion within the Estuary are difficult to calculate due to lack of data. However, erosion rates along the coastline would vary according to the amount of wave exposure. Coastlines bordering the main basin generally have greater rates of erosion than those bordering the sheltered inlets. Erosion rates at the toe of the cliffs are expected to range from 1 m to 5 m over 100 years. Higher rates of erosion can occur at the cliff top, due to other factors, including cliff defects/structure, weathering, vegetation types and run-off.</p> <p>The objectives for managing coastal hazards revolve around monitoring and the development over time of site specific erosion protection measures, responding to the risk posed by actual erosion.</p>					
Objective 1: Undertake detailed site specific monitoring to confirm coastal erosion rate estimates					
Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
<p>A. Monitoring</p> <ul style="list-style-type: none"> Identify suitable monitoring points (accessible and maintainable) at the end of Racecourse Road and the Sandspit, complete site specific topographic feature survey and undertake ongoing monitoring to determine erosion rates 	Ongoing	FDC	\$	<ol style="list-style-type: none"> Information on actual rates of erosion is limited as aerial photography review cannot provide an appropriate level of detail 	<ul style="list-style-type: none"> Better understanding of risk posed by coastal erosion

Objective 2: Determine appropriate site specific erosion protection measures

Outcome:

High relative wave exposure areas are identified in Figure 7. Specific actions to identify and address current or future erosion risks are identified below.

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
B. Review erosion risk adjacent Waiuku Township <ul style="list-style-type: none"> • Undertake a survey of erosion adjacent to properties along the northern shorelines of Waiuku Township to better define the existing level of risk posed by erosion 	Short	FDC	\$	1. Esplanade reserves along this section of coast generally provide buffer strip for coastal erosion; private properties or infrastructure may not be currently at risk. 2. Assessment of erosion risks along other shorelines within the Estuary may be undertaken over the short - medium term	➤ Better understanding of risk posed by coastal erosion

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
C. Develop erosion management strategy for property / asset at risk and implement where required to manage risk	Short	FDC	\$\$ - \$\$\$ Costs dependent on extent of risk identified	<ol style="list-style-type: none"> 1. Preliminary review of erosion risk in this CCMP indicates active erosion is occurring at the end of Racecourse Road. FDC have applied for consent for undertaking erosion protection works. 2. Where no immediate risk to property exists, soft engineering options, involving the establishment of salt marsh buffer vegetation or the management of cliff-top trees, may be appropriate. 	➤ Management of coastal hazard risks
D. Review land-use & hazard management controls <ul style="list-style-type: none"> • Review existing District Plan controls on coastal development reflecting risk posed by coastal erosion • Ensure hazard registers, LIM's and any GIS files are updated to include appropriate reference 	Short - Medium	FDC		<ol style="list-style-type: none"> 1. FDC development standards apply for works in the coastal protection yard 2. Coastal protection yards are not consistent in residential or rural-residential zones, potentially providing a lesser degree of control on development in residentially located erosion-prone areas 	➤ Provides for integrated management of coastal hazards

Objective 3: Ensure all existing coastal structures have the appropriate statutory approvals or are removed

Outcome:

Existing structures in the coastal environment may be subject to and / or contribute to coastal erosion. The resource consent process will enable the appropriateness of the structure to be determined.

Action	Timeframe for action	Parties involved	Indicative cost	Comments	Anticipated Environmental Outcomes
E. Assess condition of coastal structures <ul style="list-style-type: none"> Survey structures in coastal environment to determine whether they are at risk from erosion or whether they are contributing to erosion 	Short	FDC, ARC, Owners	\$\$\$ Dependent on number of structures identified	1. Site specific solutions to coastal erosion should be investigated, considering environmental enhancement, maintenance requirements and access.	➤ Links to access
F. Review consent status and legalise as required <ul style="list-style-type: none"> Review legality of existing coastal structures and gain necessary consents as appropriate or remove 	Short	Owners, FDC, ARC	Dependent on structure review	1. In some instances coastal structures no longer serve any useful purpose and removal may be appropriate.	➤ Links to environmental enhancement

3.2.6 Development opportunities at Tamakae Reserve & Town Basin

Vision: *Provide a framework for appropriate development opportunities in the Tamakae Reserve and Town Basin area that enhance linkages with the town centre and support and enhance existing environmental values, tourism potential and economic development*

Issues:

Community feedback has indicated support for improvements around Tamakae Reserve to link the town to the wider Estuary, to create a focal point for the town and to improve access to the Estuary. Ngaati te Ata has indicated that the area is of considerable cultural significance, is waahi tapu and that there should be no development which might detract from the cultural and historical significance of this site. Several development proposals for the Tamakae Reserve area have been prepared and there is a need to ensure that these are achieved within an integrated framework.

Objective 1: Ensure that an integrated planning framework exists for guiding the development opportunities proposed for the Tamakae Reserve and Town Basin area

Outcome:

(i) Status of existing development proposals

Several development proposals for the Tamakae Reserve area have been proposed by others. Concept drawings of these proposals are appended to this Action Plan (Appendix A).

The Reserve Management Plan for Tamakae Reserve and Waiuku Botanical Reserve (2000) provides for more intensive use of the reserve and states that “the management of the Tamakae and Waiuku Botanical Reserve is to provide for a valuable recreational, historical and cultural landmark of Waiuku community; to provide a significant focal point to the main commercial area of the town as a local and tourist attraction”. Development plans have been prepared as part of the Waiuku Town Plan process (2003), and more recently on behalf of the Waiuku Creative Development Group.

These plans have some elements in common, including:

- Dredging the river around the existing wharf area (refer Section 3.2.4 above)
- Hard edging the wharf area and providing edging/boardwalk around the reserve
- A Maritime Museum: Construction of a maritime museum on the eastern side of the reserve and near the wharf area
- Developing the Tamakae Reserve heritage village to become a heritage display using old style buildings
- Glenbrook Vintage Railway extending the railway line to end at terminus building on the eastern side wharf area

- Establishment of historic vessels as an attraction at the wharf
- Removal of mangroves to restore views of water at the basin and provide boating access (refer Section 3.2.1 above)
- Creating a waka launching area (refer Section 3.2.4 above)

Resource consents for aspects of these proposals have been granted (dredging at the wharf, hard edging the wharf, localised mangrove removal and the waka launching facility). The maritime museum and heritage village are provided for in the Tamakae Reserve Management Plan.

The Creative Development Group hopes to provide more extensive development of the Tamakae Reserve and Town Basin area, including providing for commercial development opportunities. The area between Tamakae Reserve and View Rd along the eastern side of the estuary has also been proposed by some community members for commercial development such as a marina.

However, detailed feasibility assessments of the proposals developed for the Tamakae Reserve and Town Basin area have not been prepared. These feasibility studies are needed so that appropriate consultation with the community can be completed, the financial aspects of the proposals can be considered, preferred development scenarios selected, and a programme established for moving the project forward.

(ii) Actions

- Complete feasibility study of development proposals for Tamakae Reserve and Town Basin area to address planning, engineering, environmental and economic feasibility;
- Undertake consultation with community and key stakeholders on development proposals based on conclusions from feasibility study
- Confirm preferred option for development and program
- Seek appropriate funding

(iii) Parties

FDC, Waiuku Creative Development Group, Enterprise Franklin

Objective 2: Identify specific actions that will enhance linkages with the town centre and support and enhance existing environmental values

Outcome:

A number of specific actions associated with the Tamakae reserve and Town Basin area have been identified in other parts of Section 3. These include mangrove removal (Section 3.2.1), dredging (Section 3.2.4), walkway linkages (Section 3.2.4) and waka launching (Section 3.2.4).

4 Conclusion

The Waiuku Estuary is a valued community asset with significant potential, but is subject to numerous natural and human induced pressures. The encroachment of mangroves and sedimentation in particular have reduced navigability, and altered landscapes and aesthetic and recreational values.

A Vision for the Estuary has been developed responding to the community's concerns about these issues, but reflecting also their values and aspirations for the future of the Estuary.

The Vision for the Estuary is to:

- Manage mangroves using environmentally appropriate and sustainable methods in selected areas where their encroachment has adverse environmental effects;
- Maintain and enhance existing ecological, natural character, landscape, cultural & historic values;
- Minimise the influences of catchment activities on sedimentation in the Estuary;
- Enhance public access to the coastline and Estuary;
- Protect existing and future coastal development from coastal hazards; and
- Provide for appropriate development opportunities in the Tamakae Reserve and Town Basin area that enhance linkages with the town centre and support and enhance existing environmental values.

A series of objectives and action plans have been developed to guide the implementation of this Vision.

5 Applicability

This report has been prepared for the benefit of Auckland Regional Council & Franklin District Council with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

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Appendix A: Figures